Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

November 28, 2023

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

RE: **Notice of Exempt Modification for ATT**
Crown #876401; ATT Site ID CTL05461
47-51 Unity Street, Plainfield, CT 06374
Latitude: 41° 42′ 54.49″ / Longitude: -71° 53′ 46.73″

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 150-foot level of the existing 160-foot monopole tower at 47-51 Unity Street, Plainfield, CT. The tower is owned by Crown Castle USA Inc. and the property is owned by the Town of Plainfield. AT&T now intends to replace six (6) antennas and to install six (6) new antennas and ancillary equipment at the 150-foot level. This modification may include B2, B5, B17, B14, B29, B30, B66 & n77 hardware that is 4G(LTE) and/or 5GNR capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:

Tower:

Installed New:

(1) SABRE-C10857802 3-Sector Mount Assembly per Mount Replacement Analysis
(12) 2" STD X 10'-0" Long Mount Pipes w/crossover Hardware
(3) 2" STD X 6'-0" Long Mount Pipes w/crossover Hardware
(3) CCI-TPA65R-BU8DA-K Antennas
(3) CCI-OPA65R-BU8DA Antennas
(1) RAYCAP-DC6-48-60-18-8C-EV Squid
(3) VALMONT-RRUDSM Dual RRH Mounts
(3) ERICSSON-RRUS 4478 B14 RRHs
(3) ERICSSON-RRUS 4890 B25/B66 RRHs
(3) ERICSSON-RRUS 4490 B5/B12 RRHs
(2) 6AWG DC Cables (7/8")
(1) 18-Pair Fiber Cable (3/8")

Remove:

(6) POWERWAVE-7770 Antennas
(6) POWERWAVE-LGP21401 TMAs
(3) ERICSSON-RRUS-11 B12 RRHs
(3) ERICSSON-RRUS-32 B2 RRHs
(6) POWERWAVE-LGP 21901 Diplexers
(6) COAX CABLES (1-5/8")

Remove existing platform mount @ 149'-0" MCL
Remove existing RRH mount @ 152'-0" MCL

Ground:

Install New:

(3) Rectifiers
(3) Strings of Batteries
(1) Outdoor DC12
(1) 6651 w/XCEDE Idle

Remove:

(1) Outdoor DC6
(3) Strings of 180AH Batteries
(12) POWERWAVE-LGP 21901 Diplexers

The facility was approved by the Connecticut Siting Council in Docket No. 234 on April 9, 2003. Said approval given with conditions. AT&T's proposed exempt modification complies with the conditions of approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to First Selectman Kevin Cunningham, for both the municipality and property owner, Assistant Planner/ZEO Ryan Brais, and Crown Castle is the tower owner.

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

For the foregoing reasons, ATT respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Domenica Tatasciore.

Sincerely,

Domenica Tatasciore

Domenica Tatasciore
Site Acquisition Specialist
1800 W. Park Drive
Westborough, MA 01581
(508) 621-9161/ Domenica.Tatasciore@crowncastle.com

Attachments
cc:

First Selectman Kevin Cunningham
Town of Plainfield
3 Community Avenue
Plainfield, CT 06374
860-230-3001

Assistant Planner/ZEO Ryan Brais
Town of Plainfield
3 Community Avenue
Plainfield, CT 06374
860-230-3036

Crown Castle, Tower Owner

THIS CHECK PRINTED ON DOCUCHECK GHOST PAPER AND HAS A GRAPHIC WATERMARK ON REVERSE SIDE

CROWN CASTLE USA INC.
2000 CORPORATE DRIVE
CANONSBURG PA 15317
724-416-2000

JPMorgan Chase Bank, N.A.
DALLAS TX
32-61/1110

2911759

SIX HUNDRED TWENTY FIVE AND 00/100**

DATE 11/15/23

$*******625.00

Pay To The Order Of
Connecticut Siting Council
Ten Franklin Square
New Britain CT 06051

2695915

VP and Controller

Asst. Controller

VOID AFTER 180 DAYS

⑈2911759⑈ ⑆111000614⑆ 1034104 53⑈

Check No 2911759
Check Date 11/15/23

Stub 1 of 1

CKRQ 876401 643225 BAP	05/31/23	Invoice Summ	625.00	625.00
			625.00	625.00

From: TrackingUpdates@fedex.com
To: Tatasciore, Domenica
Subject: FedEx Shipment 774166856609: Your package has been delivered
Date: Wednesday, November 29, 2023 10:49:06 AM

FedEx

Hi. Your package was delivered Wed, 11/29/2023 at 10:39am.

Delivered to 3 COMMUNITY AVE, PLAINFIELD, CT 06374
Received by R.BRAIS

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	774166856609
FROM	Crown Castle 1800 West Park Drive Suite 200 WESTBOROUGH, MA, US, 01581
TO	Town of Plainfield First Selectman Kevin Cunningham 3 Community Avenue PLAINFIELD, CT, US, 06374
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Tue 11/28/2023 06:04 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	PLAINFIELD, CT, US, 06374
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

From: TrackingUpdates@fedex.com
To: Tatasciore, Domenica
Subject: FedEx Shipment 774166897778: Your package has been delivered
Date: Wednesday, November 29, 2023 10:49:09 AM

Hi. Your package was delivered Wed, 11/29/2023 at 10:39am.

Delivered to 3 COMMUNITY AVE, PLAINFIELD, CT 06374
Received by R.BRAIS

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	774166897778
FROM	Crown Castle 1800 West Park Drive Suite 200 WESTBOROUGH, MA, US, 01581
TO	Town of Plainfield Assistant Planner/ZEO Ryan Brais 3 Community Avenue PLAINFIELD, CT, US, 06374
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SHIPPER REFERENCE	799001.7680
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DESTINATION	PLAINFIELD, CT, US, 06374
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

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DOCKET NO. 234 – Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility in Plainfield, Connecticut.

} Connecticut

} Siting

} Council

April 9, 2003

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Sprint Spectrum L. P. (Sprint) for the construction, maintenance and operation of a wireless

telecommunications facility at proposed Candidate B site located at 47-51 Unity Street, Plainfield, Connecticut. We deny certification of the proposed Candidate A site (Saad property) located at 180 Town Farm Road, Plainfield, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint and other entities, both public and private, but such tower shall not exceed a height of 160 feet above ground level. The tower shall also be constructed in such a manner that, in the unlikely event of failure, it would collapse upon itself in a way that would effectively reduce the diameter of the fall zone.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:

a. a detailed site development plan that depicts the location of the access road, compound, tower, and utility line;

b. specifications for the tower, tower foundation, antennas, equipment building, and security fence; and

c. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power densities of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall provide a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new state or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. If the facility does not initially provide, or permanently ceases to provide wireless services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

7. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and ceases to function.

8. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Norwich Bulletin.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant

Sprint Spectrum, L.P.
d/b/a Sprint PCS

Its Representative

Thomas J. Regan, Esquire
Brown Rudnick Berlack Israels LLP
CityPlace I, 38th Floor
185 Asylum Street
Hartford, CT 06103-3402
(860) 509-6522

47-51 UNITY ST

Location	47-51 UNITY ST	**Mblu**	015/ 0071/ 0009/ /
Acct#	00145200	**Owner**	PLAINFIELD TOWN OF
Assessment	$535,190	**Appraisal**	$764,540
PID	1571	**Building Count**	3

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2022	$543,380	$221,160	$764,540
Assessment			
Valuation Year	Improvements	Land	Total
2022	$380,380	$154,810	$535,190

Owner of Record

Owner	PLAINFIELD TOWN OF	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	651 NORWICH RD PLAINFIELD, CT 06374	**Book & Page**	0025/0002
		Sale Date	04/01/1878

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
PLAINFIELD TOWN OF	$0		0025/0002	04/01/1878

Building Information

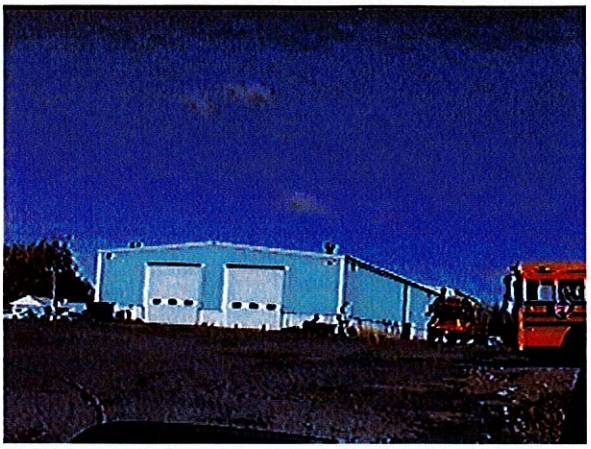
Building 1 : Section 1

Year Built:	1973
Living Area:	12,000
Replacement Cost:	$513,360
Building Percent Good:	71
Replacement Cost Less Depreciation:	$364,490

Building Attributes	
Field	Description

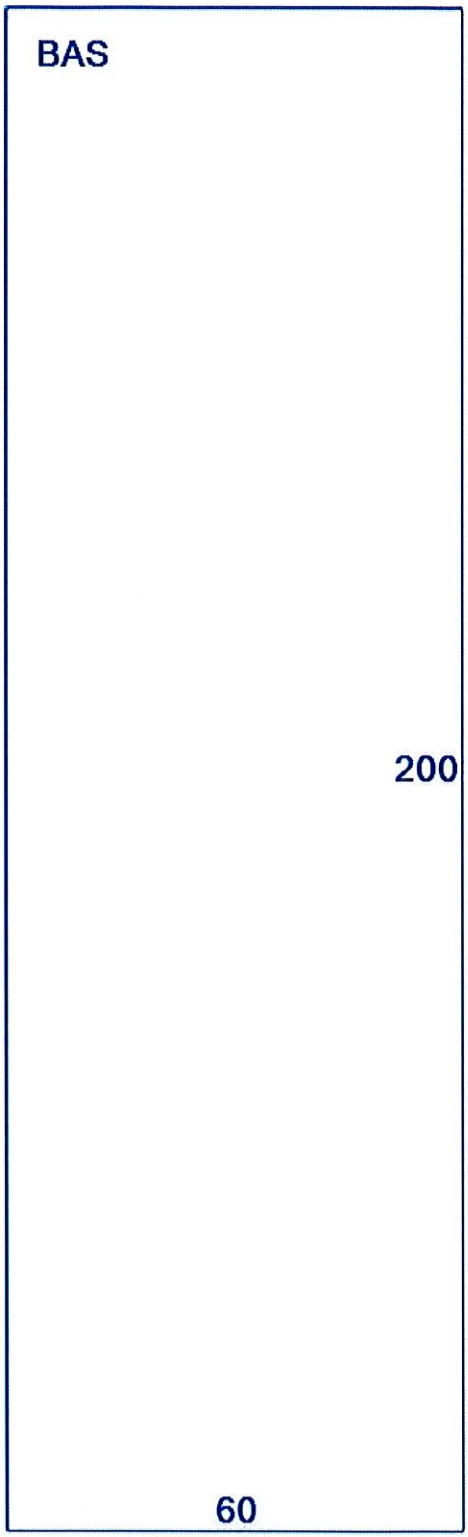
Style:	Warehouse
Model	Comm/Ind
Grade	C
Stories:	1
Occupancy	2.00
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Hot Air-no Duc
AC Type	None
Struct Class	
Bldg Use	MUNICIPAL MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	9030
Heat/AC	HEAT ONLY
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	16.00
% Comn Wall	

Building Photo



(https://images.vgsi.com/photos/PlainfieldCTPhotos/\00\00\13\21.JPG)

Building Layout



(ParcelSketch.ashx?pid=1571&bid=1571)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	12,000	12,000
		12,000	12,000

Building 2 : Section 1

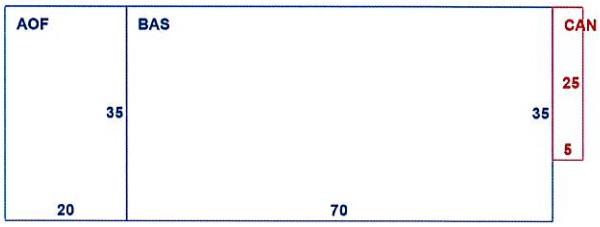
Year Built: 1975
Living Area: 3,150
Replacement Cost: $178,372
Building Percent Good: 71
Replacement Cost Less Depreciation: $126,640

Building Attributes : Bldg 2 of 3	
Field	**Description**
Style:	Warehouse
Model	Comm/Ind
Grade	C
Stories:	1
Occupancy	
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Typical
Interior Wall 2	
Interior Floor 1	Average
Interior Floor 2	
Heating Fuel	None
Heating Type	None
AC Type	None
Struct Class	
Bldg Use	MUNICIPAL MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	9030
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	10.00
% Comn Wall	

Building Photo

(https://images.vgsi.com/photos/PlainfieldCTPhotos/\00\00\59\14.jpg)

Building Layout



(ParcelSketch.ashx?pid=1571&bid=20058)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	2,450	2,450
AOF	Office	700	700
CAN	Canopy	125	0
		3,275	3,150

Building 3 : Section 1

Year Built: 1975
Living Area: 378

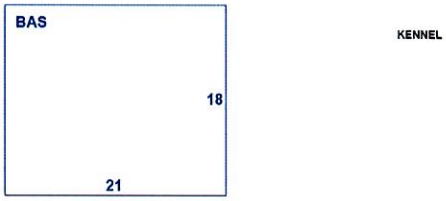
Replacement Cost: $23,360
Building Percent Good: 71
Replacement Cost Less Depreciation: $16,590

Building Attributes : Bldg 3 of 3	
Field	**Description**
Style:	Office/Warehs
Model	Comm/Ind
Grade	D
Stories:	1
Occupancy	
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Hot Air-no Duc
AC Type	None
Struct Class	
Bldg Use	MUNICIPAL MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	9030
Heat/AC	HEAT ONLY
Frame Type	REINF. CONCR
Baths/Plumbing	NONE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	10.00
% Comn Wall	

Building Photo

(https://images.vgsi.com/photos/PlainfieldCTPhotos/\00\00\59\15.jpg)

Building Layout



(ParcelSketch.ashx?pid=1571&bid=20059)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	378	378
		378	378

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
OD1	Overhead Dr-Wood/Mtl	1.00 UNITS	$710	1
OD1	Overhead Dr-Wood/Mtl	4.00 UNITS	$2,840	2
A/C	Air Conditioning	700.00 S.F.	$1,240	2

OD1	Overhead Dr-Wood/Mtl	4.00 UNITS	$2,840	1
MEZ1	Mezzanine-Unf	1200.00 S.F.	$6,820	1

Land

Land Use

Use Code	903C
Description	MUNICIPAL MDL-94
Zone	IND
Neighborhood	2000
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	11.85
Frontage	
Depth	
Assessed Value	$154,810
Appraised Value	$221,160

Outbuildings

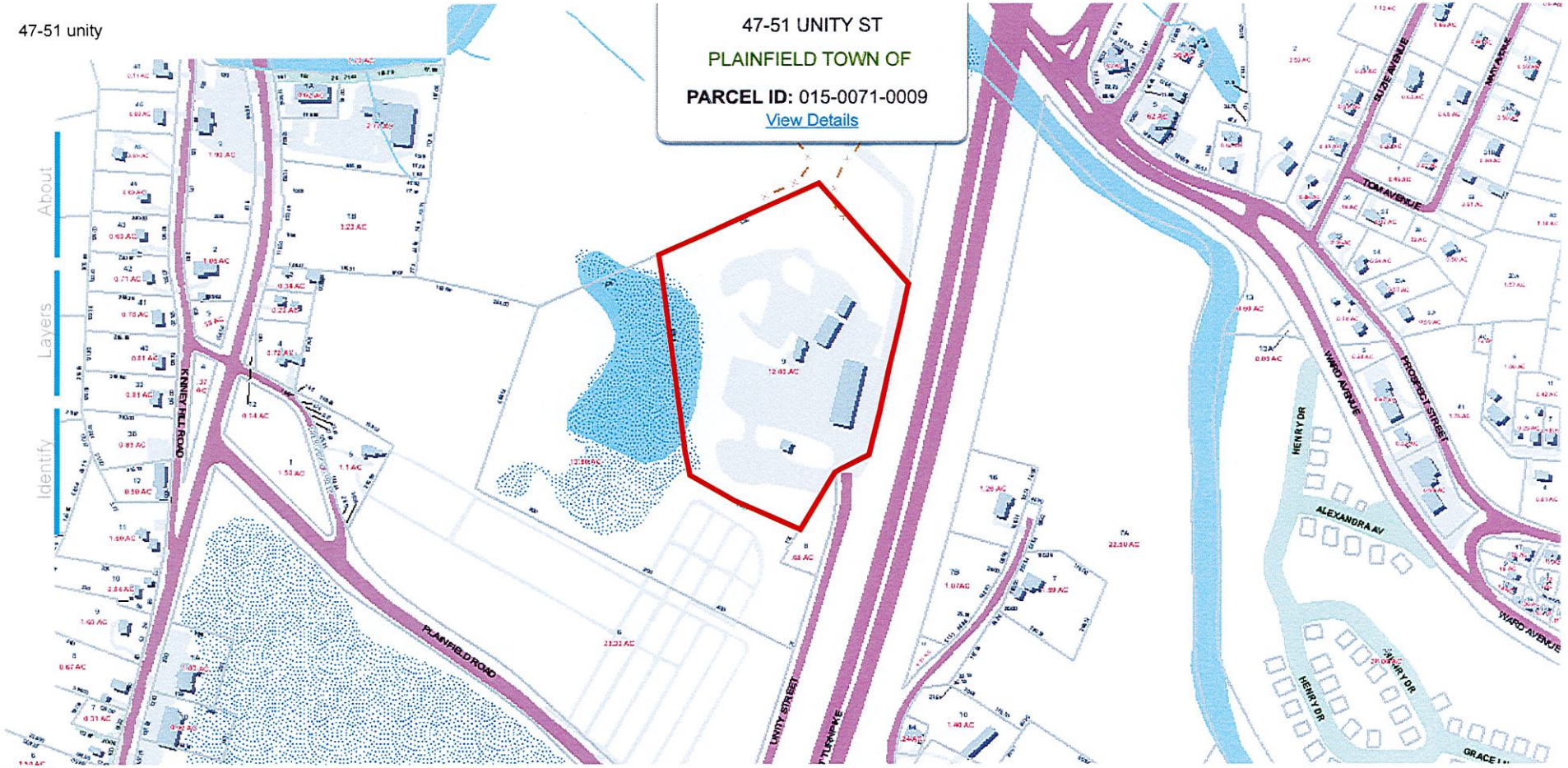
Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
AQ1	Quonset Bldg			840.00 S.F.	$6,090	1
KEN2	Kennel-Good			468.00 S.F.	$3,980	3
CNP1	Canopy Avg			312.00 S.F.	$1,250	3
CNP1	Canopy Avg			800.00 S.F.	$3,200	2
CNP1	Canopy Avg			800.00 S.F.	$3,200	1
NV1	Oby under 100 sf	SH	Shed	80.00 UNITS	$0	1
SH1	Frame Shed			120.00 S.F.	$750	2
NV1	Oby under 100 sf	SH	Shed	80.00 UNITS	$0	2
NV1	Oby under 100 sf	SH	Shed	80.00 UNITS	$0	3
FN3	Fence 6' Chain			124.00 L.F.	$1,490	3
CNP1	Canopy Avg			312.00 S.F.	$1,250	3

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2022	$543,380	$221,160	$764,540
2021	$386,850	$188,400	$575,250

Assessment			
Valuation Year	Improvements	Land	Total
2022	$380,380	$154,810	$535,190
2021	$270,800	$131,880	$402,680

47-51 unity



Email Map Link

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

100m
400ft

Close

Tighe&Bond

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

Site Name:	PLAINFIELD N CENTRAL
AT&T Mobility FA#	10092030
Crown Castle Site#	876401
Site ID:	CTL05461
Project Name:	5G NR 1DR-1
Address:	47-51 UNITY STREET, MOOSUP, CT 06354
County:	WINDHAM
Latitude:	41.7151300
Longitude:	-71.8962900
Structure Type:	MONOPOLE
Property Owner:	TOWN OF PLAINFIELD
Property Contact:	VERONICA CHAPMAN

AT&T Existing Facility

Report Information

Report Writer: Monti Kumar **Report Generated Date:** 06-12-2023

Site Compliance Statement

Compliance Status	Compliant
Cumulative General Population % MPE (Ground Level)	0.3430%

June 12, 2023

Emissions Analysis for Site: **CTL05461– PLAINFIELD N CENTRAL**

MobileComm Professionals, Inc was directed to analyze the proposed AT&T facility located at **47-51 UNITY STREET, MOOSUP, CT 06354**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter (µW/cm2). The number of mW/cm^2 or µW/cm2 calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the 700 and 850 MHz Bands are approximately 0.467 mW/cm^2 and 0.567 mW/cm^2 respectively or 466.667 µW/cm2 and 566.667 µW/cm2 respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS), 2300 MHz (WCS), 3540 MHz (DoD Band) and 3840 MHz (C-Band) bands is 1 mW/cm^2 or 1000 µW/cm2. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

1. Theoretical Calculations: Methods and Procedures

MobileComm Professionals, Inc has performed theoretical modeling of the site using a software tool, RoofMaster® Version 40.12.23.2022, 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.

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.

2. Antenna Inventory & Power Data

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (^{0})	H B W (^{0})	Antenna Gain (dBd)	Antenna Aperture (ft)	#of Channels	Transmitter Power Per Channel (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Height (ft)	Calculated Power Density ($\mu W/cm^2$)	Allowable MPE ($\mu W/cm^2$)	Calculated MPE%
A	1	AT&T	CCI	TPA65R-BU8D	Panel	700(FN)	LTE	25	73	13.45	8	4	40.00	3155.88	5177.50	150.00	0.000076	466.67	0.000016
A	1	AT&T	CCI	TPA65R-BU8D	Panel	1900	LTE/5G	25	66	15.95	8	4	60.00	8418.04	13810.56	150.00	0.000069	1000.00	0.000007
A	1	AT&T	CCI	TPA65R-BU8D	Panel	2100	LTE/5G	25	66	16.15	8	4	60.00	8814.78	14461.43	150.00	0.000008	1000.00	0.000001
A	2	AT&T	CCI	OPA65R-BU8D	Panel	700(B12)	LTE	25	75	13.55	8	4	60.00	4844.08	7947.15	150.00	0.000067	466.67	0.000014
A	2	AT&T	CCI	OPA65R-BU8D	Panel	850	5G	25	63	14.45	8	4	60.00	5959.52	9777.13	150.00	0.000002	566.67	0.000000
B	3	AT&T	CCI	TPA65R-BU8D	Panel	700(FN)	LTE	155	73	13.45	8	4	40.00	3155.88	5177.50	150.00	0.006206	466.67	0.001330
B	3	AT&T	CCI	TPA65R-BU8D	Panel	1900	LTE/5G	155	66	15.95	8	4	60.00	8418.04	13810.56	150.00	0.009602	1000.00	0.000960
B	3	AT&T	CCI	TPA65R-BU8D	Panel	2100	LTE/5G	155	66	16.15	8	4	60.00	8814.78	14461.43	150.00	0.005121	1000.00	0.000512
B	4	AT&T	CCI	OPA65R-BU8D	Panel	700(B12)	LTE	155	75	13.55	8	4	60.00	4844.08	7947.15	150.00	0.002615	466.67	0.000560
B	4	AT&T	CCI	OPA65R-BU8D	Panel	850	5G	155	63	14.45	8	4	60.00	5959.52	9777.13	150.00	0.001020	566.67	0.000180
C	5	AT&T	CCI	TPA65R-BU8D	Panel	700(FN)	LTE	270	73	13.45	8	4	40.00	3155.88	5177.50	150.00	0.056549	466.67	0.012118
C	5	AT&T	CCI	TPA65R-BU8D	Panel	1900	LTE/5G	270	66	15.95	8	4	60.00	8418.04	13810.56	150.00	0.112291	1000.00	0.011229
C	5	AT&T	CCI	TPA65R-BU8D	Panel	2100	LTE/5G	270	66	16.15	8	4	60.00	8814.78	14461.43	150.00	0.096016	1000.00	0.009602
C	6	AT&T	CCI	OPA65R-BU8D	Panel	700(B12)	LTE	270	75	13.55	8	4	60.00	4844.08	7947.15	150.00	0.000147	466.67	0.000031
C	6	AT&T	CCI	OPA65R-BU8D	Panel	850	5G	270	63	14.45	8	4	60.00	5959.52	9777.13	150.00	0.000015	566.67	0.000003
A	7	Verizon	Samsung	MT6407-77A	Panel	3700	5G	50	17	22.85	2.93	4	35.00	24050.72	39457.36	127.00	0.497504	1000.00	0.049750
A	8	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	700	LTE	50	67	12.75	6	4	40.00	2686.09	4406.77	127.00	0.000099	466.67	0.000021
A	8	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	850	LTE	50	65	13.15	6	4	40.00	2945.24	4831.92	127.00	0.000053	566.67	0.000009
A	9	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	1900	LTE	50	60	16.35	6	4	40.00	6153.47	10095.32	127.00	0.000177	1000.00	0.000018
A	9	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	2100	LTE	50	61	16.65	6	4	40.00	6593.56	10817.33	127.00	0.000330	1000.00	0.000033
B	10	Verizon	Samsung	MT6407-77A	Panel	3700	5G	180	17	22.85	2.93	4	35.00	24050.72	39457.36	127.00	0.006027	1000.00	0.000603
B	11	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	700	LTE	180	67	12.75	6	4	40.00	2686.09	4406.77	127.00	0.093409	466.67	0.020016
B	11	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	850	LTE	180	65	13.15	6	4	40.00	2945.24	4831.92	127.00	0.091051	566.67	0.016068
B	12	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	1900	LTE	180	60	16.35	6	4	40.00	6153.47	10095.32	127.00	0.094074	1000.00	0.009407
B	12	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	2100	LTE	180	61	16.65	6	4	40.00	6593.56	10817.33	127.00	0.104537	1000.00	0.010454
C	13	Verizon	Samsung	MT6407-77A	Panel	3700	5G	300	17	22.85	2.93	4	35.00	24050.72	39457.36	127.00	0.000360	1000.00	0.000036
C	14	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	700	LTE	300	67	12.75	6	4	40.00	2686.09	4406.77	127.00	0.003919	466.67	0.000840
C	14	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	850	LTE	300	65	13.15	6	4	40.00	2945.24	4831.92	127.00	0.003428	566.67	0.000605
C	15	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	1900	LTE	300	60	16.35	6	4	40.00	6153.47	10095.32	127.00	0.086397	1000.00	0.008640
C	15	Verizon	Commscope	JAHH-65B-R3B-V3	Panel	2100	LTE	300	61	16.65	6	4	40.00	6593.56	10817.33	127.00	0.092107	1000.00	0.009211

Table 2.1: Antenna Inventory & Power Data

**NOTE: 75% Duty Cycle and adjusted power reduction factor of 0.32 was applied to the AIR6449 & AIR6449 antennas per guidance from AT&T. Specifications were not available for the Ericsson AIR 6449 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6449 due to its similarity.*

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (^{0})	H B W (^{0})	Antenna Gain (dBd)	Antenna Aperture (ft)	#of Channels	Transmitter Power Per Channel (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Height (ft)	Calculated Power Density ($\mu W/cm^2$)	Allowable MPE ($\mu W/cm^2$)	Calculated MPE%
A	16	T-Mobile	RFS	APX16DWV-16DWV-S-E-A20	Panel	2100	LTE	30	65	15.85	4.66	2	60.00	4113.21	6748.10	137.00	0.000067	1000.00	0.000007
A	17	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	LTE	30	64.3	12.95	8	2	30.00	1054.75	1730.42	137.00	0.003457	400.00	0.000864
A	17	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	5G	30	64.3	12.95	8	1	80.00	1406.34	2307.23	137.00	0.004609	400.00	0.001152
A	17	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	LTE	30	63.3	14.05	8	2	30.00	1358.79	2229.21	137.00	0.004271	466.67	0.000915
A	17	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	GSM	30	64.8	15.25	8	4	30.00	3582.46	5877.35	137.00	0.006234	1000.00	0.000623
A	17	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	LTE	30	64.8	15.25	8	2	60.00	3582.46	5877.35	137.00	0.006234	1000.00	0.000623
A	18	T-Mobile	Ericsson	AIR6449_LTE_B41	Panel	2500	LTE	30	12.5	22.65	2.75	1	40.67	7485.61	12280.81	139.00	0.000279	1000.00	0.000028
A	18	T-Mobile	Ericsson	AIR6449_NR_B41	Panel	2500	5G	30	12.5	22.65	2.75	1	67.78	12476.02	20468.02	139.00	0.000466	1000.00	0.000047
B	19	T-Mobile	RFS	APX16DWV-16DWV-S-E-A20	Panel	2100	LTE	190	65	15.85	4.66	2	60.00	4113.21	6748.10	137.00	0.000007	1000.00	0.000001
B	20	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	LTE	190	64.3	12.95	8	2	30.00	1054.75	1730.42	137.00	0.012243	400.00	0.003061
B	20	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	5G	190	64.3	12.95	8	1	80.00	1406.34	2307.23	137.00	0.000479	400.00	0.000120
B	20	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	LTE	190	63.3	14.05	8	2	30.00	1358.79	2229.21	137.00	0.000570	466.67	0.000122
B	20	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	GSM	190	64.8	15.25	8	4	30.00	3582.46	5877.35	137.00	0.000395	1000.00	0.000039
B	20	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	LTE	190	64.8	15.25	8	2	60.00	3582.46	5877.35	137.00	0.000395	1000.00	0.000039
B	21	T-Mobile	Ericsson	AIR6449_LTE_B41	Panel	2500	LTE	190	12.5	22.65	2.75	1	40.67	7485.61	12280.81	139.00	0.230977	1000.00	0.023098
B	21	T-Mobile	Ericsson	AIR6449_NR_B41	Panel	2500	5G	190	12.5	22.65	2.75	1	67.78	12476.02	20468.02	139.00	0.384960	1000.00	0.038496
C	22	T-Mobile	RFS	APX16DWV-16DWV-S-E-A20	Panel	2100	LTE	300	65	15.85	4.66	2	60.00	4113.21	6748.10	137.00	0.000048	1000.00	0.000005
C	23	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	LTE	300	64.3	12.95	8	2	30.00	1054.75	1730.42	137.00	0.001250	400.00	0.000313
C	23	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	5G	300	64.3	12.95	8	1	80.00	1406.34	2307.23	137.00	0.001667	400.00	0.000417
C	23	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	LTE	300	63.3	14.05	8	2	30.00	1358.79	2229.21	137.00	0.000364	466.67	0.000078
C	23	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	GSM	300	64.8	15.25	8	4	30.00	3582.46	5877.35	137.00	0.001225	1000.00	0.000123
C	23	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	LTE	300	64.8	15.25	8	2	60.00	3582.46	5877.35	137.00	0.001225	1000.00	0.000123
C	24	T-Mobile	Ericsson	AIR6449_LTE_B41	Panel	2500	LTE	300	12.5	22.65	2.75	1	40.67	7485.61	12280.81	139.00	0.199437	1000.00	0.019944
C	24	T-Mobile	Ericsson	AIR6449_NR_B41	Panel	2500	5G	300	12.5	22.65	2.75	1	67.78	12476.02	20468.02	139.00	0.332394	1000.00	0.033239
A	25	Sprint	RFS	APXVSPP18-C-A20	Panel	850	CDMA	90	65	13.35	6	1	20.00	385.50	632.46	159.00	0.000005	566.67	0.000001
A	25	Sprint	RFS	APXVSPP18-C-A20	Panel	850	LTE	90	65	13.35	6	2	20.00	771.01	1264.91	159.00	0.000011	566.67	0.000002
A	25	Sprint	RFS	APXVSPP18-C-A20	Panel	1900	CDMA	90	65	15.85	6	5	16.00	2742.14	4498.73	159.00	0.000014	1000.00	0.000001
A	25	Sprint	RFS	APXVSPP18-C-A20	Panel	1900	LTE	90	65	15.85	6	2	40.00	2742.14	4498.73	159.00	0.000014	1000.00	0.000001
A	26	Sprint	RFS	APXVTM14-C-I20	Panel	2500	LTE	90	65	21.5	4.59	8	20.00	20150.05	33046.08	159.00	0.000061	1000.00	0.000006
B	27	Sprint	RFS	APXVSPP18-C-A20	Panel	850	CDMA	220	65	13.35	6	1	20.00	385.50	632.46	159.00	0.000341	566.67	0.000060
B	27	Sprint	RFS	APXVSPP18-C-A20	Panel	850	LTE	220	65	13.35	6	2	20.00	771.01	1264.91	159.00	0.000682	566.67	0.000120
B	27	Sprint	RFS	APXVSPP18-C-A20	Panel	1900	CDMA	220	65	15.85	6	5	16.00	2742.14	4498.73	159.00	0.001863	1000.00	0.000186
B	27	Sprint	RFS	APXVSPP18-C-A20	Panel	1900	LTE	220	65	15.85	6	2	40.00	2742.14	4498.73	159.00	0.001863	1000.00	0.000186
B	28	Sprint	RFS	APXVTM14-C-I20	Panel	2500	LTE	220	65	21.5	4.59	8	20.00	20150.05	33046.08	159.00	0.000020	1000.00	0.000002

Table 2.2: Antenna Inventory & Power Data

**NOTE: 75% Duty Cycle and adjusted power reduction factor of 0.32 was applied to the AIR6449 & AIR6449 antennas per guidance from AT&T. Specifications were not available for the Ericsson AIR 6449 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6449 due to its similarity.*

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (^{0})	H B W (^{0})	Antenna Gain (dBd)	Antenna Aperture (ft)	#of Channels	Transmitter Power Per Channel (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Height (ft)	Calculated Power Density ($\mu W/cm^2$)	Allowable MPE ($\mu W/cm^2$)	Calculated MPE%
C	29	Sprint	RFS	APXVSPP18-C-A20	Panel	850	CDMA	320	65	13.35	6	1	20.00	385.50	632.46	159.00	0.000119	566.67	0.000021
C	29	Sprint	RFS	APXVSPP18-C-A20	Panel	850	LTE	320	65	13.35	6	2	20.00	771.01	1264.91	159.00	0.000238	566.67	0.000042
C	29	Sprint	RFS	APXVSPP18-C-A20	Panel	1900	CDMA	320	65	15.85	6	5	16.00	2742.14	4498.73	159.00	0.000510	1000.00	0.000051
C	29	Sprint	RFS	APXVSPP18-C-A20	Panel	1900	LTE	320	65	15.85	6	2	40.00	2742.14	4498.73	159.00	0.000510	1000.00	0.000051
C	30	Sprint	RFS	APXVTM14-C-I20	Panel	2500	LTE	320	65	21.5	4.59	8	20.00	20150.05	33046.08	159.00	0.000472	1000.00	0.000047
A	31	Dish	JMA Wireless	MX08FRO665-21	Panel	600	5G	0	68	11.45	6	4	30.00	1493.42	2450.09	83.00	0.002906	400.00	0.000727
A	31	Dish	JMA Wireless	MX08FRO665-21	Panel	1900	5G	0	62	16.15	6	4	40.00	5876.52	9640.95	83.00	0.000266	1000.00	0.000027
B	32	Dish	JMA Wireless	MX08FRO665-21	Panel	600	5G	120	68	11.45	6	4	30.00	1493.42	2450.09	83.00	0.000053	400.00	0.000013
B	32	Dish	JMA Wireless	MX08FRO665-21	Panel	1900	5G	120	62	16.15	6	4	40.00	5876.52	9640.95	83.00	0.000263	1000.00	0.000026
C	33	Dish	JMA Wireless	MX08FRO665-21	Panel	600	5G	240	68	11.45	6	4	30.00	1493.42	2450.09	83.00	0.141215	400.00	0.035304
C	33	Dish	JMA Wireless	MX08FRO665-21	Panel	1900	5G	240	62	16.15	6	4	40.00	5876.52	9640.95	83.00	0.195831	1000.00	0.019583
A	34	Unknown	Generic	Generic	Omni	850	LTE	360	360	5.96	8	1	60.00	210.94	346.06	114.00	0.004793	566.67	0.000846
																Calculated Power Density ($\mu W/cm^2$)	2.908579%	Calculated MPE%	0.3430%

Table 2.3: Antenna Inventory & Power Data

**NOTE: 75% Duty Cycle and adjusted power reduction factor of 0.32 was applied to the AIR6449 & AIR6449 antennas per guidance from AT&T. Specifications were not available for the Ericsson AIR 6449 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6449 due to its similarity.*

3. Compliance Summary

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

The anticipated composite MPE value for this site assuming all carriers present is 0.3430% of the allowable FCC established general public limit sampled at the ground level.

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

Date: April 13, 2023

MTS Engineering, P.L.L.C.
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject:	**Mount Replacement Analysis Report**	
Carrier Designation:	**AT&T Mobility**	
	Site Number:	**CTL05461**
	Site Name:	**Plainfield N Central**
	FA Number:	**10092030**
	Site PACE Number:	**MRCTB062150**
Crown Castle Designation:	**BU Number:**	**876401**
	Site Name:	**Town of Plainfield/SSUSA**
	JDE Job Number:	**739281**
	Order Number:	**643225, Rev. 0**
Engineering Firm Designation:	**Report Designation:**	**136378.016.01.0001**
Site Data:	**47-51 Unity Street, Plainfield, CT 06374. Windham County** **Latitude 41° 42' 54.49" Longitude -71° 53' 46.73"**	
Structure Information:	**Tower Height & Type:**	**160.0 ft. Monopole**
	Mount Elevation:	**150.0 ft.**
	Mount Type:	**13.0 ft. Sector Frame**

We are pleased to submit this **"Mount Replacement Analysis Report"** to determine the structural integrity of AT&T Mobility's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine the acceptability of the mount's stress level. Based on our analysis we have determined the stress level to be:

(3) Sector Frames **Sufficient ***
* Sufficient upon completion of the changes listed in the 'Recommendations' section of the report.

This analysis utilizes an ultimate 3-second gust wind speed of 123 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Khup Hatzaw, P.E.

Respectfully submitted by: MTS Engineering, P.L.L.C.
COA #: BER:2386985, Expires: 03/31/2024.

Chad E. Tuttle, P.E.
Engineer of Record

STATE OF CONNECTICUT
CHAD TUTTLE
LICENSED
PROFESSIONAL ENGINEER

4-13-23

TABLE OF CONTENTS

1) INTRODUCTION

The Mount is a proposed 13.0 ft. Sector Frame designed by Sabre (Part #C10-857-802), typical all Sectors.

2) ANALYSIS CRITERIA

Building Code:	2022 Connecticut State Building Code
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	123 mph
Exposure Category:	B
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	1.0 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.186
Seismic S_1:	0.054
Live Loading Wind Speed:	30 mph
Man-Live Load at Mid/End-Points:	250 lb.
Man-Live Load at Mount Pipes:	500 lb.

Table 1 – Proposed Equipment Configuration

Mount Centerline (ft.)	Antenna Centerline (ft.)	Number of Antennas	Manufacturer	Model / Type	Mount / Modification Details
150.0	150.0	3	CCI	HPA-65R-BUU-H8	13.0' Proposed Sector Frames
		3	CCI	OPA65R-BU8DA-K	
		3	CCI	TPA65R-BU8DA-K	
		3	Ericsson	Radio 4890HP B2/B25 B66*	
		3	Ericsson	RRUS 4449 B5/B12*	
		3	Ericsson	RRUS 4478 B14_CCIV2*	
		1	Raycap	DC6-48-60-18-8C-EV	
		1	Raycap	DC6-48-60-18-8F	

*RRH's are considered installed on the RRH Mounting Pipe

Table 2 - Documents Provided

Document	Description	Reference	Source
CCI Order Information	Existing Loading Proposed Loading	Dated: 04/05/2023	Crown Castle
RFDS		Dated: 03/07/2023	
Mount Manufacturer Drawing by Sabre Industries	Proposed Sector Frame	Part #C10-857-802	Sabre

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 20.0.0), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.
A tool internally developed by MTS Engineering, P.L.L.C., was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Mount Analysis* (Revision E). In addition, this analysis is in accordance with *AT&T's Mount Technical Directive – R22.0.*

Manufacturers drawing were used to create the model.

3.2) Assumptions

1. The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
2. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
3. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected members unless otherwise specified in this report.
4. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.
5. The following assumptions have been included in the analysis of the mount

Component	Section	Length	Note
Antenna Mount	PIPE 2"STD	10'-0"	All Positions, All Sectors
Equipment Mount	PIPE 2"STD	6'-0"	Attached to V-Frames, All Sectors

6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
8. The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
9. The following material grades were assumed (Unless Noted Otherwise):
   (a) Connection Bolts : ASTM A325
   (b) Steel Pipe : ASTM A53 (GR. 35)
   (c) HSS (Round) : ASTM 500 (GR. B-42)
   (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
   (e) Channel : ASTM A36 (GR. 36)
   (f) Steel Solid Rod : ASTM A36 (GR. 36)
   (g) Steel Plate : ASTM A36 (GR. 36)
   (h) Steel Angle : ASTM A36 (GR. 36)
   (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. MTS Engineering, P.L.L.C. should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity – (3) Sector Frames

Notes	Component	Centerline (ft.)	Critical Member	% Capacity	Pass / Fail
1	Antenna Mount – Pipes	150.0	MP12	57.8	Pass
	Equipment Mount – Pipes	150.0	MP25	12.3	Pass
	Face Horizontal – Pipes	150.0	H32	37.5	Pass
	V-Frame Horizontal – Pipes	150.0	F33	10.7	Pass
	V-Frame Bracing – Solid Rods	150.0	D32	11.7	Pass
	Frame Mount – Pipes	150.0	P3	19.9	Pass
	Frame Tieback – Pipes	150.0	T1	9.2	Pass
	Frame Attachment – Plates	150.0	B12	20.2	Pass
	Frame Connection – Plates	150.0	C23	20.6	Pass
2	Mount to Tower Connection	150.0	Bolts	68.9	Pass

Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
2) See additional documentation in "Appendix D - Additional Calculations" for calculations supporting the % capacity reported.

Structure Rating (max from all components) =	**68.9%**

4.1) Recommendations

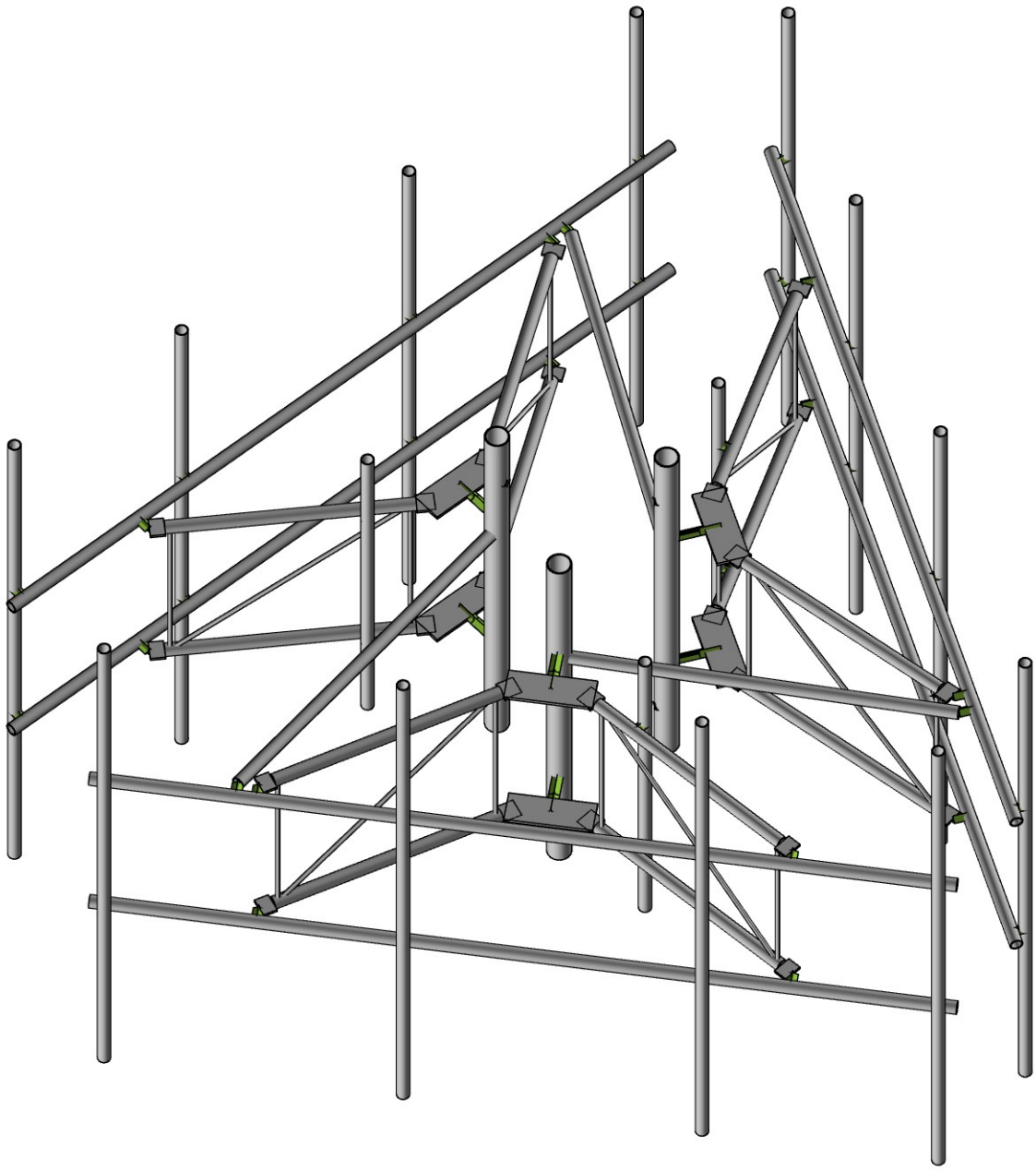
The proposed Mount has sufficient capacity to support the proposed loading configuration. In order for the results of this analysis to be considered valid, the Mount listed below shall be installed.

1. Install (3) Replacement Mounts, designed by Sabre (Part #C10-857-802), (P/N: “ANT.48468”).
2. Install (9) new Mounting Pipe 2”STD x 10.0’ long, Sabre (Part #C10901224), (P/N: “ANT.16899”) for Antenna installation and (3) new Mounting Pipe 2”STD x 10.0’ long for future, attached to the Face Horizontal Pipes with new Crossover Plates by Rosenberger (Part #C10-902-011), (P/N: “ANT.16334”).
3. Install (3) new Equipment Mounting Pipe 2”STD x 6’-0’’ long (P/N: Equivalent Conmat approved item”), attached to the V-Frame Support Arms with new Crossover Plates by Rosenberger (Part #C10-902-011), (P/N: “ANT.16334”), in all Sectors to accommodate RRH’s.

Beyond the mount replacement, no structural modifications are required at this time, provided that the above-listed changes are installed.

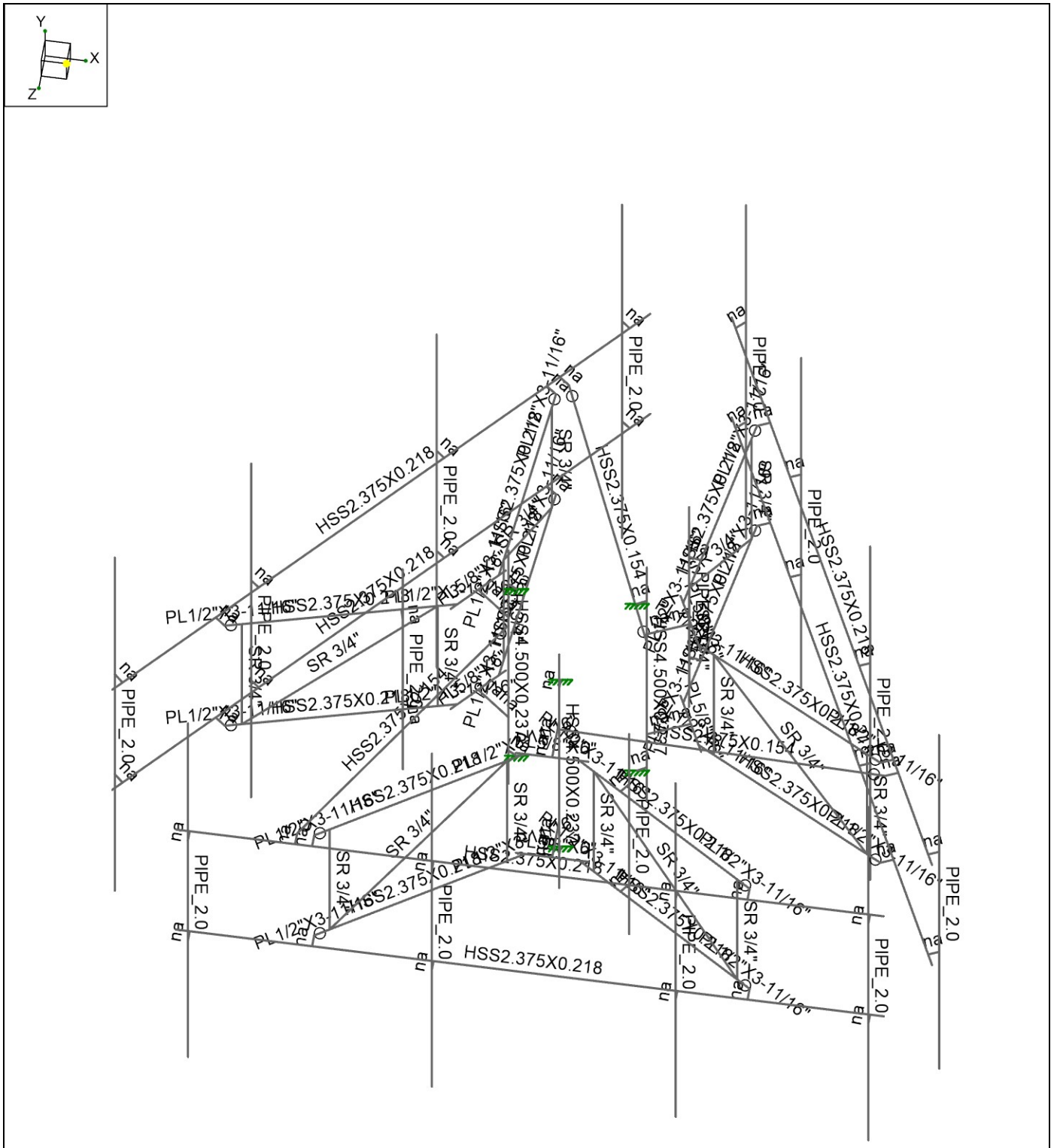
APPENDIX A

WIRE FRAME AND RENDERED MODELS



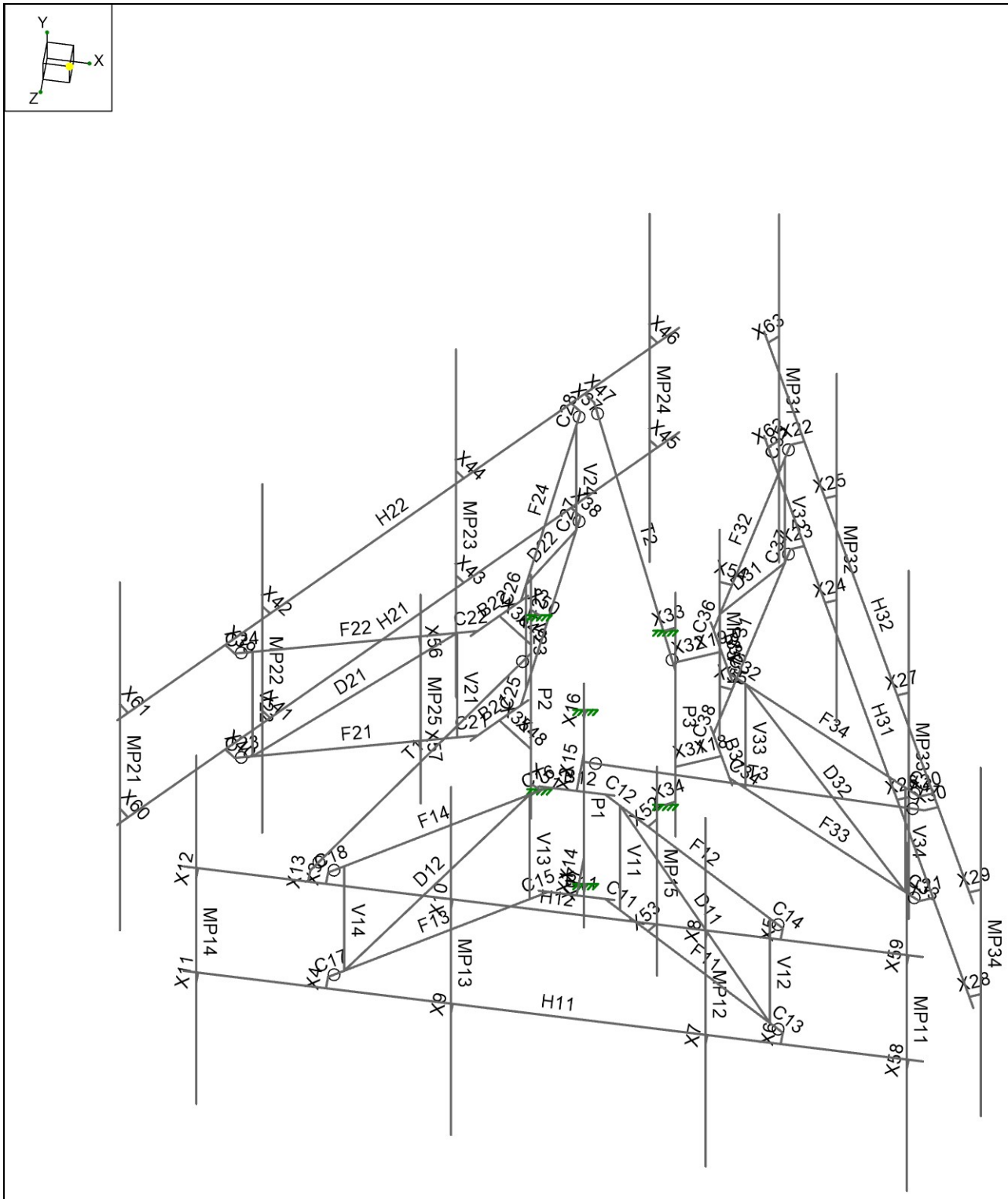
Envelope Only Solution

MTS ENGINEERING, P.L.L.C.	TOWN PLAIFIELD / SSUSS 876401	SK-1
KH		Apr 13, 2023
136378.016.01.0001	(3) PROPOSED SECTOR FRAMES (#C10-857-802)	136378.016.01.0001-(3)SectorFrames.r3d



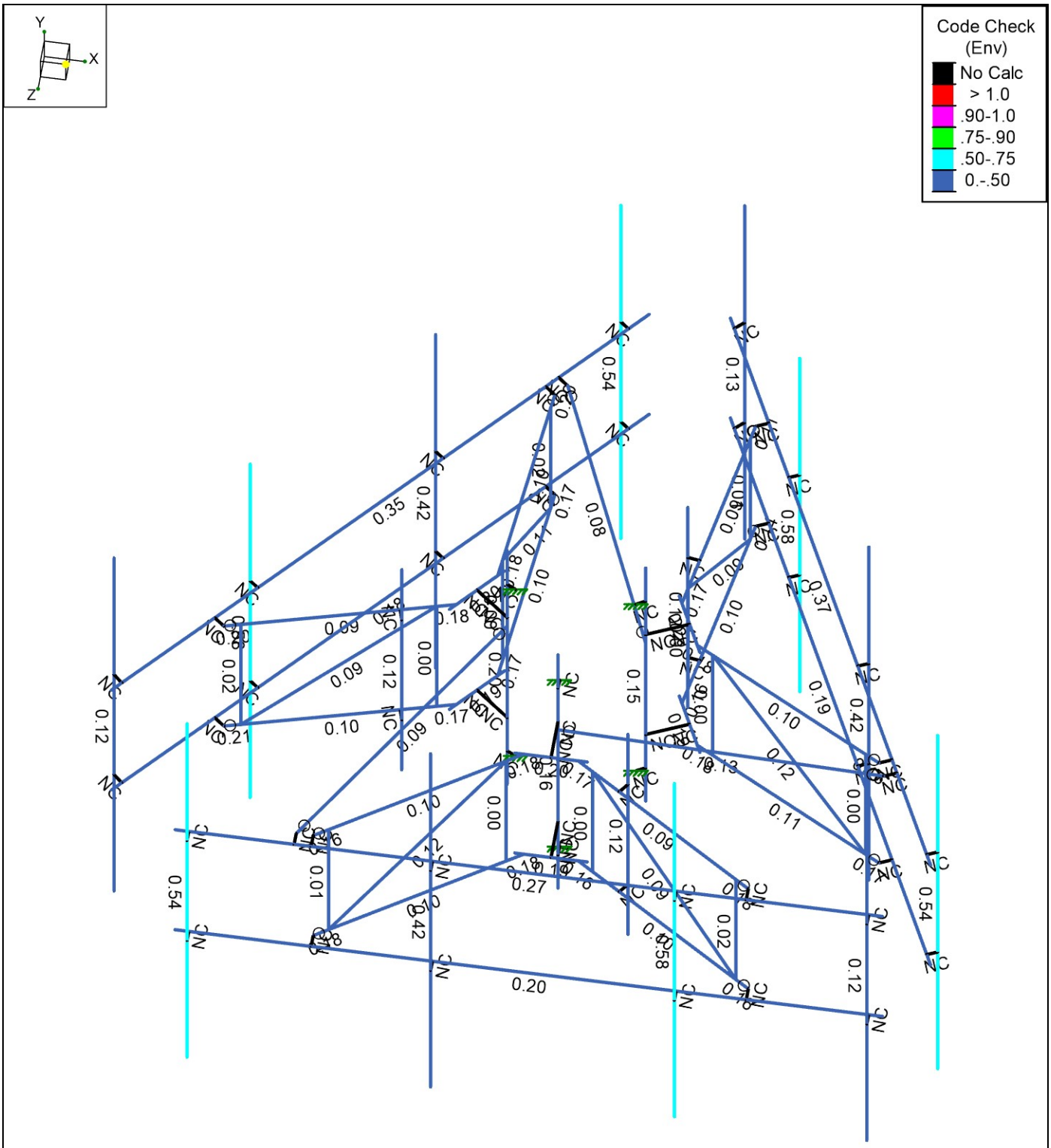
Envelope Only Solution

MTS ENGINEERING, P.L.L.C.	TOWN PLAIFIELD / SSUSS 876401	SK-2
KH		Apr 13, 2023
136378.016.01.0001	(3) PROPOSED SECTOR FRAMES (#C10-857-802)	136378.016.01.0001-(3)SectorFrames.r3d



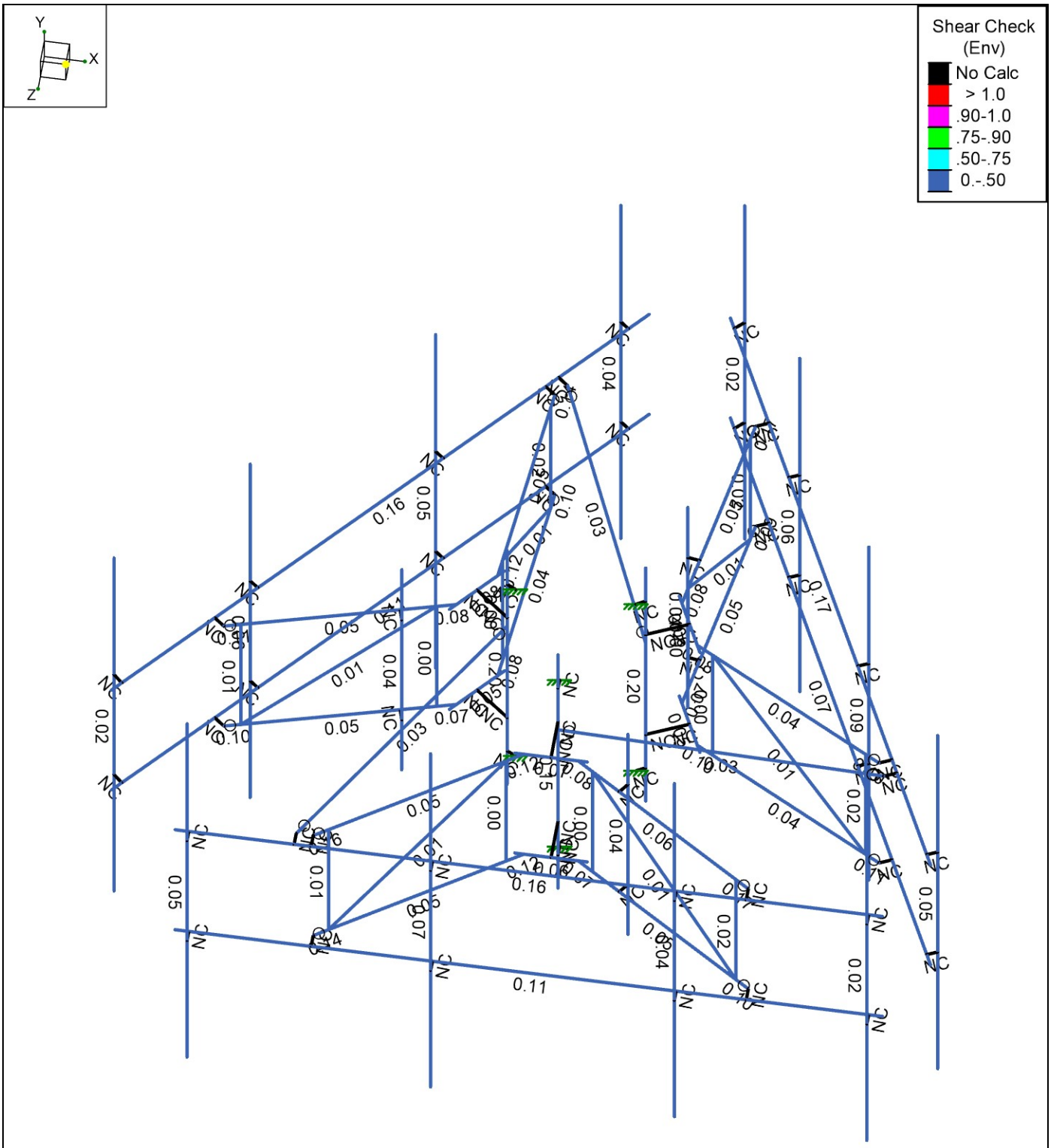
Envelope Only Solution

MTS ENGINEERING, P.L.L.C.	TOWN PLAIFIELD / SSUSS 876401	SK-3
KH		Apr 13, 2023
136378.016.01.0001	(3) PROPOSED SECTOR FRAMES (#C10-857-802)	136378.016.01.0001-(3)SectorFrames.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

MTS ENGINEERING, P.L.L.C.	TOWN PLAIFIELD / SSUSS 876401	SK-4
KH		Apr 13, 2023
136378.016.01.0001	(3) PROPOSED SECTOR FRAMES (#C10-857-802)	136378.016.01.0001-(3)SectorFrames.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

MTS ENGINEERING, P.L.L.C.	TOWN PLAIFIELD / SSUSS 876401	SK-5
KH		Apr 13, 2023
136378.016.01.0001	(3) PROPOSED SECTOR FRAMES (#C10-857-802)	136378.016.01.0001-(3)SectorFrames.r3d

APPENDIX B

SOFTWARE INPUT CALCULATIONS

PROJECT	**136378.016.01.0001 - TOWN OF PLAINFIELD / SUSA, CT**
SUBJECT	**(3) SECTOR FRAMES - Mount Analysis**
DATE	**04/13/23**

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

KH

Tower Type		:	Monopole		
Ground Elevation	z_s	:	230	ft	[ASCE7 Hazard Tool]
Tower Height		:	160.0	ft	
Mount Elevation		:	150.0	ft	
Antenna Elevation		:	150.0	ft	
Crest Height		:	0	ft	
Risk Category		:	II		[Table 2-1]
Exposure Category		:	B		[Sec. 2.6.5.1.2]
Topography Category		:	1		[Sec. 2.6.6.2]
Wind Velocity	V	:	123	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	:	1.0	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}	:	0.09		
Gust Factor	G_h	:	1.00		[Sec. 16.6]
Pressure Coefficient	K_z	:	1.11		[Sec. 2.6.5.2]
Topography Facto	K_{zt}	:	1.00		[Sec. 2.6.6]
Elevation Factor	K_e	:	0.99		[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}	:	1.16	in	[Sec. 2.6.10]
Importance Factor	I_e	:	1		[Table 2-3]
Response Coefficient	C_s	:	0.10		[Sec. 2.7.7.1]
Amplification	A_s	:	2.75		[Sec. 16.7]
	q_z	**:**	**40.5**	**psf**	

PROJECT	**136378.016.01.0001 - TOWN OF PLAINFIELD / SUSA, CT**
SUBJECT	**(3) SECTOR FRAMES - Mount Analysis**
DATE	**04/13/23**

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

KH

Manufacturer	Model	Qty	Height (in^2)	Width (in^2)	Depth (in^2)	Weight (lbs)	C_aA_a (N) (ft^2)	C_aA_a (T) (ft^2)	C_aA_a (N) Ice (ft^2)	C_aA_a (T) Ice (ft^2)	$F_{A\,(N)}$ (k)	$F_{A\,(T)}$ (k)	$F_{A\,(N)}$ Ice (k)	$F_{A\,(T)}$ Ice (k)
CCI ANTENNAS	TPA65R-BU8DA-K	0.5	96.0	20.7	7.7	102.1	8.58	4.03	9.60	4.96	0.35	0.16	0.06	0.03
CCI ANTENNAS	TPA65R-BU8DA-K	0.5					8.58	4.03	9.60	4.96	0.35	0.16	0.06	0.03
CCI ANTENNAS	HPA-65R-BUU-H8	0.5	92.4	14.8	7.4	73.0	6.13	3.15	7.11	4.06	0.25	0.13	0.05	0.03
CCI ANTENNAS	HPA-65R-BUU-H8	0.5					6.13	3.15	7.11	4.06	0.25	0.13	0.05	0.03
CCI ANTENNAS	OPA65R-BU8DA-K	0.5	96.0	20.7	7.7	78.4	8.94	4.06	10.18	5.42	0.33	0.12	0.05	0.02
CCI ANTENNAS	OPA65R-BU8DA-K	0.5					8.94	4.06	10.18	5.42	0.33	0.12	0.05	0.02
CCI ANTENNAS	TPA65R-BU8DA-K	0.5	96.0	20.7	7.7	102.1	8.58	4.03	9.60	4.96	0.35	0.16	0.06	0.03
CCI ANTENNAS	TPA65R-BU8DA-K	0.5					8.58	4.03	9.60	4.96	0.35	0.16	0.06	0.03
CCI ANTENNAS	HPA-65R-BUU-H8	0.5	92.4	14.8	7.4	73.0	6.13	3.15	7.11	4.06	0.25	0.13	0.05	0.03
CCI ANTENNAS	HPA-65R-BUU-H8	0.5					6.13	3.15	7.11	4.06	0.25	0.13	0.05	0.03
CCI ANTENNAS	OPA65R-BU8DA-K	0.5	96.0	20.7	7.7	78.4	8.94	4.06	10.18	5.42	0.33	0.12	0.05	0.02
CCI ANTENNAS	OPA65R-BU8DA-K	0.5					8.94	4.06	10.18	5.42	0.33	0.12	0.05	0.02
CCI ANTENNAS	TPA65R-BU8DA-K	0.5	96.0	20.7	7.7	102.1	8.58	4.03	9.60	4.96	0.35	0.16	0.06	0.03
CCI ANTENNAS	TPA65R-BU8DA-K	0.5					8.58	4.03	9.60	4.96	0.35	0.16	0.06	0.03
CCI ANTENNAS	HPA-65R-BUU-H8	0.5	92.4	14.8	7.4	73.0	6.13	3.15	7.11	4.06	0.25	0.13	0.05	0.03
CCI ANTENNAS	HPA-65R-BUU-H8	0.5					6.13	3.15	7.11	4.06	0.25	0.13	0.05	0.03

PROJECT	**136378.016.01.0001 - TOWN OF PLAINFIELD / SUSA, CT**
SUBJECT	**(3) SECTOR FRAMES - Mount Analysis**
DATE	**04/13/23**

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

KH

Manufacturer	Model	Qty	Height (in^2)	Width (in^2)	Depth (in^2)	Weight (lbs)	C_aA_a (N) (ft^2)	C_aA_a (T) (ft^2)	C_aA_a (N) Ice (ft^2)	C_aA_a (T) Ice (ft^2)	$F_{A\,(N)}$ (k)	$F_{A\,(T)}$ (k)	$F_{A\,(N)}$ Ice (k)	$F_{A\,(T)}$ Ice (k)
CCI ANTENNAS	OPA65R-BU8DA-K	0.5	96.0	20.7	7.7	78.4	8.94	4.06	10.18	5.42	0.33	0.12	0.05	0.02
CCI ANTENNAS	OPA65R-BU8DA-K	0.5					8.94	4.06	10.18	5.42	0.33	0.12	0.05	0.02
ERICSSON	RADIO 4890HP B2/B25 B6	1	17.5	6.9	15.1	68.0	1.01	2.20	1.53	2.88	0.04	0.08	0.01	0.01
ERICSSON	RRUS 4478 B14_CCIV2	1	18.1	8.3	13.4	59.4	1.25	2.02	1.80	2.68	0.05	0.07	0.01	0.01
ERICSSON	RRUS 4449 B5/B12	1	17.9	13.2	9.4	71.0	1.97	1.41	2.62	1.98	0.07	0.05	0.01	0.01
ERICSSON	RADIO 4890HP B2/B25 B6	1	17.5	6.9	15.1	68.0	1.01	2.20	1.53	2.88	0.04	0.08	0.01	0.01
ERICSSON	RRUS 4478 B14_CCIV2	1	18.1	8.3	13.4	59.4	1.25	2.02	1.80	2.68	0.05	0.07	0.01	0.01
ERICSSON	RRUS 4449 B5/B12	1	17.9	13.2	9.4	71.0	1.97	1.41	2.62	1.98	0.07	0.05	0.01	0.01
RAYCAP	DC6-48-60-18-8C-EV	1	31.4	10.2	10.2	26.2	1.14	1.14	1.51	1.51	0.04	0.04	0.01	0.01
ERICSSON	RADIO 4890HP B2/B25 B6	1	17.5	6.9	15.1	68.0	1.01	2.20	1.53	2.88	0.04	0.08	0.01	0.01
ERICSSON	RRUS 4478 B14_CCIV2	1	18.1	8.3	13.4	59.4	1.25	2.02	1.80	2.68	0.05	0.07	0.01	0.01
ERICSSON	RRUS 4449 B5/B12	1	17.9	13.2	9.4	71.0	1.97	1.41	2.62	1.98	0.07	0.05	0.01	0.01

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	FH-Pipe	HSS2.375X0.218	Beam	Pipe	A53 Gr.B 50	Typical	1.39	0.824	0.824	1.65
2	VH-Pipe	HSS2.375X0.218	Beam	Pipe	A53 Gr.B 50	Typical	1.39	0.824	0.824	1.65
3	VV-SolidRod	SR 3/4"	Column	BAR	A572 Gr.50	Typical	0.442	0.016	0.016	0.031
4	VD-SolidRod	SR 3/4"	HBrace	BAR	A572 Gr.50	Typical	0.442	0.016	0.016	0.031
5	FB-Plate	PL5/8"X6"	Beam	RECT	A572 Gr.50	Typical	3.75	0.122	11.25	0.456
6	FC-Plate	PL1/2"X3-11/16"	Beam	RECT	A572 Gr.50	Typical	1.844	0.038	2.09	0.141
7	MP-Pipe	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
8	TB-Pipe	HSS2.375X0.154	Beam	Pipe	A53 Gr.B 50	Typical	1	0.627	0.627	1.25
9	FM-Pipe	HSS4.500X0.237	Column	Pipe	A53 Gr.B 50	Typical	2.96	6.79	6.79	13.6

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	B11	N14	N13	90	FB-Plate	Beam	RECT	A572 Gr.50	Typical
2	B12	N5	N16	90	FB-Plate	Beam	RECT	A572 Gr.50	Typical
3	B21	N150	N149	90	FB-Plate	Beam	RECT	A572 Gr.50	Typical
4	B22	N141	N152	90	FB-Plate	Beam	RECT	A572 Gr.50	Typical
5	B31	N82	N81	90	FB-Plate	Beam	RECT	A572 Gr.50	Typical
6	B32	N73	N84	90	FB-Plate	Beam	RECT	A572 Gr.50	Typical
7	C11	N58	N50	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
8	C12	N57	N49	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
9	C13	N33	N52	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
10	C14	N31	N51	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
11	C15	N48	N15	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
12	C16	N47	N6	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
13	C17	N29	N42	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
14	C18	N27	N41	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
15	C21	N194	N186	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
16	C22	N193	N185	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
17	C23	N169	N188	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
18	C24	N167	N187	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
19	C25	N184	N151	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
20	C26	N183	N142	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
21	C27	N165	N178	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
22	C28	N163	N177	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
23	C31	N95	N109	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
24	C32	N115	N74	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
25	C33	N97	N110	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
26	C34	N116	N83	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
27	C35	N99	N119	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
28	C36	N125	N117	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
29	C37	N101	N120	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
30	C38	N126	N118	90	FC-Plate	Beam	RECT	A572 Gr.50	Typical
31	D11	N54	N55		VD-SolidRod	HBrace	BAR	A572 Gr.50	Typical
32	D12	N44	N45		VD-SolidRod	HBrace	BAR	A572 Gr.50	Typical
33	D21	N190	N191		VD-SolidRod	HBrace	BAR	A572 Gr.50	Typical
34	D22	N180	N181		VD-SolidRod	HBrace	BAR	A572 Gr.50	Typical
35	D31	N122	N123		VD-SolidRod	HBrace	BAR	A572 Gr.50	Typical
36	D32	N112	N113		VD-SolidRod	HBrace	BAR	A572 Gr.50	Typical
37	F11	N52	N58		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
38	F12	N51	N57		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
39	F13	N42	N48		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
40	F14	N41	N47		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
41	F21	N188	N194		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
42	F22	N187	N193		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
43	F23	N178	N184		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
44	F24	N177	N183		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
45	F31	N120	N126		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
46	F32	N119	N125		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
47	F33	N110	N116		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
48	F34	N109	N115		VH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
49	H11	N1	N2		FH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
50	H12	N3	N4		FH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
51	H21	N137	N138		FH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
52	H22	N139	N140		FH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
53	H31	N69	N70		FH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
54	H32	N71	N72		FH-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
55	MP11	N231	N232		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
56	MP12	N11	N12		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
57	MP13	N9	N10		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
58	MP14	N7	N8		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
59	MP15	N213	N214		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
60	MP21	N239	N240		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
61	MP22	N147	N148		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
62	MP23	N145	N146		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
63	MP24	N143	N144		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
64	MP25	N225	N226		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
65	MP31	N243	N244		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
66	MP32	N79	N80		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
67	MP33	N77	N78		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
68	MP34	N75	N76		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
69	MP35	N219	N220		MP-Pipe	Column	Pipe	A53 Gr.B	Typical
70	P1	N63	N64		FM-Pipe	Column	Pipe	A53 Gr.B 50	Typical
71	P2	N199	N200		FM-Pipe	Column	Pipe	A53 Gr.B 50	Typical
72	P3	N131	N132		FM-Pipe	Column	Pipe	A53 Gr.B 50	Typical
73	T1	N59	N207		TB-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
74	T2	N195	N206		TB-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
75	T3	N127	N205		TB-Pipe	Beam	Pipe	A53 Gr.B 50	Typical
76	V11	N55	N56		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
77	V12	N53	N54		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
78	V13	N45	N46		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
79	V14	N43	N44		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
80	V21	N191	N192		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
81	V22	N189	N190		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
82	V23	N181	N182		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
83	V24	N179	N180		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
84	V31	N123	N124		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
85	V32	N121	N122		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
86	V33	N113	N114		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
87	V34	N111	N112		VV-SolidRod	Column	BAR	A572 Gr.50	Typical
88	X1	N26	N24		RIGID	None	None	RIGID	Typical
89	X2	N25	N17		RIGID	None	None	RIGID	Typical
90	X3	N27	N28		RIGID	None	None	RIGID	Typical
91	X4	N29	N30		RIGID	None	None	RIGID	Typical
92	X5	N31	N32		RIGID	None	None	RIGID	Typical
93	X6	N33	N34		RIGID	None	None	RIGID	Typical
94	X7	N37	N20		RIGID	None	None	RIGID	Typical
95	X8	N40	N23		RIGID	None	None	RIGID	Typical
96	X9	N36	N19		RIGID	None	None	RIGID	Typical
97	X10	N39	N22		RIGID	None	None	RIGID	Typical
98	X11	N35	N18		RIGID	None	None	RIGID	Typical
99	X12	N38	N21		RIGID	None	None	RIGID	Typical
100	X13	N59	N60		RIGID	None	None	RIGID	Typical
101	X14	N26	N62		RIGID	None	None	RIGID	Typical
102	X15	N25	N61		RIGID	None	None	RIGID	Typical
103	X16	N65	R12		RIGID	None	None	RIGID	Typical
104	X17	N66	R11		RIGID	None	None	RIGID	Typical
105	X18	N94	N92		RIGID	None	None	RIGID	Typical
106	X19	N93	N85		RIGID	None	None	RIGID	Typical
107	X20	N95	N96		RIGID	None	None	RIGID	Typical
108	X21	N97	N98		RIGID	None	None	RIGID	Typical
109	X22	N99	N100		RIGID	None	None	RIGID	Typical
110	X23	N101	N102		RIGID	None	None	RIGID	Typical
111	X24	N105	N88		RIGID	None	None	RIGID	Typical
112	X25	N108	N91		RIGID	None	None	RIGID	Typical
113	X26	N104	N87		RIGID	None	None	RIGID	Typical
114	X27	N107	N90		RIGID	None	None	RIGID	Typical
115	X28	N103	N86		RIGID	None	None	RIGID	Typical
116	X29	N106	N89		RIGID	None	None	RIGID	Typical
117	X30	N127	N128		RIGID	None	None	RIGID	Typical
118	X31	N94	N130		RIGID	None	None	RIGID	Typical
119	X32	N93	N129		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
120	X33	N133	R32		RIGID	None	None	RIGID	Typical
121	X34	N134	R31		RIGID	None	None	RIGID	Typical
122	X35	N162	N160		RIGID	None	None	RIGID	Typical
123	X36	N161	N153		RIGID	None	None	RIGID	Typical
124	X37	N163	N164		RIGID	None	None	RIGID	Typical
125	X38	N165	N166		RIGID	None	None	RIGID	Typical
126	X39	N167	N168		RIGID	None	None	RIGID	Typical
127	X40	N169	N170		RIGID	None	None	RIGID	Typical
128	X41	N173	N156		RIGID	None	None	RIGID	Typical
129	X42	N176	N159		RIGID	None	None	RIGID	Typical
130	X43	N172	N155		RIGID	None	None	RIGID	Typical
131	X44	N175	N158		RIGID	None	None	RIGID	Typical
132	X45	N171	N154		RIGID	None	None	RIGID	Typical
133	X46	N174	N157		RIGID	None	None	RIGID	Typical
134	X47	N195	N196		RIGID	None	None	RIGID	Typical
135	X48	N162	N198		RIGID	None	None	RIGID	Typical
136	X49	N161	N197		RIGID	None	None	RIGID	Typical
137	X50	N201	R22		RIGID	None	None	RIGID	Typical
138	X51	N202	R21		RIGID	None	None	RIGID	Typical
139	X52	N209	N210		RIGID	None	None	RIGID	Typical
140	X53	N211	N212		RIGID	None	None	RIGID	Typical
141	X54	N215	N216		RIGID	None	None	RIGID	Typical
142	X55	N217	N218		RIGID	None	None	RIGID	Typical
143	X56	N221	N222		RIGID	None	None	RIGID	Typical
144	X57	N223	N224		RIGID	None	None	RIGID	Typical
145	X58	N230	N227		RIGID	None	None	RIGID	Typical
146	X59	N228	N229		RIGID	None	None	RIGID	Typical
147	X60	N234	N238		RIGID	None	None	RIGID	Typical
148	X61	N233	N237		RIGID	None	None	RIGID	Typical
149	X62	N236	N242		RIGID	None	None	RIGID	Typical
150	X63	N235	N241		RIGID	None	None	RIGID	Typical

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed
1	Dead Load	DL	-1		60	
2	Wind Load (0)	WLZ			60	87
3	Wind Load (90)	WLX			60	87
4	Wind Load (Ice/0)	WLZ			60	87
5	Wind Load (Ice/90)	WLX			60	87
6	Wind Load (Service/0)	WLZ			60	87
7	Wind Load (Service/90)	WLX			60	87
8	Ice Load	OL1			60	87
9	Seismic Load (0)	ELZ			60	84
10	Seismic Load (90)	ELX			60	87
11	Live Load A	LL		3		
12	Live Load B	LL		3		
13	Live Load C	LL		3		
14	Live Load D	LL				
15	Maint LL 1	LL			1	
16	Maint LL 2	LL			1	
17	Maint LL 3	LL			1	
18	Maint LL 4	LL			1	
19	Maint LL 5	LL			1	
20	Maint LL 6	LL			1	
21	Maint LL 7	LL			1	
22	Maint LL 8	LL			1	
23	Maint LL 9	LL			1	
24	Maint LL 10	LL			1	
25	Maint LL 11	LL			1	
26	Maint LL 12	LL			1	
27	Maint LL 13	LL			1	
28	Maint LL 14	LL			1	
29	Maint LL 15	LL			1	
30	Maint LL 16	LL			1	
31	Maint LL 17	LL			1	
32	Maint LL 18	LL			1	

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
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

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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 Maint (1)	Yes	Y	1	1.2					15	1.5
87	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					16	1.5
88	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					17	1.5
89	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					18	1.5
90	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					19	1.5
91	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					20	1.5
92	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					21	1.5
93	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					22	1.5
94	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					23	1.5
95	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					24	1.5
96	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					25	1.5
97	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					26	1.5
98	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					27	1.5
99	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					28	1.5
100	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					29	1.5
101	1.2 D + 1.5 LL Maint (16)	Yes	Y	1	1.2					30	1.5
102	1.2 D + 1.5 LL Maint (17)	Yes	Y	1	1.2					31	1.5
103	1.2 D + 1.5 LL Maint (18)	Yes	Y	1	1.2					32	1.5

Member Point Loads (BLC 1 : Dead Load)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	MP12	Y	-0.051	%5
2	MP12	Y	-0.051	%85
3	MP12	Y	0	0
4	MP12	Y	0	0
5	MP12	Y	0	0
6	MP13	Y	-0.037	%5
7	MP13	Y	-0.037	%80
8	MP13	Y	0	0
9	MP13	Y	0	0
10	MP13	Y	0	0
11	MP14	Y	-0.039	%5
12	MP14	Y	-0.039	%85
13	MP14	Y	0	0
14	MP14	Y	0	0
15	MP14	Y	0	0
16	MP22	Y	-0.051	%5
17	MP22	Y	-0.051	%85
18	MP22	Y	0	0
19	MP22	Y	0	0
20	MP22	Y	0	0
21	MP23	Y	-0.037	%5
22	MP23	Y	-0.037	%80
23	MP23	Y	0	0
24	MP23	Y	0	0
25	MP23	Y	0	0
26	MP24	Y	-0.039	%5

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
27	MP24	Y	-0.039	%85
28	MP24	Y	0	0
29	MP24	Y	0	0
30	MP24	Y	0	0
31	MP32	Y	-0.051	%5
32	MP32	Y	-0.051	%85
33	MP32	Y	0	0
34	MP32	Y	0	0
35	MP32	Y	0	0
36	MP33	Y	-0.037	%5
37	MP33	Y	-0.037	%80
38	MP33	Y	0	0
39	MP33	Y	0	0
40	MP33	Y	0	0
41	MP34	Y	-0.039	%5
42	MP34	Y	-0.039	%85
43	MP34	Y	0	0
44	MP34	Y	0	0
45	MP34	Y	0	0
46	MP15	Y	-0.068	%35
47	MP15	Y	-0.059	%35
48	MP15	Y	-0.071	%65
49	MP15	Y	0	0
50	MP15	Y	0	0
51	MP25	Y	-0.068	%35
52	MP25	Y	-0.059	%35
53	MP25	Y	-0.071	%65
54	MP25	Y	-0.026	%15
55	MP25	Y	0	0
56	MP35	Y	-0.068	%35
57	MP35	Y	-0.059	%35
58	MP35	Y	-0.071	%65
59	MP35	Y	0	0
60	MP35	Y	0	0

Member Point Loads (BLC 2 : Wind Load (0))

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	MP12	Z	-0.347	%5
2	MP12	Z	-0.347	%85
3	MP12	Z	0	0
4	MP12	Z	0	0
5	MP12	Z	0	0
6	MP13	Z	-0.248	%5
7	MP13	Z	-0.248	%80
8	MP13	Z	0	0
9	MP13	Z	0	0
10	MP13	Z	0	0
11	MP14	Z	-0.326	%5
12	MP14	Z	-0.326	%85
13	MP14	Z	0	0
14	MP14	Z	0	0
15	MP14	Z	0	0
16	MP22	Z	-0.347	%5
17	MP22	Z	-0.347	%85
18	MP22	Z	0	0
19	MP22	Z	0	0
20	MP22	Z	0	0
21	MP23	Z	-0.248	%5
22	MP23	Z	-0.248	%80
23	MP23	Z	0	0
24	MP23	Z	0	0
25	MP23	Z	0	0
26	MP24	Z	-0.326	%5
27	MP24	Z	-0.326	%85
28	MP24	Z	0	0
29	MP24	Z	0	0

Member Point Loads (BLC 2 : Wind Load (0)) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
30	MP24	Z	0	0
31	MP32	Z	-0.347	%5
32	MP32	Z	-0.347	%85
33	MP32	Z	0	0
34	MP32	Z	0	0
35	MP32	Z	0	0
36	MP33	Z	-0.248	%5
37	MP33	Z	-0.248	%80
38	MP33	Z	0	0
39	MP33	Z	0	0
40	MP33	Z	0	0
41	MP34	Z	-0.326	%5
42	MP34	Z	-0.326	%85
43	MP34	Z	0	0
44	MP34	Z	0	0
45	MP34	Z	0	0
46	MP15	Z	-0.037	%35
47	MP15	Z	-0.045	%35
48	MP15	Z	-0.072	%65
49	MP15	Z	0	0
50	MP15	Z	0	0
51	MP25	Z	-0.037	%35
52	MP25	Z	-0.045	%35
53	MP25	Z	-0.072	%65
54	MP25	Z	-0.042	%15
55	MP25	Z	0	0
56	MP35	Z	-0.037	%35
57	MP35	Z	-0.045	%35
58	MP35	Z	-0.072	%65
59	MP35	Z	0	0
60	MP35	Z	0	0

Member Point Loads (BLC 3 : Wind Load (90))

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	MP12	X	-0.163	%5
2	MP12	X	-0.163	%85
3	MP12	X	0	0
4	MP12	X	0	0
5	MP12	X	0	0
6	MP13	X	-0.128	%5
7	MP13	X	-0.128	%80
8	MP13	X	0	0
9	MP13	X	0	0
10	MP13	X	0	0
11	MP14	X	-0.121	%5
12	MP14	X	-0.121	%85
13	MP14	X	0	0
14	MP14	X	0	0
15	MP14	X	0	0
16	MP22	X	-0.163	%5
17	MP22	X	-0.163	%85
18	MP22	X	0	0
19	MP22	X	0	0
20	MP22	X	0	0
21	MP23	X	-0.128	%5
22	MP23	X	-0.128	%80
23	MP23	X	0	0
24	MP23	X	0	0
25	MP23	X	0	0
26	MP24	X	-0.121	%5
27	MP24	X	-0.121	%85
28	MP24	X	0	0
29	MP24	X	0	0
30	MP24	X	0	0
31	MP32	X	-0.163	%5
32	MP32	X	-0.163	%85

Member Point Loads (BLC 3 : Wind Load (90)) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
33	MP32	X	0	0
34	MP32	X	0	0
35	MP32	X	0	0
36	MP33	X	-0.128	%5
37	MP33	X	-0.128	%80
38	MP33	X	0	0
39	MP33	X	0	0
40	MP33	X	0	0
41	MP34	X	-0.121	%5
42	MP34	X	-0.121	%85
43	MP34	X	0	0
44	MP34	X	0	0
45	MP34	X	0	0
46	MP15	X	-0.08	%35
47	MP15	X	-0.074	%35
48	MP15	X	-0.051	%65
49	MP15	X	0	0
50	MP15	X	0	0
51	MP25	X	-0.08	%35
52	MP25	X	-0.074	%35
53	MP25	X	-0.051	%65
54	MP25	X	-0.042	%15
55	MP25	X	0	0
56	MP35	X	-0.08	%35
57	MP35	X	-0.074	%35
58	MP35	X	-0.051	%65
59	MP35	X	0	0
60	MP35	X	0	0

Member Point Loads (BLC 4 : Wind Load (Ice/0))

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	MP12	Z	-0.064	%5
2	MP12	Z	-0.064	%85
3	MP12	Z	0	0
4	MP12	Z	0	0
5	MP12	Z	0	0
6	MP13	Z	-0.048	%5
7	MP13	Z	-0.048	%80
8	MP13	Z	0	0
9	MP13	Z	0	0
10	MP13	Z	0	0
11	MP14	Z	-0.054	%5
12	MP14	Z	-0.054	%85
13	MP14	Z	0	0
14	MP14	Z	0	0
15	MP14	Z	0	0
16	MP22	Z	-0.064	%5
17	MP22	Z	-0.064	%85
18	MP22	Z	0	0
19	MP22	Z	0	0
20	MP22	Z	0	0
21	MP23	Z	-0.048	%5
22	MP23	Z	-0.048	%80
23	MP23	Z	0	0
24	MP23	Z	0	0
25	MP23	Z	0	0
26	MP24	Z	-0.054	%5
27	MP24	Z	-0.054	%85
28	MP24	Z	0	0
29	MP24	Z	0	0
30	MP24	Z	0	0
31	MP32	Z	-0.064	%5
32	MP32	Z	-0.064	%85
33	MP32	Z	0	0
34	MP32	Z	0	0
35	MP32	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
36	MP33	Z	-0.048	%5
37	MP33	Z	-0.048	%80
38	MP33	Z	0	0
39	MP33	Z	0	0
40	MP33	Z	0	0
41	MP34	Z	-0.054	%5
42	MP34	Z	-0.054	%85
43	MP34	Z	0	0
44	MP34	Z	0	0
45	MP34	Z	0	0
46	MP15	Z	-0.006	%35
47	MP15	Z	-0.008	%35
48	MP15	Z	-0.012	%65
49	MP15	Z	0	0
50	MP15	Z	0	0
51	MP25	Z	-0.006	%35
52	MP25	Z	-0.008	%35
53	MP25	Z	-0.012	%65
54	MP25	Z	-0.007	%15
55	MP25	Z	0	0
56	MP35	Z	-0.006	%35
57	MP35	Z	-0.008	%35
58	MP35	Z	-0.012	%65
59	MP35	Z	0	0
60	MP35	Z	0	0

Member Point Loads (BLC 5 : Wind Load (Ice/90))

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	MP12	X	-0.033	%5
2	MP12	X	-0.033	%85
3	MP12	X	0	0
4	MP12	X	0	0
5	MP12	X	0	0
6	MP13	X	-0.027	%5
7	MP13	X	-0.027	%80
8	MP13	X	0	0
9	MP13	X	0	0
10	MP13	X	0	0
11	MP14	X	-0.02	%5
12	MP14	X	-0.02	%85
13	MP14	X	0	0
14	MP14	X	0	0
15	MP14	X	0	0
16	MP22	X	-0.033	%5
17	MP22	X	-0.033	%85
18	MP22	X	0	0
19	MP22	X	0	0
20	MP22	X	0	0
21	MP23	X	-0.027	%5
22	MP23	X	-0.027	%80
23	MP23	X	0	0
24	MP23	X	0	0
25	MP23	X	0	0
26	MP24	X	-0.02	%5
27	MP24	X	-0.02	%85
28	MP24	X	0	0
29	MP24	X	0	0
30	MP24	X	0	0
31	MP32	X	-0.033	%5
32	MP32	X	-0.033	%85
33	MP32	X	0	0
34	MP32	X	0	0
35	MP32	X	0	0
36	MP33	X	-0.027	%5
37	MP33	X	-0.027	%80
38	MP33	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
39	MP33	X	0	0
40	MP33	X	0	0
41	MP34	X	-0.02	%5
42	MP34	X	-0.02	%85
43	MP34	X	0	0
44	MP34	X	0	0
45	MP34	X	0	0
46	MP15	X	-0.013	%35
47	MP15	X	-0.012	%35
48	MP15	X	-0.009	%65
49	MP15	X	0	0
50	MP15	X	0	0
51	MP25	X	-0.013	%35
52	MP25	X	-0.012	%35
53	MP25	X	-0.009	%65
54	MP25	X	-0.007	%15
55	MP25	X	0	0
56	MP35	X	-0.013	%35
57	MP35	X	-0.012	%35
58	MP35	X	-0.009	%65
59	MP35	X	0	0
60	MP35	X	0	0

Member Point Loads (BLC 6 : Wind Load (Service/0))

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	MP12	Z	-0.021	%5
2	MP12	Z	-0.021	%85
3	MP12	Z	0	0
4	MP12	Z	0	0
5	MP12	Z	0	0
6	MP13	Z	-0.015	%5
7	MP13	Z	-0.015	%80
8	MP13	Z	0	0
9	MP13	Z	0	0
10	MP13	Z	0	0
11	MP14	Z	-0.019	%5
12	MP14	Z	-0.019	%85
13	MP14	Z	0	0
14	MP14	Z	0	0
15	MP14	Z	0	0
16	MP22	Z	-0.021	%5
17	MP22	Z	-0.021	%85
18	MP22	Z	0	0
19	MP22	Z	0	0
20	MP22	Z	0	0
21	MP23	Z	-0.015	%5
22	MP23	Z	-0.015	%80
23	MP23	Z	0	0
24	MP23	Z	0	0
25	MP23	Z	0	0
26	MP24	Z	-0.019	%5
27	MP24	Z	-0.019	%85
28	MP24	Z	0	0
29	MP24	Z	0	0
30	MP24	Z	0	0
31	MP32	Z	-0.021	%5
32	MP32	Z	-0.021	%85
33	MP32	Z	0	0
34	MP32	Z	0	0
35	MP32	Z	0	0
36	MP33	Z	-0.015	%5
37	MP33	Z	-0.015	%80
38	MP33	Z	0	0
39	MP33	Z	0	0
40	MP33	Z	0	0
41	MP34	Z	-0.019	%5

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
42	MP34	Z	-0.019	%85
43	MP34	Z	0	0
44	MP34	Z	0	0
45	MP34	Z	0	0
46	MP15	Z	-0.002	%35
47	MP15	Z	-0.003	%35
48	MP15	Z	-0.004	%65
49	MP15	Z	0	0
50	MP15	Z	0	0
51	MP25	Z	-0.002	%35
52	MP25	Z	-0.003	%35
53	MP25	Z	-0.004	%65
54	MP25	Z	-0.003	%15
55	MP25	Z	0	0
56	MP35	Z	-0.002	%35
57	MP35	Z	-0.003	%35
58	MP35	Z	-0.004	%65
59	MP35	Z	0	0
60	MP35	Z	0	0

Member Point Loads (BLC 7 : Wind Load (Service/90))

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	MP12	X	-0.01	%5
2	MP12	X	-0.01	%85
3	MP12	X	0	0
4	MP12	X	0	0
5	MP12	X	0	0
6	MP13	X	-0.008	%5
7	MP13	X	-0.008	%80
8	MP13	X	0	0
9	MP13	X	0	0
10	MP13	X	0	0
11	MP14	X	-0.007	%5
12	MP14	X	-0.007	%85
13	MP14	X	0	0
14	MP14	X	0	0
15	MP14	X	0	0
16	MP22	X	-0.01	%5
17	MP22	X	-0.01	%85
18	MP22	X	0	0
19	MP22	X	0	0
20	MP22	X	0	0
21	MP23	X	-0.008	%5
22	MP23	X	-0.008	%80
23	MP23	X	0	0
24	MP23	X	0	0
25	MP23	X	0	0
26	MP24	X	-0.007	%5
27	MP24	X	-0.007	%85
28	MP24	X	0	0
29	MP24	X	0	0
30	MP24	X	0	0
31	MP32	X	-0.01	%5
32	MP32	X	-0.01	%85
33	MP32	X	0	0
34	MP32	X	0	0
35	MP32	X	0	0
36	MP33	X	-0.008	%5
37	MP33	X	-0.008	%80
38	MP33	X	0	0
39	MP33	X	0	0
40	MP33	X	0	0
41	MP34	X	-0.007	%5
42	MP34	X	-0.007	%85
43	MP34	X	0	0
44	MP34	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
45	MP34	X	0	0
46	MP15	X	-0.005	%35
47	MP15	X	-0.004	%35
48	MP15	X	-0.003	%65
49	MP15	X	0	0
50	MP15	X	0	0
51	MP25	X	-0.005	%35
52	MP25	X	-0.004	%35
53	MP25	X	-0.003	%65
54	MP25	X	-0.003	%15
55	MP25	X	0	0
56	MP35	X	-0.005	%35
57	MP35	X	-0.004	%35
58	MP35	X	-0.003	%65
59	MP35	X	0	0
60	MP35	X	0	0

Member Point Loads (BLC 8 : Ice Load)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	MP12	Y	-0.153	%5
2	MP12	Y	-0.153	%85
3	MP12	Y	0	0
4	MP12	Y	0	0
5	MP12	Y	0	0
6	MP13	Y	-0.114	%5
7	MP13	Y	-0.114	%80
8	MP13	Y	0	0
9	MP13	Y	0	0
10	MP13	Y	0	0
11	MP14	Y	-0.132	%5
12	MP14	Y	-0.132	%85
13	MP14	Y	0	0
14	MP14	Y	0	0
15	MP14	Y	0	0
16	MP22	Y	-0.153	%5
17	MP22	Y	-0.153	%85
18	MP22	Y	0	0
19	MP22	Y	0	0
20	MP22	Y	0	0
21	MP23	Y	-0.114	%5
22	MP23	Y	-0.114	%80
23	MP23	Y	0	0
24	MP23	Y	0	0
25	MP23	Y	0	0
26	MP24	Y	-0.132	%5
27	MP24	Y	-0.132	%85
28	MP24	Y	0	0
29	MP24	Y	0	0
30	MP24	Y	0	0
31	MP32	Y	-0.153	%5
32	MP32	Y	-0.153	%85
33	MP32	Y	0	0
34	MP32	Y	0	0
35	MP32	Y	0	0
36	MP33	Y	-0.114	%5
37	MP33	Y	-0.114	%80
38	MP33	Y	0	0
39	MP33	Y	0	0
40	MP33	Y	0	0
41	MP34	Y	-0.132	%5
42	MP34	Y	-0.132	%85
43	MP34	Y	0	0
44	MP34	Y	0	0
45	MP34	Y	0	0
46	MP15	Y	-0.037	%35
47	MP15	Y	-0.036	%35

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
48	MP15	Y	-0.037	%65
49	MP15	Y	0	0
50	MP15	Y	0	0
51	MP25	Y	-0.037	%35
52	MP25	Y	-0.036	%35
53	MP25	Y	-0.037	%65
54	MP25	Y	-0.042	%15
55	MP25	Y	0	0
56	MP35	Y	-0.037	%35
57	MP35	Y	-0.036	%35
58	MP35	Y	-0.037	%65
59	MP35	Y	0	0
60	MP35	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	MP12	Z	-0.028	%5
2	MP12	Z	-0.028	%85
3	MP12	Z	0	0
4	MP12	Z	0	0
5	MP12	Z	0	0
6	MP13	Z	-0.02	%5
7	MP13	Z	-0.02	%80
8	MP13	Z	0	0
9	MP13	Z	0	0
10	MP13	Z	0	0
11	MP14	Z	-0.022	%5
12	MP14	Z	-0.022	%85
13	MP14	Z	0	0
14	MP14	Z	0	0
15	MP14	Z	0	0
16	MP22	Z	-0.028	%5
17	MP22	Z	-0.028	%85
18	MP22	Z	0	0
19	MP22	Z	0	0
20	MP22	Z	0	0
21	MP23	Z	-0.02	%5
22	MP23	Z	-0.02	%80
23	MP23	Z	0	0
24	MP23	Z	0	0
25	MP23	Z	0	0
26	MP24	Z	-0.022	%5
27	MP24	Z	-0.022	%85
28	MP24	Z	0	0
29	MP24	Z	0	0
30	MP24	Z	0	0
31	MP32	Z	-0.028	%5
32	MP32	Z	-0.028	%85
33	MP32	Z	0	0
34	MP32	Z	0	0
35	MP32	Z	0	0
36	MP33	Z	-0.02	%5
37	MP33	Z	-0.02	%80
38	MP33	Z	0	0
39	MP33	Z	0	0
40	MP33	Z	0	0
41	MP34	Z	-0.022	%5
42	MP34	Z	-0.022	%85
43	MP34	Z	0	0
44	MP34	Z	0	0
45	MP34	Z	0	0
46	MP15	Z	-0.019	%35
47	MP15	Z	-0.016	%35
48	MP15	Z	-0.019	%65
49	MP15	Z	0	0
50	MP15	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
51	MP25	Z	-0.019	%35
52	MP25	Z	-0.016	%35
53	MP25	Z	-0.019	%65
54	MP25	Z	-0.007	%15
55	MP25	Z	0	0
56	MP35	Z	-0.019	%35
57	MP35	Z	-0.016	%35
58	MP35	Z	-0.019	%65
59	MP35	Z	0	0
60	MP35	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	MP12	X	-0.028	%5
2	MP12	X	-0.028	%85
3	MP12	X	0	0
4	MP12	X	0	0
5	MP12	X	0	0
6	MP13	X	-0.02	%5
7	MP13	X	-0.02	%80
8	MP13	X	0	0
9	MP13	X	0	0
10	MP13	X	0	0
11	MP14	X	-0.022	%5
12	MP14	X	-0.022	%85
13	MP14	X	0	0
14	MP14	X	0	0
15	MP14	X	0	0
16	MP22	X	-0.028	%5
17	MP22	X	-0.028	%85
18	MP22	X	0	0
19	MP22	X	0	0
20	MP22	X	0	0
21	MP23	X	-0.02	%5
22	MP23	X	-0.02	%80
23	MP23	X	0	0
24	MP23	X	0	0
25	MP23	X	0	0
26	MP24	X	-0.022	%5
27	MP24	X	-0.022	%85
28	MP24	X	0	0
29	MP24	X	0	0
30	MP24	X	0	0
31	MP32	X	-0.028	%5
32	MP32	X	-0.028	%85
33	MP32	X	0	0
34	MP32	X	0	0
35	MP32	X	0	0
36	MP33	X	-0.02	%5
37	MP33	X	-0.02	%80
38	MP33	X	0	0
39	MP33	X	0	0
40	MP33	X	0	0
41	MP34	X	-0.022	%5
42	MP34	X	-0.022	%85
43	MP34	X	0	0
44	MP34	X	0	0
45	MP34	X	0	0
46	MP15	X	-0.019	%35
47	MP15	X	-0.016	%35
48	MP15	X	-0.019	%65
49	MP15	X	0	0
50	MP15	X	0	0
51	MP25	X	-0.019	%35
52	MP25	X	-0.016	%35
53	MP25	X	-0.019	%65

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
54	MP25	X	-0.007	%15
55	MP25	X	0	0
56	MP35	X	-0.019	%35
57	MP35	X	-0.016	%35
58	MP35	X	-0.019	%65
59	MP35	X	0	0
60	MP35	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	H11	Y	-0.25	%95

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	H12	Y	-0.25	%95

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	H21	Y	-0.25	%95

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	H22	Y	-0.25	%95

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	H31	Y	-0.25	%95

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	H32	Y	-0.25	%95

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F13	Y	-0.25	%50

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F14	Y	-0.25	%50

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F11	Y	-0.25	%50

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F12	Y	-0.25	%50

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F23	Y	-0.25	%50

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F24	Y	-0.25	%50

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F21	Y	-0.25	%50

Member Point Loads (BLC 28 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F22	Y	-0.25	%50

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F33	Y	-0.25	%50

Member Point Loads (BLC 30 : Maint LL 16)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F34	Y	-0.25	%50

Member Point Loads (BLC 31 : Maint LL 17)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F31	Y	-0.25	%50

Member Point Loads (BLC 32 : Maint LL 18)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	F32	Y	-0.25	%50

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	N18	L	Y	-0.5
2	N86	L	Y	-0.5
3	N154	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	N19	L	Y	-0.5
2	N87	L	Y	-0.5
3	N155	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	N20	L	Y	-0.5
2	N88	L	Y	-0.5
3	N156	L	Y	-0.5

Member Distributed Loads (BLC 2 : Wind Load (0))

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	B11	Z	-0.004	-0.004	0	%100
2	B12	Z	-0.004	-0.004	0	%100
3	B21	Z	-0.004	-0.004	0	%100
4	B22	Z	-0.004	-0.004	0	%100
5	B31	Z	-0.004	-0.004	0	%100
6	B32	Z	-0.004	-0.004	0	%100
7	C11	Z	-0.002	-0.002	0	%100
8	C12	Z	-0.002	-0.002	0	%100
9	C13	Z	-0.002	-0.002	0	%100
10	C14	Z	-0.002	-0.002	0	%100
11	C15	Z	-0.002	-0.002	0	%100
12	C16	Z	-0.002	-0.002	0	%100
13	C17	Z	-0.002	-0.002	0	%100
14	C18	Z	-0.002	-0.002	0	%100
15	C21	Z	-0.002	-0.002	0	%100
16	C22	Z	-0.002	-0.002	0	%100
17	C23	Z	-0.002	-0.002	0	%100
18	C24	Z	-0.002	-0.002	0	%100
19	C25	Z	-0.002	-0.002	0	%100
20	C26	Z	-0.002	-0.002	0	%100
21	C27	Z	-0.002	-0.002	0	%100
22	C28	Z	-0.002	-0.002	0	%100
23	C31	Z	-0.002	-0.002	0	%100
24	C32	Z	-0.002	-0.002	0	%100
25	C33	Z	-0.002	-0.002	0	%100
26	C34	Z	-0.002	-0.002	0	%100
27	C35	Z	-0.002	-0.002	0	%100
28	C36	Z	-0.002	-0.002	0	%100
29	C37	Z	-0.002	-0.002	0	%100
30	C38	Z	-0.002	-0.002	0	%100
31	D11	Z	-0.003	-0.003	0	%100
32	D12	Z	-0.003	-0.003	0	%100
33	D21	Z	-0.003	-0.003	0	%100
34	D22	Z	-0.003	-0.003	0	%100
35	D31	Z	-0.003	-0.003	0	%100
36	D32	Z	-0.003	-0.003	0	%100
37	F11	Z	-0.008	-0.008	0	%100
38	F12	Z	-0.008	-0.008	0	%100
39	F13	Z	-0.008	-0.008	0	%100
40	F14	Z	-0.008	-0.008	0	%100
41	F21	Z	-0.008	-0.008	0	%100
42	F22	Z	-0.008	-0.008	0	%100
43	F23	Z	-0.008	-0.008	0	%100
44	F24	Z	-0.008	-0.008	0	%100
45	F31	Z	-0.008	-0.008	0	%100
46	F32	Z	-0.008	-0.008	0	%100
47	F33	Z	-0.008	-0.008	0	%100
48	F34	Z	-0.008	-0.008	0	%100
49	H11	Z	-0.009	-0.009	0	%100
50	H12	Z	-0.009	-0.009	0	%100
51	H21	Z	-0.009	-0.009	0	%100
52	H22	Z	-0.009	-0.009	0	%100
53	H31	Z	-0.009	-0.009	0	%100
54	H32	Z	-0.009	-0.009	0	%100
55	MP11	Z	-0.009	-0.009	0	%100
56	MP12	Z	-0.009	-0.009	0	%100
57	MP13	Z	-0.009	-0.009	0	%100
58	MP14	Z	-0.009	-0.009	0	%100
59	MP15	Z	-0.009	-0.009	0	%100
60	MP21	Z	-0.009	-0.009	0	%100
61	MP22	Z	-0.009	-0.009	0	%100
62	MP23	Z	-0.009	-0.009	0	%100
63	MP24	Z	-0.009	-0.009	0	%100
64	MP25	Z	-0.009	-0.009	0	%100
65	MP31	Z	-0.009	-0.009	0	%100
66	MP32	Z	-0.009	-0.009	0	%100

Member Distributed Loads (BLC 2 : Wind Load (0)) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
67	MP33	Z	-0.009	-0.009	0	%100
68	MP34	Z	-0.009	-0.009	0	%100
69	MP35	Z	-0.009	-0.009	0	%100
70	P1	Z	-0.009	-0.009	0	%100
71	P2	Z	-0.009	-0.009	0	%100
72	P3	Z	-0.009	-0.009	0	%100
73	T1	Z	-0.009	-0.009	0	%100
74	T2	Z	-0.009	-0.009	0	%100
75	T3	Z	-0.009	-0.009	0	%100
76	V11	Z	-0.003	-0.003	0	%100
77	V12	Z	-0.003	-0.003	0	%100
78	V13	Z	-0.003	-0.003	0	%100
79	V14	Z	-0.003	-0.003	0	%100
80	V21	Z	-0.003	-0.003	0	%100
81	V22	Z	-0.003	-0.003	0	%100
82	V23	Z	-0.003	-0.003	0	%100
83	V24	Z	-0.003	-0.003	0	%100
84	V31	Z	-0.003	-0.003	0	%100
85	V32	Z	-0.003	-0.003	0	%100
86	V33	Z	-0.003	-0.003	0	%100
87	V34	Z	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 3 : Wind Load (90))

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	B11	X	-0.004	-0.004	0	%100
2	B12	X	-0.004	-0.004	0	%100
3	B21	X	-0.004	-0.004	0	%100
4	B22	X	-0.004	-0.004	0	%100
5	B31	X	-0.004	-0.004	0	%100
6	B32	X	-0.004	-0.004	0	%100
7	C11	X	-0.002	-0.002	0	%100
8	C12	X	-0.002	-0.002	0	%100
9	C13	X	-0.002	-0.002	0	%100
10	C14	X	-0.002	-0.002	0	%100
11	C15	X	-0.002	-0.002	0	%100
12	C16	X	-0.002	-0.002	0	%100
13	C17	X	-0.002	-0.002	0	%100
14	C18	X	-0.002	-0.002	0	%100
15	C21	X	-0.002	-0.002	0	%100
16	C22	X	-0.002	-0.002	0	%100
17	C23	X	-0.002	-0.002	0	%100
18	C24	X	-0.002	-0.002	0	%100
19	C25	X	-0.002	-0.002	0	%100
20	C26	X	-0.002	-0.002	0	%100
21	C27	X	-0.002	-0.002	0	%100
22	C28	X	-0.002	-0.002	0	%100
23	C31	X	-0.002	-0.002	0	%100
24	C32	X	-0.002	-0.002	0	%100
25	C33	X	-0.002	-0.002	0	%100
26	C34	X	-0.002	-0.002	0	%100
27	C35	X	-0.002	-0.002	0	%100
28	C36	X	-0.002	-0.002	0	%100
29	C37	X	-0.002	-0.002	0	%100
30	C38	X	-0.002	-0.002	0	%100
31	D11	X	-0.003	-0.003	0	%100
32	D12	X	-0.003	-0.003	0	%100
33	D21	X	-0.003	-0.003	0	%100
34	D22	X	-0.003	-0.003	0	%100
35	D31	X	-0.003	-0.003	0	%100
36	D32	X	-0.003	-0.003	0	%100
37	F11	X	-0.008	-0.008	0	%100
38	F12	X	-0.008	-0.008	0	%100
39	F13	X	-0.008	-0.008	0	%100
40	F14	X	-0.008	-0.008	0	%100
41	F21	X	-0.008	-0.008	0	%100
42	F22	X	-0.008	-0.008	0	%100

Member Distributed Loads (BLC 3 : Wind Load (90)) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
43	F23	X	-0.008	-0.008	0	%100
44	F24	X	-0.008	-0.008	0	%100
45	F31	X	-0.008	-0.008	0	%100
46	F32	X	-0.008	-0.008	0	%100
47	F33	X	-0.008	-0.008	0	%100
48	F34	X	-0.008	-0.008	0	%100
49	H11	X	-0.009	-0.009	0	%100
50	H12	X	-0.009	-0.009	0	%100
51	H21	X	-0.009	-0.009	0	%100
52	H22	X	-0.009	-0.009	0	%100
53	H31	X	-0.009	-0.009	0	%100
54	H32	X	-0.009	-0.009	0	%100
55	MP11	X	-0.009	-0.009	0	%100
56	MP12	X	-0.009	-0.009	0	%100
57	MP13	X	-0.009	-0.009	0	%100
58	MP14	X	-0.009	-0.009	0	%100
59	MP15	X	-0.009	-0.009	0	%100
60	MP21	X	-0.009	-0.009	0	%100
61	MP22	X	-0.009	-0.009	0	%100
62	MP23	X	-0.009	-0.009	0	%100
63	MP24	X	-0.009	-0.009	0	%100
64	MP25	X	-0.009	-0.009	0	%100
65	MP31	X	-0.009	-0.009	0	%100
66	MP32	X	-0.009	-0.009	0	%100
67	MP33	X	-0.009	-0.009	0	%100
68	MP34	X	-0.009	-0.009	0	%100
69	MP35	X	-0.009	-0.009	0	%100
70	P1	X	-0.009	-0.009	0	%100
71	P2	X	-0.009	-0.009	0	%100
72	P3	X	-0.009	-0.009	0	%100
73	T1	X	-0.009	-0.009	0	%100
74	T2	X	-0.009	-0.009	0	%100
75	T3	X	-0.009	-0.009	0	%100
76	V11	X	-0.003	-0.003	0	%100
77	V12	X	-0.003	-0.003	0	%100
78	V13	X	-0.003	-0.003	0	%100
79	V14	X	-0.003	-0.003	0	%100
80	V21	X	-0.003	-0.003	0	%100
81	V22	X	-0.003	-0.003	0	%100
82	V23	X	-0.003	-0.003	0	%100
83	V24	X	-0.003	-0.003	0	%100
84	V31	X	-0.003	-0.003	0	%100
85	V32	X	-0.003	-0.003	0	%100
86	V33	X	-0.003	-0.003	0	%100
87	V34	X	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 4 : Wind Load (Ice/0))

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	B11	Z	-0.003	-0.003	0	%100
2	B12	Z	-0.003	-0.003	0	%100
3	B21	Z	-0.003	-0.003	0	%100
4	B22	Z	-0.003	-0.003	0	%100
5	B31	Z	-0.003	-0.003	0	%100
6	B32	Z	-0.003	-0.003	0	%100
7	C11	Z	-0.003	-0.003	0	%100
8	C12	Z	-0.003	-0.003	0	%100
9	C13	Z	-0.003	-0.003	0	%100
10	C14	Z	-0.003	-0.003	0	%100
11	C15	Z	-0.003	-0.003	0	%100
12	C16	Z	-0.003	-0.003	0	%100
13	C17	Z	-0.003	-0.003	0	%100
14	C18	Z	-0.003	-0.003	0	%100
15	C21	Z	-0.003	-0.003	0	%100
16	C22	Z	-0.003	-0.003	0	%100
17	C23	Z	-0.003	-0.003	0	%100
18	C24	Z	-0.003	-0.003	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
19	C25	Z	-0.003	-0.003	0	%100
20	C26	Z	-0.003	-0.003	0	%100
21	C27	Z	-0.003	-0.003	0	%100
22	C28	Z	-0.003	-0.003	0	%100
23	C31	Z	-0.003	-0.003	0	%100
24	C32	Z	-0.003	-0.003	0	%100
25	C33	Z	-0.003	-0.003	0	%100
26	C34	Z	-0.003	-0.003	0	%100
27	C35	Z	-0.003	-0.003	0	%100
28	C36	Z	-0.003	-0.003	0	%100
29	C37	Z	-0.003	-0.003	0	%100
30	C38	Z	-0.003	-0.003	0	%100
31	D11	Z	-0.002	-0.002	0	%100
32	D12	Z	-0.002	-0.002	0	%100
33	D21	Z	-0.002	-0.002	0	%100
34	D22	Z	-0.002	-0.002	0	%100
35	D31	Z	-0.002	-0.002	0	%100
36	D32	Z	-0.002	-0.002	0	%100
37	F11	Z	-0.002	-0.002	0	%100
38	F12	Z	-0.002	-0.002	0	%100
39	F13	Z	-0.002	-0.002	0	%100
40	F14	Z	-0.002	-0.002	0	%100
41	F21	Z	-0.002	-0.002	0	%100
42	F22	Z	-0.002	-0.002	0	%100
43	F23	Z	-0.002	-0.002	0	%100
44	F24	Z	-0.002	-0.002	0	%100
45	F31	Z	-0.002	-0.002	0	%100
46	F32	Z	-0.002	-0.002	0	%100
47	F33	Z	-0.002	-0.002	0	%100
48	F34	Z	-0.002	-0.002	0	%100
49	H11	Z	-0.001	-0.001	0	%100
50	H12	Z	-0.001	-0.001	0	%100
51	H21	Z	-0.001	-0.001	0	%100
52	H22	Z	-0.001	-0.001	0	%100
53	H31	Z	-0.001	-0.001	0	%100
54	H32	Z	-0.001	-0.001	0	%100
55	MP11	Z	-0.001	-0.001	0	%100
56	MP12	Z	-0.001	-0.001	0	%100
57	MP13	Z	-0.001	-0.001	0	%100
58	MP14	Z	-0.001	-0.001	0	%100
59	MP15	Z	-0.002	-0.002	0	%100
60	MP21	Z	-0.001	-0.001	0	%100
61	MP22	Z	-0.001	-0.001	0	%100
62	MP23	Z	-0.001	-0.001	0	%100
63	MP24	Z	-0.001	-0.001	0	%100
64	MP25	Z	-0.002	-0.002	0	%100
65	MP31	Z	-0.001	-0.001	0	%100
66	MP32	Z	-0.001	-0.001	0	%100
67	MP33	Z	-0.001	-0.001	0	%100
68	MP34	Z	-0.001	-0.001	0	%100
69	MP35	Z	-0.002	-0.002	0	%100
70	P1	Z	-0.002	-0.002	0	%100
71	P2	Z	-0.002	-0.002	0	%100
72	P3	Z	-0.002	-0.002	0	%100
73	T1	Z	-0.002	-0.002	0	%100
74	T2	Z	-0.002	-0.002	0	%100
75	T3	Z	-0.002	-0.002	0	%100
76	V11	Z	-0.002	-0.002	0	%100
77	V12	Z	-0.002	-0.002	0	%100
78	V13	Z	-0.002	-0.002	0	%100
79	V14	Z	-0.002	-0.002	0	%100
80	V21	Z	-0.002	-0.002	0	%100
81	V22	Z	-0.002	-0.002	0	%100
82	V23	Z	-0.002	-0.002	0	%100
83	V24	Z	-0.002	-0.002	0	%100
84	V31	Z	-0.002	-0.002	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
85	V32	Z	-0.002	-0.002	0	%100
86	V33	Z	-0.002	-0.002	0	%100
87	V34	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 5 : Wind Load (Ice/90))

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	B11	X	-0.003	-0.003	0	%100
2	B12	X	-0.003	-0.003	0	%100
3	B21	X	-0.003	-0.003	0	%100
4	B22	X	-0.003	-0.003	0	%100
5	B31	X	-0.003	-0.003	0	%100
6	B32	X	-0.003	-0.003	0	%100
7	C11	X	-0.003	-0.003	0	%100
8	C12	X	-0.003	-0.003	0	%100
9	C13	X	-0.003	-0.003	0	%100
10	C14	X	-0.003	-0.003	0	%100
11	C15	X	-0.003	-0.003	0	%100
12	C16	X	-0.003	-0.003	0	%100
13	C17	X	-0.003	-0.003	0	%100
14	C18	X	-0.003	-0.003	0	%100
15	C21	X	-0.003	-0.003	0	%100
16	C22	X	-0.003	-0.003	0	%100
17	C23	X	-0.003	-0.003	0	%100
18	C24	X	-0.003	-0.003	0	%100
19	C25	X	-0.003	-0.003	0	%100
20	C26	X	-0.003	-0.003	0	%100
21	C27	X	-0.003	-0.003	0	%100
22	C28	X	-0.003	-0.003	0	%100
23	C31	X	-0.003	-0.003	0	%100
24	C32	X	-0.003	-0.003	0	%100
25	C33	X	-0.003	-0.003	0	%100
26	C34	X	-0.003	-0.003	0	%100
27	C35	X	-0.003	-0.003	0	%100
28	C36	X	-0.003	-0.003	0	%100
29	C37	X	-0.003	-0.003	0	%100
30	C38	X	-0.003	-0.003	0	%100
31	D11	X	-0.002	-0.002	0	%100
32	D12	X	-0.002	-0.002	0	%100
33	D21	X	-0.002	-0.002	0	%100
34	D22	X	-0.002	-0.002	0	%100
35	D31	X	-0.002	-0.002	0	%100
36	D32	X	-0.002	-0.002	0	%100
37	F11	X	-0.002	-0.002	0	%100
38	F12	X	-0.002	-0.002	0	%100
39	F13	X	-0.002	-0.002	0	%100
40	F14	X	-0.002	-0.002	0	%100
41	F21	X	-0.002	-0.002	0	%100
42	F22	X	-0.002	-0.002	0	%100
43	F23	X	-0.002	-0.002	0	%100
44	F24	X	-0.002	-0.002	0	%100
45	F31	X	-0.002	-0.002	0	%100
46	F32	X	-0.002	-0.002	0	%100
47	F33	X	-0.002	-0.002	0	%100
48	F34	X	-0.002	-0.002	0	%100
49	H11	X	-0.001	-0.001	0	%100
50	H12	X	-0.001	-0.001	0	%100
51	H21	X	-0.001	-0.001	0	%100
52	H22	X	-0.001	-0.001	0	%100
53	H31	X	-0.001	-0.001	0	%100
54	H32	X	-0.001	-0.001	0	%100
55	MP11	X	-0.001	-0.001	0	%100
56	MP12	X	-0.001	-0.001	0	%100
57	MP13	X	-0.001	-0.001	0	%100
58	MP14	X	-0.001	-0.001	0	%100
59	MP15	X	-0.002	-0.002	0	%100
60	MP21	X	-0.001	-0.001	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
61	MP22	X	-0.001	-0.001	0	%100
62	MP23	X	-0.001	-0.001	0	%100
63	MP24	X	-0.001	-0.001	0	%100
64	MP25	X	-0.002	-0.002	0	%100
65	MP31	X	-0.001	-0.001	0	%100
66	MP32	X	-0.001	-0.001	0	%100
67	MP33	X	-0.001	-0.001	0	%100
68	MP34	X	-0.001	-0.001	0	%100
69	MP35	X	-0.002	-0.002	0	%100
70	P1	X	-0.002	-0.002	0	%100
71	P2	X	-0.002	-0.002	0	%100
72	P3	X	-0.002	-0.002	0	%100
73	T1	X	-0.002	-0.002	0	%100
74	T2	X	-0.002	-0.002	0	%100
75	T3	X	-0.002	-0.002	0	%100
76	V11	X	-0.002	-0.002	0	%100
77	V12	X	-0.002	-0.002	0	%100
78	V13	X	-0.002	-0.002	0	%100
79	V14	X	-0.002	-0.002	0	%100
80	V21	X	-0.002	-0.002	0	%100
81	V22	X	-0.002	-0.002	0	%100
82	V23	X	-0.002	-0.002	0	%100
83	V24	X	-0.002	-0.002	0	%100
84	V31	X	-0.002	-0.002	0	%100
85	V32	X	-0.002	-0.002	0	%100
86	V33	X	-0.002	-0.002	0	%100
87	V34	X	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 6 : Wind Load (Service/0))

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	B11	Z	-0.0002	-0.0002	0	%100
2	B12	Z	-0.0002	-0.0002	0	%100
3	B21	Z	-0.0002	-0.0002	0	%100
4	B22	Z	-0.0002	-0.0002	0	%100
5	B31	Z	-0.0002	-0.0002	0	%100
6	B32	Z	-0.0002	-0.0002	0	%100
7	C11	Z	-1e-04	-1e-04	0	%100
8	C12	Z	-1e-04	-1e-04	0	%100
9	C13	Z	-1e-04	-1e-04	0	%100
10	C14	Z	-1e-04	-1e-04	0	%100
11	C15	Z	-1e-04	-1e-04	0	%100
12	C16	Z	-1e-04	-1e-04	0	%100
13	C17	Z	-1e-04	-1e-04	0	%100
14	C18	Z	-1e-04	-1e-04	0	%100
15	C21	Z	-1e-04	-1e-04	0	%100
16	C22	Z	-1e-04	-1e-04	0	%100
17	C23	Z	-1e-04	-1e-04	0	%100
18	C24	Z	-1e-04	-1e-04	0	%100
19	C25	Z	-1e-04	-1e-04	0	%100
20	C26	Z	-1e-04	-1e-04	0	%100
21	C27	Z	-1e-04	-1e-04	0	%100
22	C28	Z	-1e-04	-1e-04	0	%100
23	C31	Z	-1e-04	-1e-04	0	%100
24	C32	Z	-1e-04	-1e-04	0	%100
25	C33	Z	-1e-04	-1e-04	0	%100
26	C34	Z	-1e-04	-1e-04	0	%100
27	C35	Z	-1e-04	-1e-04	0	%100
28	C36	Z	-1e-04	-1e-04	0	%100
29	C37	Z	-1e-04	-1e-04	0	%100
30	C38	Z	-1e-04	-1e-04	0	%100
31	D11	Z	-1e-04	-1e-04	0	%100
32	D12	Z	-1e-04	-1e-04	0	%100
33	D21	Z	-1e-04	-1e-04	0	%100
34	D22	Z	-1e-04	-1e-04	0	%100
35	D31	Z	-1e-04	-1e-04	0	%100
36	D32	Z	-1e-04	-1e-04	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
37	F11	Z	-0.0003	-0.0003	0	%100
38	F12	Z	-0.0003	-0.0003	0	%100
39	F13	Z	-0.0003	-0.0003	0	%100
40	F14	Z	-0.0003	-0.0003	0	%100
41	F21	Z	-0.0003	-0.0003	0	%100
42	F22	Z	-0.0003	-0.0003	0	%100
43	F23	Z	-0.0003	-0.0003	0	%100
44	F24	Z	-0.0003	-0.0003	0	%100
45	F31	Z	-0.0003	-0.0003	0	%100
46	F32	Z	-0.0003	-0.0003	0	%100
47	F33	Z	-0.0003	-0.0003	0	%100
48	F34	Z	-0.0003	-0.0003	0	%100
49	H11	Z	-0.0003	-0.0003	0	%100
50	H12	Z	-0.0003	-0.0003	0	%100
51	H21	Z	-0.0003	-0.0003	0	%100
52	H22	Z	-0.0003	-0.0003	0	%100
53	H31	Z	-0.0003	-0.0003	0	%100
54	H32	Z	-0.0003	-0.0003	0	%100
55	MP11	Z	-0.0003	-0.0003	0	%100
56	MP12	Z	-0.0003	-0.0003	0	%100
57	MP13	Z	-0.0003	-0.0003	0	%100
58	MP14	Z	-0.0003	-0.0003	0	%100
59	MP15	Z	-0.0003	-0.0003	0	%100
60	MP21	Z	-0.0003	-0.0003	0	%100
61	MP22	Z	-0.0003	-0.0003	0	%100
62	MP23	Z	-0.0003	-0.0003	0	%100
63	MP24	Z	-0.0003	-0.0003	0	%100
64	MP25	Z	-0.0003	-0.0003	0	%100
65	MP31	Z	-0.0003	-0.0003	0	%100
66	MP32	Z	-0.0003	-0.0003	0	%100
67	MP33	Z	-0.0003	-0.0003	0	%100
68	MP34	Z	-0.0003	-0.0003	0	%100
69	MP35	Z	-0.0003	-0.0003	0	%100
70	P1	Z	-0.0005	-0.0005	0	%100
71	P2	Z	-0.0005	-0.0005	0	%100
72	P3	Z	-0.0005	-0.0005	0	%100
73	T1	Z	-0.0003	-0.0003	0	%100
74	T2	Z	-0.0003	-0.0003	0	%100
75	T3	Z	-0.0003	-0.0003	0	%100
76	V11	Z	-1e-04	-1e-04	0	%100
77	V12	Z	-1e-04	-1e-04	0	%100
78	V13	Z	-1e-04	-1e-04	0	%100
79	V14	Z	-1e-04	-1e-04	0	%100
80	V21	Z	-1e-04	-1e-04	0	%100
81	V22	Z	-1e-04	-1e-04	0	%100
82	V23	Z	-1e-04	-1e-04	0	%100
83	V24	Z	-1e-04	-1e-04	0	%100
84	V31	Z	-1e-04	-1e-04	0	%100
85	V32	Z	-1e-04	-1e-04	0	%100
86	V33	Z	-1e-04	-1e-04	0	%100
87	V34	Z	-1e-04	-1e-04	0	%100

Member Distributed Loads (BLC 7 : Wind Load (Service/90))

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	B11	X	-0.0002	-0.0002	0	%100
2	B12	X	-0.0002	-0.0002	0	%100
3	B21	X	-0.0002	-0.0002	0	%100
4	B22	X	-0.0002	-0.0002	0	%100
5	B31	X	-0.0002	-0.0002	0	%100
6	B32	X	-0.0002	-0.0002	0	%100
7	C11	X	-1e-04	-1e-04	0	%100
8	C12	X	-1e-04	-1e-04	0	%100
9	C13	X	-1e-04	-1e-04	0	%100
10	C14	X	-1e-04	-1e-04	0	%100
11	C15	X	-1e-04	-1e-04	0	%100
12	C16	X	-1e-04	-1e-04	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
13	C17	X	-1e-04	-1e-04	0	%100
14	C18	X	-1e-04	-1e-04	0	%100
15	C21	X	-1e-04	-1e-04	0	%100
16	C22	X	-1e-04	-1e-04	0	%100
17	C23	X	-1e-04	-1e-04	0	%100
18	C24	X	-1e-04	-1e-04	0	%100
19	C25	X	-1e-04	-1e-04	0	%100
20	C26	X	-1e-04	-1e-04	0	%100
21	C27	X	-1e-04	-1e-04	0	%100
22	C28	X	-1e-04	-1e-04	0	%100
23	C31	X	-1e-04	-1e-04	0	%100
24	C32	X	-1e-04	-1e-04	0	%100
25	C33	X	-1e-04	-1e-04	0	%100
26	C34	X	-1e-04	-1e-04	0	%100
27	C35	X	-1e-04	-1e-04	0	%100
28	C36	X	-1e-04	-1e-04	0	%100
29	C37	X	-1e-04	-1e-04	0	%100
30	C38	X	-1e-04	-1e-04	0	%100
31	D11	X	-1e-04	-1e-04	0	%100
32	D12	X	-1e-04	-1e-04	0	%100
33	D21	X	-1e-04	-1e-04	0	%100
34	D22	X	-1e-04	-1e-04	0	%100
35	D31	X	-1e-04	-1e-04	0	%100
36	D32	X	-1e-04	-1e-04	0	%100
37	F11	X	-0.0003	-0.0003	0	%100
38	F12	X	-0.0003	-0.0003	0	%100
39	F13	X	-0.0003	-0.0003	0	%100
40	F14	X	-0.0003	-0.0003	0	%100
41	F21	X	-0.0003	-0.0003	0	%100
42	F22	X	-0.0003	-0.0003	0	%100
43	F23	X	-0.0003	-0.0003	0	%100
44	F24	X	-0.0003	-0.0003	0	%100
45	F31	X	-0.0003	-0.0003	0	%100
46	F32	X	-0.0003	-0.0003	0	%100
47	F33	X	-0.0003	-0.0003	0	%100
48	F34	X	-0.0003	-0.0003	0	%100
49	H11	X	-0.0003	-0.0003	0	%100
50	H12	X	-0.0003	-0.0003	0	%100
51	H21	X	-0.0003	-0.0003	0	%100
52	H22	X	-0.0003	-0.0003	0	%100
53	H31	X	-0.0003	-0.0003	0	%100
54	H32	X	-0.0003	-0.0003	0	%100
55	MP11	X	-0.0003	-0.0003	0	%100
56	MP12	X	-0.0003	-0.0003	0	%100
57	MP13	X	-0.0003	-0.0003	0	%100
58	MP14	X	-0.0003	-0.0003	0	%100
59	MP15	X	-0.0003	-0.0003	0	%100
60	MP21	X	-0.0003	-0.0003	0	%100
61	MP22	X	-0.0003	-0.0003	0	%100
62	MP23	X	-0.0003	-0.0003	0	%100
63	MP24	X	-0.0003	-0.0003	0	%100
64	MP25	X	-0.0003	-0.0003	0	%100
65	MP31	X	-0.0003	-0.0003	0	%100
66	MP32	X	-0.0003	-0.0003	0	%100
67	MP33	X	-0.0003	-0.0003	0	%100
68	MP34	X	-0.0003	-0.0003	0	%100
69	MP35	X	-0.0003	-0.0003	0	%100
70	P1	X	-0.0005	-0.0005	0	%100
71	P2	X	-0.0005	-0.0005	0	%100
72	P3	X	-0.0005	-0.0005	0	%100
73	T1	X	-0.0003	-0.0003	0	%100
74	T2	X	-0.0003	-0.0003	0	%100
75	T3	X	-0.0003	-0.0003	0	%100
76	V11	X	-1e-04	-1e-04	0	%100
77	V12	X	-1e-04	-1e-04	0	%100
78	V13	X	-1e-04	-1e-04	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
79	V14	X	-1e-04	-1e-04	0	%100
80	V21	X	-1e-04	-1e-04	0	%100
81	V22	X	-1e-04	-1e-04	0	%100
82	V23	X	-1e-04	-1e-04	0	%100
83	V24	X	-1e-04	-1e-04	0	%100
84	V31	X	-1e-04	-1e-04	0	%100
85	V32	X	-1e-04	-1e-04	0	%100
86	V33	X	-1e-04	-1e-04	0	%100
87	V34	X	-1e-04	-1e-04	0	%100

Member Distributed Loads (BLC 8 : Ice Load)

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	B11	Z	-0.003	-0.003	0	%100
2	B12	Z	-0.003	-0.003	0	%100
3	B21	Z	-0.003	-0.003	0	%100
4	B22	Z	-0.003	-0.003	0	%100
5	B31	Z	-0.003	-0.003	0	%100
6	B32	Z	-0.003	-0.003	0	%100
7	C11	Z	-0.002	-0.002	0	%100
8	C12	Z	-0.002	-0.002	0	%100
9	C13	Z	-0.002	-0.002	0	%100
10	C14	Z	-0.002	-0.002	0	%100
11	C15	Z	-0.002	-0.002	0	%100
12	C16	Z	-0.002	-0.002	0	%100
13	C17	Z	-0.002	-0.002	0	%100
14	C18	Z	-0.002	-0.002	0	%100
15	C21	Z	-0.002	-0.002	0	%100
16	C22	Z	-0.002	-0.002	0	%100
17	C23	Z	-0.002	-0.002	0	%100
18	C24	Z	-0.002	-0.002	0	%100
19	C25	Z	-0.002	-0.002	0	%100
20	C26	Z	-0.002	-0.002	0	%100
21	C27	Z	-0.002	-0.002	0	%100
22	C28	Z	-0.002	-0.002	0	%100
23	C31	Z	-0.002	-0.002	0	%100
24	C32	Z	-0.002	-0.002	0	%100
25	C33	Z	-0.002	-0.002	0	%100
26	C34	Z	-0.002	-0.002	0	%100
27	C35	Z	-0.002	-0.002	0	%100
28	C36	Z	-0.002	-0.002	0	%100
29	C37	Z	-0.002	-0.002	0	%100
30	C38	Z	-0.002	-0.002	0	%100
31	D11	Z	-0.0006	-0.0006	0	%100
32	D12	Z	-0.0006	-0.0006	0	%100
33	D21	Z	-0.0006	-0.0006	0	%100
34	D22	Z	-0.0006	-0.0006	0	%100
35	D31	Z	-0.0006	-0.0006	0	%100
36	D32	Z	-0.0006	-0.0006	0	%100
37	F11	Z	-0.001	-0.001	0	%100
38	F12	Z	-0.001	-0.001	0	%100
39	F13	Z	-0.001	-0.001	0	%100
40	F14	Z	-0.001	-0.001	0	%100
41	F21	Z	-0.001	-0.001	0	%100
42	F22	Z	-0.001	-0.001	0	%100
43	F23	Z	-0.001	-0.001	0	%100
44	F24	Z	-0.001	-0.001	0	%100
45	F31	Z	-0.001	-0.001	0	%100
46	F32	Z	-0.001	-0.001	0	%100
47	F33	Z	-0.001	-0.001	0	%100
48	F34	Z	-0.001	-0.001	0	%100
49	H11	Z	-0.001	-0.001	0	%100
50	H12	Z	-0.001	-0.001	0	%100
51	H21	Z	-0.001	-0.001	0	%100
52	H22	Z	-0.001	-0.001	0	%100
53	H31	Z	-0.001	-0.001	0	%100
54	H32	Z	-0.001	-0.001	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
55	MP11	Z	-0.001	-0.001	0	%100
56	MP12	Z	-0.001	-0.001	0	%100
57	MP13	Z	-0.001	-0.001	0	%100
58	MP14	Z	-0.001	-0.001	0	%100
59	MP15	Z	-0.001	-0.001	0	%100
60	MP21	Z	-0.001	-0.001	0	%100
61	MP22	Z	-0.001	-0.001	0	%100
62	MP23	Z	-0.001	-0.001	0	%100
63	MP24	Z	-0.001	-0.001	0	%100
64	MP25	Z	-0.001	-0.001	0	%100
65	MP31	Z	-0.001	-0.001	0	%100
66	MP32	Z	-0.001	-0.001	0	%100
67	MP33	Z	-0.001	-0.001	0	%100
68	MP34	Z	-0.001	-0.001	0	%100
69	MP35	Z	-0.001	-0.001	0	%100
70	P1	Z	-0.003	-0.003	0	%100
71	P2	Z	-0.003	-0.003	0	%100
72	P3	Z	-0.003	-0.003	0	%100
73	T1	Z	-0.001	-0.001	0	%100
74	T2	Z	-0.001	-0.001	0	%100
75	T3	Z	-0.001	-0.001	0	%100
76	V11	Z	-0.0006	-0.0006	0	%100
77	V12	Z	-0.0006	-0.0006	0	%100
78	V13	Z	-0.0006	-0.0006	0	%100
79	V14	Z	-0.0006	-0.0006	0	%100
80	V21	Z	-0.0006	-0.0006	0	%100
81	V22	Z	-0.0006	-0.0006	0	%100
82	V23	Z	-0.0006	-0.0006	0	%100
83	V24	Z	-0.0006	-0.0006	0	%100
84	V31	Z	-0.0006	-0.0006	0	%100
85	V32	Z	-0.0006	-0.0006	0	%100
86	V33	Z	-0.0006	-0.0006	0	%100
87	V34	Z	-0.0006	-0.0006	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	B11	Z	-0.003	-0.003	0	%100
2	B12	Z	-0.003	-0.003	0	%100
3	B21	Z	-0.003	-0.003	0	%100
4	B22	Z	-0.003	-0.003	0	%100
5	B31	Z	-0.003	-0.003	0	%100
6	B32	Z	-0.003	-0.003	0	%100
7	C11	Z	-0.002	-0.002	0	%100
8	C12	Z	-0.002	-0.002	0	%100
9	C13	Z	-0.002	-0.002	0	%100
10	C14	Z	-0.002	-0.002	0	%100
11	C15	Z	-0.002	-0.002	0	%100
12	C16	Z	-0.002	-0.002	0	%100
13	C17	Z	-0.002	-0.002	0	%100
14	C18	Z	-0.002	-0.002	0	%100
15	C21	Z	-0.002	-0.002	0	%100
16	C22	Z	-0.002	-0.002	0	%100
17	C23	Z	-0.002	-0.002	0	%100
18	C24	Z	-0.002	-0.002	0	%100
19	C25	Z	-0.002	-0.002	0	%100
20	C26	Z	-0.002	-0.002	0	%100
21	C27	Z	-0.002	-0.002	0	%100
22	C28	Z	-0.002	-0.002	0	%100
23	C31	Z	-0.002	-0.002	0	%100
24	C32	Z	-0.002	-0.002	0	%100
25	C33	Z	-0.002	-0.002	0	%100
26	C34	Z	-0.002	-0.002	0	%100
27	C35	Z	-0.002	-0.002	0	%100
28	C36	Z	-0.002	-0.002	0	%100
29	C37	Z	-0.002	-0.002	0	%100
30	C38	Z	-0.002	-0.002	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
31	D11	Z	-0.0006	-0.0006	0	%100
32	D12	Z	-0.0006	-0.0006	0	%100
33	D21	Z	-0.0006	-0.0006	0	%100
34	D22	Z	-0.0006	-0.0006	0	%100
35	D31	Z	-0.0006	-0.0006	0	%100
36	D32	Z	-0.0006	-0.0006	0	%100
37	F11	Z	-0.001	-0.001	0	%100
38	F12	Z	-0.001	-0.001	0	%100
39	F13	Z	-0.001	-0.001	0	%100
40	F14	Z	-0.001	-0.001	0	%100
41	F21	Z	-0.001	-0.001	0	%100
42	F22	Z	-0.001	-0.001	0	%100
43	F23	Z	-0.001	-0.001	0	%100
44	F24	Z	-0.001	-0.001	0	%100
45	F31	Z	-0.001	-0.001	0	%100
46	F32	Z	-0.001	-0.001	0	%100
47	F33	Z	-0.001	-0.001	0	%100
48	F34	Z	-0.001	-0.001	0	%100
49	H11	Z	-0.001	-0.001	0	%100
50	H12	Z	-0.001	-0.001	0	%100
51	H21	Z	-0.001	-0.001	0	%100
52	H22	Z	-0.001	-0.001	0	%100
53	H31	Z	-0.001	-0.001	0	%100
54	H32	Z	-0.001	-0.001	0	%100
55	MP12	Z	-0.001	-0.001	0	%100
56	MP13	Z	-0.001	-0.001	0	%100
57	MP14	Z	-0.001	-0.001	0	%100
58	MP15	Z	-0.001	-0.001	0	%100
59	MP22	Z	-0.001	-0.001	0	%100
60	MP23	Z	-0.001	-0.001	0	%100
61	MP24	Z	-0.001	-0.001	0	%100
62	MP25	Z	-0.001	-0.001	0	%100
63	MP32	Z	-0.001	-0.001	0	%100
64	MP33	Z	-0.001	-0.001	0	%100
65	MP34	Z	-0.001	-0.001	0	%100
66	MP35	Z	-0.001	-0.001	0	%100
67	P1	Z	-0.003	-0.003	0	%100
68	P2	Z	-0.003	-0.003	0	%100
69	P3	Z	-0.003	-0.003	0	%100
70	T1	Z	-0.001	-0.001	0	%100
71	T2	Z	-0.001	-0.001	0	%100
72	T3	Z	-0.001	-0.001	0	%100
73	V11	Z	-0.0006	-0.0006	0	%100
74	V12	Z	-0.0006	-0.0006	0	%100
75	V13	Z	-0.0006	-0.0006	0	%100
76	V14	Z	-0.0006	-0.0006	0	%100
77	V21	Z	-0.0006	-0.0006	0	%100
78	V22	Z	-0.0006	-0.0006	0	%100
79	V23	Z	-0.0006	-0.0006	0	%100
80	V24	Z	-0.0006	-0.0006	0	%100
81	V31	Z	-0.0006	-0.0006	0	%100
82	V32	Z	-0.0006	-0.0006	0	%100
83	V33	Z	-0.0006	-0.0006	0	%100
84	V34	Z	-0.0006	-0.0006	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	B11	X	-0.003	-0.003	0	%100
2	B12	X	-0.003	-0.003	0	%100
3	B21	X	-0.003	-0.003	0	%100
4	B22	X	-0.003	-0.003	0	%100
5	B31	X	-0.003	-0.003	0	%100
6	B32	X	-0.003	-0.003	0	%100
7	C11	X	-0.002	-0.002	0	%100
8	C12	X	-0.002	-0.002	0	%100
9	C13	X	-0.002	-0.002	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
10	C14	X	-0.002	-0.002	0	%100
11	C15	X	-0.002	-0.002	0	%100
12	C16	X	-0.002	-0.002	0	%100
13	C17	X	-0.002	-0.002	0	%100
14	C18	X	-0.002	-0.002	0	%100
15	C21	X	-0.002	-0.002	0	%100
16	C22	X	-0.002	-0.002	0	%100
17	C23	X	-0.002	-0.002	0	%100
18	C24	X	-0.002	-0.002	0	%100
19	C25	X	-0.002	-0.002	0	%100
20	C26	X	-0.002	-0.002	0	%100
21	C27	X	-0.002	-0.002	0	%100
22	C28	X	-0.002	-0.002	0	%100
23	C31	X	-0.002	-0.002	0	%100
24	C32	X	-0.002	-0.002	0	%100
25	C33	X	-0.002	-0.002	0	%100
26	C34	X	-0.002	-0.002	0	%100
27	C35	X	-0.002	-0.002	0	%100
28	C36	X	-0.002	-0.002	0	%100
29	C37	X	-0.002	-0.002	0	%100
30	C38	X	-0.002	-0.002	0	%100
31	D11	X	-0.0006	-0.0006	0	%100
32	D12	X	-0.0006	-0.0006	0	%100
33	D21	X	-0.0006	-0.0006	0	%100
34	D22	X	-0.0006	-0.0006	0	%100
35	D31	X	-0.0006	-0.0006	0	%100
36	D32	X	-0.0006	-0.0006	0	%100
37	F11	X	-0.001	-0.001	0	%100
38	F12	X	-0.001	-0.001	0	%100
39	F13	X	-0.001	-0.001	0	%100
40	F14	X	-0.001	-0.001	0	%100
41	F21	X	-0.001	-0.001	0	%100
42	F22	X	-0.001	-0.001	0	%100
43	F23	X	-0.001	-0.001	0	%100
44	F24	X	-0.001	-0.001	0	%100
45	F31	X	-0.001	-0.001	0	%100
46	F32	X	-0.001	-0.001	0	%100
47	F33	X	-0.001	-0.001	0	%100
48	F34	X	-0.001	-0.001	0	%100
49	H11	X	-0.001	-0.001	0	%100
50	H12	X	-0.001	-0.001	0	%100
51	H21	X	-0.001	-0.001	0	%100
52	H22	X	-0.001	-0.001	0	%100
53	H31	X	-0.001	-0.001	0	%100
54	H32	X	-0.001	-0.001	0	%100
55	MP11	X	-0.001	-0.001	0	%100
56	MP12	X	-0.001	-0.001	0	%100
57	MP13	X	-0.001	-0.001	0	%100
58	MP14	X	-0.001	-0.001	0	%100
59	MP15	X	-0.001	-0.001	0	%100
60	MP21	X	-0.001	-0.001	0	%100
61	MP22	X	-0.001	-0.001	0	%100
62	MP23	X	-0.001	-0.001	0	%100
63	MP24	X	-0.001	-0.001	0	%100
64	MP25	X	-0.001	-0.001	0	%100
65	MP31	X	-0.001	-0.001	0	%100
66	MP32	X	-0.001	-0.001	0	%100
67	MP33	X	-0.001	-0.001	0	%100
68	MP34	X	-0.001	-0.001	0	%100
69	MP35	X	-0.001	-0.001	0	%100
70	P1	X	-0.003	-0.003	0	%100
71	P2	X	-0.003	-0.003	0	%100
72	P3	X	-0.003	-0.003	0	%100
73	T1	X	-0.001	-0.001	0	%100
74	T2	X	-0.001	-0.001	0	%100
75	T3	X	-0.001	-0.001	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, psf, k-ft/ft]	End Magnitude [k/ft, F, psf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
76	V11	X	-0.0006	-0.0006	0	%100
77	V12	X	-0.0006	-0.0006	0	%100
78	V13	X	-0.0006	-0.0006	0	%100
79	V14	X	-0.0006	-0.0006	0	%100
80	V21	X	-0.0006	-0.0006	0	%100
81	V22	X	-0.0006	-0.0006	0	%100
82	V23	X	-0.0006	-0.0006	0	%100
83	V24	X	-0.0006	-0.0006	0	%100
84	V31	X	-0.0006	-0.0006	0	%100
85	V32	X	-0.0006	-0.0006	0	%100
86	V33	X	-0.0006	-0.0006	0	%100
87	V34	X	-0.0006	-0.0006	0	%100

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	B11	PL5/8"X6"	0.192	0.667	48	0.06	0.667	y	2	94.955	168.75	2.197	21.094	1.63	H1-1b
2	B12	PL5/8"X6"	0.202	0.667	43	0.07	0.667	y	7	94.955	168.75	2.197	21.094	1.653	H1-1b
3	B21	PL5/8"X6"	0.188	0.667	44	0.051	0.667	y	9	94.955	168.75	2.197	21.094	1.623	H1-1b
4	B22	PL5/8"X6"	0.198	0.667	38	0.084	0.667	y	2	94.955	168.75	2.197	21.094	1.649	H1-1b
5	B31	PL5/8"X6"	0.192	0.667	39	0.048	0.667	y	67	94.955	168.75	2.197	21.094	1.634	H1-1b
6	B32	PL5/8"X6"	0.201	0.667	46	0.06	0.667	y	10	94.955	168.75	2.197	21.094	1.65	H1-1b
7	C11	PL1/2"X3-11/16"	0.161	0	72	0.068	0.003	y	62	79.812	82.98	0.866	6.375	1.003	H1-1b
8	C12	PL1/2"X3-11/16"	0.173	0	66	0.082	0.003	y	68	79.812	82.98	0.866	6.375	1.027	H1-1b
9	C13	PL1/2"X3-11/16"	0.164	0.227	7	0.1	0	y	13	80.819	82.98	0.866	6.375	1.656	H1-1b
10	C14	PL1/2"X3-11/16"	0.176	0.227	2	0.173	0.227	y	9	80.819	82.98	0.866	6.375	1.685	H1-1b
11	C15	PL1/2"X3-11/16"	0.178	0	46	0.117	0.276	y	2	79.812	82.98	0.866	6.375	1.041	H1-1b
12	C16	PL1/2"X3-11/16"	0.184	0	44	0.124	0.276	y	8	79.812	82.98	0.866	6.375	1.009	H1-1b
13	C17	PL1/2"X3-11/16"	0.177	0.227	44	0.138	0.227	y	2	80.819	82.98	0.866	6.375	1.667	H1-1b
14	C18	PL1/2"X3-11/16"	0.161	0.227	49	0.164	0.227	y	8	80.819	82.98	0.866	6.375	1.666	H1-1b
15	C21	PL1/2"X3-11/16"	0.169	0	68	0.069	0.003	y	69	79.812	82.98	0.866	6.375	1.007	H1-1b
16	C22	PL1/2"X3-11/16"	0.182	0	63	0.084	0.003	y	63	79.812	82.98	0.866	6.375	1.039	H1-1b
17	C23	PL1/2"X3-11/16"	0.206	0.227	2	0.097	0.227	y	8	80.819	82.98	0.866	6.375	1.67	H1-1b
18	C24	PL1/2"X3-11/16"	0.196	0.227	9	0.107	0.227	y	5	80.819	82.98	0.866	6.375	1.658	H1-1b
19	C25	PL1/2"X3-11/16"	0.174	0	43	0.081	0.276	y	10	79.812	82.98	0.866	6.375	1.043	H1-1b
20	C26	PL1/2"X3-11/16"	0.18	0	40	0.117	0.276	y	2	79.812	82.98	0.866	6.375	1.01	H1-1b
21	C27	PL1/2"X3-11/16"	0.173	0.227	39	0.098	0.227	y	10	80.819	82.98	0.866	6.375	1.667	H1-1b
22	C28	PL1/2"X3-11/16"	0.2	0.227	8	0.141	0.227	y	3	80.819	82.98	0.866	6.375	1.667	H1-1b
23	C31	PL1/2"X3-11/16"	0.159	0.227	40	0.103	0.227	y	12	80.819	82.98	0.866	6.375	1.667	H1-1b
24	C32	PL1/2"X3-11/16"	0.184	0	48	0.078	0.276	y	60	79.812	82.98	0.866	6.375	1.01	H1-1b
25	C33	PL1/2"X3-11/16"	0.174	0.227	48	0.113	0.227	y	7	80.819	82.98	0.866	6.375	1.667	H1-1b
26	C34	PL1/2"X3-11/16"	0.18	0	38	0.096	0.276	y	7	79.812	82.98	0.866	6.375	1.039	H1-1b
27	C35	PL1/2"X3-11/16"	0.109	0.227	65	0.169	0.227	y	13	80.819	82.98	0.866	6.375	1.664	H1-1b
28	C36	PL1/2"X3-11/16"	0.174	0	70	0.081	0.003	y	71	79.812	82.98	0.866	6.375	1.028	H1-1b
29	C37	PL1/2"X3-11/16"	0.139	0.227	70	0.092	0.227	y	65	80.819	82.98	0.866	6.375	1.666	H1-1b
30	C38	PL1/2"X3-11/16"	0.161	0	63	0.067	0.276	y	68	79.812	82.98	0.866	6.375	1.006	H1-1b
31	D11	SR 3/4"	0.087	4.673	63	0.007	0		3	1.116	19.88	0.249	0.249	1	H1-1b*
32	D12	SR 3/4"	0.116	4.673	46	0.012	4.673		13	1.116	19.88	0.249	0.249	1	H1-1b*
33	D21	SR 3/4"	0.09	4.673	72	0.006	0		12	1.116	19.88	0.249	0.249	1	H1-1b*
34	D22	SR 3/4"	0.114	4.673	42	0.012	4.673		8	1.116	19.88	0.249	0.249	1	H1-1b*
35	D31	SR 3/4"	0.087	4.673	68	0.01	0		8	1.116	19.88	0.249	0.249	1	H1-1b*
36	D32	SR 3/4"	0.117	4.673	38	0.007	4.673		5	1.116	19.88	0.249	0.249	1	H1-1b*
37	F11	HSS2.375X0.218	0.097	3.008	95	0.046	0.078		67	48.725	62.55	3.6	3.6	1	H1-1b
38	F12	HSS2.375X0.218	0.086	3.008	94	0.059	0.078		2	48.725	62.55	3.6	3.6	1	H1-1b
39	F13	HSS2.375X0.218	0.103	1.875	92	0.051	0.078		8	48.725	62.55	3.6	3.6	1	H1-1b
40	F14	HSS2.375X0.218	0.095	1.875	93	0.051	0.078		2	48.725	62.55	3.6	3.6	1	H1-1b
41	F21	HSS2.375X0.218	0.101	3.008	99	0.05	0.078		2	48.725	62.55	3.6	3.6	1	H1-1b
42	F22	HSS2.375X0.218	0.09	3.008	98	0.053	3.75		62	48.725	62.55	3.6	3.6	1	H1-1b
43	F23	HSS2.375X0.218	0.103	1.875	96	0.042	0.078		61	48.725	62.55	3.6	3.6	1	H1-1b
44	F24	HSS2.375X0.218	0.095	1.875	97	0.054	0.078		8	48.725	62.55	3.6	3.6	1	H1-1b
45	F31	HSS2.375X0.218	0.097	3.008	103	0.046	0.078		69	48.725	62.55	3.6	3.6	1	H1-1b
46	F32	HSS2.375X0.218	0.086	3.008	102	0.051	3.75		69	48.725	62.55	3.6	3.6	1	H1-1b
47	F33	HSS2.375X0.218	0.107	3.672	2	0.043	0.078		56	48.725	62.55	3.6	3.6	1	H1-1b
48	F34	HSS2.375X0.218	0.095	1.875	101	0.043	3.75		48	48.725	62.55	3.6	3.6	1	H1-1b
49	H11	HSS2.375X0.218	0.201	2.573	8	0.11	10.427		8	7.649	62.55	3.6	3.6	1	H1-1b
50	H12	HSS2.375X0.218	0.275	2.167	8	0.156	10.427		2	7.649	62.55	3.6	3.6	1	H1-1b
51	H21	HSS2.375X0.218	0.177	0.542	2	0.105	10.427		3	7.649	62.55	3.6	3.6	1	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
52	H22	HSS2.375X0.218	0.345	2.437	8	0.162	2.437		7	7.649	62.55	3.6	3.6	1	H1-1b
53	H31	HSS2.375X0.218	0.192	0.271	45	0.069	2.438		49	7.649	62.55	3.6	3.6	1	H1-1b
54	H32	HSS2.375X0.218	0.375	2.438	3	0.167	2.438		3	7.649	62.55	3.6	3.6	1	H1-1a
55	MP11	PIPE_2.0	0.125	6.458	87	0.016	6.458		87	9.837	32.13	1.872	1.872	1	H1-1b
56	MP12	PIPE_2.0	0.578	3.438	8	0.044	3.542		6	9.837	32.13	1.872	1.872	1	H1-1b
57	MP13	PIPE_2.0	0.421	3.438	8	0.071	3.542		9	9.837	32.13	1.872	1.872	1	H1-1b
58	MP14	PIPE_2.0	0.543	3.438	8	0.046	6.458		38	9.837	32.13	1.872	1.872	1	H1-1b
59	MP15	PIPE_2.0	0.119	4.5	94	0.04	1.5		10	20.867	32.13	1.872	1.872	1	H1-1b
60	MP21	PIPE_2.0	0.122	6.458	89	0.018	6.458		89	9.837	32.13	1.872	1.872	1	H1-1b
61	MP22	PIPE_2.0	0.577	3.438	2	0.063	3.542		2	9.837	32.13	1.872	1.872	1	H1-1b
62	MP23	PIPE_2.0	0.421	3.438	2	0.054	3.542		6	9.837	32.13	1.872	1.872	1	H1-1b
63	MP24	PIPE_2.0	0.543	3.438	2	0.042	3.542		2	9.837	32.13	1.872	1.872	1	H1-1b
64	MP25	PIPE_2.0	0.123	4.5	98	0.041	1.5		6	20.867	32.13	1.872	1.872	1	H1-1b
65	MP31	PIPE_2.0	0.127	6.458	91	0.016	6.458		91	9.837	32.13	1.872	1.872	1	H1-1b
66	MP32	PIPE_2.0	0.577	3.438	8	0.062	3.542		9	9.837	32.13	1.872	1.872	1	H1-1b
67	MP33	PIPE_2.0	0.421	3.438	2	0.089	3.542		2	9.837	32.13	1.872	1.872	1	H1-1b
68	MP34	PIPE_2.0	0.542	3.438	8	0.046	3.542		43	9.837	32.13	1.872	1.872	1	H1-1b
69	MP35	PIPE_2.0	0.119	4.5	102	0.044	1.5		2	20.867	32.13	1.872	1.872	1	H1-1b
70	P1	HSS4.500X0.237	0.159	1.021	7	0.146	1.021		6	106.372	133.2	15.113	15.113	1	H1-1b
71	P2	HSS4.500X0.237	0.198	1.021	2	0.196	1.021		2	106.372	133.2	15.113	15.113	1	H1-1b
72	P3	HSS4.500X0.237	0.152	1.021	10	0.199	1.021		9	106.372	133.2	15.113	15.113	1	H1-1b
73	T1	HSS2.375X0.154	0.092	6.248	4	0.029	6.248		7	23.361	45	2.674	2.674	1	H1-1b*
74	T2	HSS2.375X0.154	0.081	0	13	0.032	5.853		2	25.316	45	2.674	2.674	1	H1-1b*
75	T3	HSS2.375X0.154	0.129	0	8	0.029	6.054		41	24.318	45	2.674	2.674	1	H1-1b*
76	V11	SR 3/4"	0	3	103	0.004	0		45	2.707	19.88	0.249	0.249	1	H1-1a
77	V12	SR 3/4"	0.02	0	8	0.015	3		10	2.707	19.88	0.249	0.249	1	H1-1b*
78	V13	SR 3/4"	0	3	103	0.004	3		46	2.707	19.88	0.249	0.249	1	H1-1a
79	V14	SR 3/4"	0.007	0	7	0.014	0		10	2.707	19.88	0.249	0.249	1	H1-1b*
80	V21	SR 3/4"	0	3	103	0.003	0		41	2.707	19.88	0.249	0.249	1	H1-1a
81	V22	SR 3/4"	0.024	0	3	0.015	0		7	2.707	19.88	0.249	0.249	1	H1-1b*
82	V23	SR 3/4"	0	3	103	0.003	3		43	2.707	19.88	0.249	0.249	1	H1-1a
83	V24	SR 3/4"	0.016	0	2	0.015	3		7	2.707	19.88	0.249	0.249	1	H1-1b*
84	V31	SR 3/4"	0	3	103	0.004	0		38	2.707	19.88	0.249	0.249	1	H1-1a
85	V32	SR 3/4"	0.007	0	11	0.021	0		2	2.707	19.88	0.249	0.249	1	H1-1b*
86	V33	SR 3/4"	0	3	103	0.004	3		38	2.707	19.88	0.249	0.249	1	H1-1a
87	V34	SR 3/4"	0.003	0	10	0.021	0		2	2.707	19.88	0.249	0.249	1	H1-1b*

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	R11	max	0.955	6	1.034	23	1.713	14	0.872	13	1.114	5	0.942	12
2		min	-1.224	48	0.49	5	-0.303	8	-0.531	7	-1.134	11	-0.897	6
3	R12	max	2.668	7	1.088	20	0.842	12	1.182	6	1.346	5	2.129	7
4		min	-2.628	13	0.431	2	-2.241	6	-0.882	12	-1.339	11	-2.078	13
5	R21	max	0.071	5	1.067	20	1.124	2	1.258	2	1.408	13	0.485	12
6		min	-1.425	71	0.468	2	-1.995	8	-1.51	8	-1.431	7	-0.254	6
7	R22	max	1.394	66	1.132	16	4.356	2	2.733	8	1.835	13	0.426	68
8		min	0.329	48	0.47	10	-3.466	8	-2.973	2	-1.823	7	-0.154	38
9	R31	max	1.769	40	1.041	15	0.743	2	0.696	3	1.592	9	0.694	10
10		min	-0.369	10	0.444	9	-1.308	8	-0.787	9	-1.634	3	-1.031	4
11	R32	max	2.162	3	1.091	24	1.456	4	0.911	10	1.952	9	1.797	3
12		min	-3.443	9	0.478	6	-0.905	10	-0.971	4	-1.926	3	-2.099	9
13	Totals:	max	5.915	5	6.31	25	8.815	2						
14		min	-5.915	11	3.543	7	-8.815	8						

APPENDIX D

ADDITIONAL CALCULATIONS

PROJECT	**136378.016.01.0001 - TOWN OF PLAINFIELD / SUSA, CT**				
SUBJECT	**(3) SECTOR FRAMES - Mount Analysis**				
DATE	**04/13/23**	PAGE	1	OF	1

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

KH

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	4.356	k
Vertical Shear	:	1.132	k
Horizontal Shear	:	1.394	k
Torsion	:	0.426	k.ft
Moment from Horizontal Forces	:	1.835	k.ft
Moment from Vertical Forces	:	2.973	k.ft

Bolt Parameters

Bolt Grade	:	A307	
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	in
Bolt edge distance, plate width	:	1	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	1.80	k
Force from Horz. Moment	:	3.32	k
Force from Vert. Moment	:	5.39	k
Shear Load / Bolt	:	0.45	k
Tension Load / Bolt	:	1.09	k
Resultant from Moments / Bolt	:	3.16	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	45.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	10.36	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	**41.0%**		**OKAY**
Nominal Shear Stress, F_{nv}	:	24.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	5.53	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	**27.8%**		**OKAY**
Unity Check, Combined	:	**68.9%**		**OKAY**
Available Bearing Strength, ΦR_n	:	18.35	k/bolt	
Unity Check, Bolt Bearing	:	**2.4%**		**OKAY**

Date: **April 18, 2023**

MTS Engineering, P.L.L.C.
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Subject:	**Structural Analysis Report**	
Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Site Number:	CTL05461
	Site Name:	Plainfield N Central
	FA Number:	10092030
Crown Castle Designation:	**BU Number:**	876401
	Site Name:	Town Of Plainfield/SSUSA
	JDE Job Number:	739281
	Work Order Number:	2219986
	Order Number:	643225 Rev. 0
Engineering Firm Designation:	**Project Number:**	136378.017.01.0001
Site Data:	**47-51 Unity Street, Plainfield, Windham County, CT** **Latitude *41° 42' 54.49"*, Longitude *-71° 53' 46.73"*** **160 Foot - Monopole Tower**	

We are pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

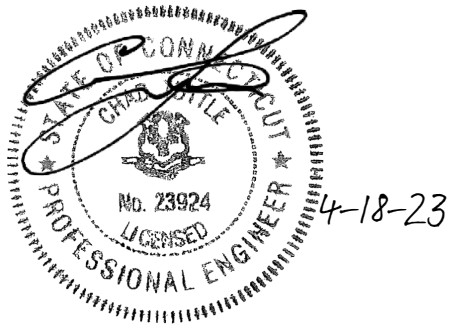
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity - 87.7%**

This analysis utilizes an ultimate 3-second gust wind speed of 123 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Erika Ruiz

Respectfully submitted by: MTS Engineering, P.L.L.C.
COA: BER:2386985; Expires: 09/22/2023



4-18-23

Chad E. Tuttle, P.E.

tnxTower Report - version 8.1.1.0

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 160 ft. Monopole tower designed by EEI in May of 2003.

The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	123 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
149.0	150.0	3	CCI Antennas	HPA-65R-BUU-H8	6 2 2 2	1-5/8 7/8 13/16 3/8
		3	CCI Antennas	OPA65R-BU8DA-K		
		3	CCI Antennas	TPA65R-BU8DA-K		
		3	Ericsson	RADIO 4890HP B2/B25 B66		
		3	Ericsson	RRUS 4449 B5/B12		
		3	Ericsson	RRUS 4478 B14_CCIV2		
		1	Raycap	DC6-48-60-18-8C-EV		
		1	Raycap	DC6-48-60-18-8F		
	149.0	12	--	10’ x 2STD Mount Pipes		
		3	--	6’ x 2STD Mount Pipes		
		3	Sabre Industries	C10857802 Sector Frames		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
159.0	161.0	3	Alcatel Lucent	TD-RRH8x20-25	4	1-1/4
	159.0	3	RFS Celwave	APXVSPP18-C-A20		
		3	RFS Celwave	APXVTM14-ALU-I20		
		1	--	Platform Mount [LP 714-1]		
157.0	159.0	3	Alcatel Lucent	800MHz 2X50W RRH W/FILTER	--	--
		3	Alcatel Lucent	PCS 1900MHz 4x45W-65MHz		
	157.0	1	--	Pipe Mount [PM 601-3]		
		1	--	Side Arm Mount [SO 102-3]		
137.0	139.0	3	Ericsson	AIR6449 B41_T-MOBILE	3	1-5/8
	137.0	3	Ericsson	RADIO 4415 B66A_CCIV3		
		3	Ericsson	RADIO 4424 B25_TMO		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	Ericsson	RADIO 4449 B71 B85A_ T-MOBILE		
		3	RFS Celwave	APX16DWV-16DWV-S-E-A20		
		3	RFS Celwave	APXVAALL24_43-U-NA20_TMO		
		1	--	Platform Mount [LP 303-1_KCKR-HR-1]		
125.0	127.0	3	Commscope	CBC78T-DS-43-2X	2	1-5/8
		6	Commscope	JAHH-65B-R3B		
		1	Raycap	RVZDC-6627-PF-48		
		3	Samsung Telecom.	MT6407-77A		
		3	Samsung Telecom.	RF4439D-25A		
		3	Samsung Telecom.	RF4440D-13A		
	125.0	3	Commscope	BSAMNT-SBS-2-2 Brackets		
		1	--	Platform Mount [LP 303-1]		
109.0	114.0	1	Decibel	DB589	1	7/8
	109.0	1	--	Side Arm Mount [SO 201-1]		
		1	--	Side Arm Mount [SO 701-1]		
83.0	83.0	3	Fujitsu	TA08025-B604	1	1-3/8
		3	Fujitsu	TA08025-B605		
		3	JMA Wireless	MX08FRO665-21		
		1	Raycap	RDIDC-9181-PF-48		
		1	Commscope	MC-PK8-DSH Platform		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Tower Manufacturer Drawing	1615382	CCI Sites
Tower Modification Drawing	2266356	CCI Sites
Tower Modification Drawing	2819430	CCI Sites
Tower Modification Drawing	3667143	CCI Sites
Post Modification Inspection	3986355	CCI Sites
Tower Modification Drawing	5422409	CCI Sites
Post Modification Inspection	5666814	CCI Sites
Foundation Drawing	1615418	CCI Sites
Geotech Report	1610729	CCI Sites
Crown CAD Package	Date: 04/10/2023	CCI Sites

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are presented in Appendix C.

3.2) Assumptions

1) The tower and structures were maintained in accordance with the - TIA-222 standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. We should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	160 - 155	Pole	TP17.62x16.5x0.1875	1	-3.462	--	7.1	Pass
L2	155 - 150	Pole	TP18.741x17.62x0.1875	2	-3.686	--	13.9	Pass
L3	150 - 145	Pole	TP19.861x18.741x0.1875	3	-7.801	--	29.3	Pass
L4	145 - 140	Pole	TP20.981x19.861x0.1875	4	-8.152	--	42.0	Pass
L5	140 - 135	Pole	TP22.102x20.981x0.1875	5	-12.453	--	55.6	Pass
L6	135 - 130	Pole	TP23.222x22.102x0.1875	6	-12.916	--	68.8	Pass
L7	130 - 125.75	Pole	TP24.174x23.222x0.1875	7	-13.336	--	78.6	Pass
L8	125.75 - 125.5	Pole	TP24.23x24.174x0.1875	8	-13.375	--	79.2	Pass
L9	125.5 - 122.87	Pole	TP25.66x24.23x0.1875	9	-17.163	--	87.7	Pass
L10	122.87 - 117.87	Pole	TP25.544x24.445x0.25	10	-17.999	--	71.1	Pass
L11	117.87 - 117.75	Pole	TP25.57x25.544x0.25	11	-18.035	--	71.3	Pass
L12	117.75 - 117.5	Pole	TP25.625x25.57x0.25	12	-18.067	--	71.7	Pass
L13	117.5 - 112.5	Pole + Reinf.	TP26.725x25.625x0.475	13	-18.998	--	74.2	Pass
L14	112.5 - 107.5	Pole + Reinf.	TP27.824x26.725x0.4688	14	-20.153	--	81.1	Pass
L15	107.5 - 103	Pole + Reinf.	TP28.814x27.824x0.4625	15	-21.042	--	86.6	Pass
L16	103 - 102.75	Pole + Reinf.	TP28.869x28.814x0.55	16	-21.114	--	78.1	Pass
L17	102.75 - 100.21	Pole + Reinf.	TP29.427x28.869x0.5375	17	-21.732	--	80.8	Pass
L18	100.21 - 100.16	Pole + Reinf.	TP30.39x29.427x0.6875	18	-21.757	--	60.9	Pass
L19	100.16 - 94.83	Pole + Reinf.	TP30.119x28.937x0.7375	19	-24.298	--	60.9	Pass
L20	94.83 - 93.5	Pole + Reinf.	TP30.413x30.119x0.7375	20	-24.689	--	61.8	Pass
L21	93.5 - 93.25	Pole + Reinf.	TP30.469x30.413x0.9125	21	-24.785	--	50.9	Pass
L22	93.25 - 88.25	Pole + Reinf.	TP31.576x30.469x0.8875	22	-26.525	--	53.6	Pass
L23	88.25 - 87.25	Pole + Reinf.	TP31.798x31.576x0.8875	23	-26.880	--	54.2	Pass
L24	87.25 - 87	Pole + Reinf.	TP31.853x31.798x0.9375	24	-26.978	--	49.7	Pass
L25	87 - 86.5	Pole + Reinf.	TP31.964x31.853x0.925	25	-27.161	--	50.0	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L26	86.5 - 86.25	Pole + Reinf.	TP32.02x31.964x0.7625	26	-27.242	--	57.9	Pass
L27	86.25 - 81.25	Pole + Reinf.	TP33.127x32.02x0.7375	27	-31.942	--	60.6	Pass
L28	81.25 - 76.25	Pole + Reinf.	TP34.235x33.127x0.725	28	-33.583	--	63.3	Pass
L29	76.25 - 75.42	Pole + Reinf.	TP34.42x34.235x0.725	29	-33.862	--	63.7	Pass
L30	75.42 - 75.17	Pole + Reinf.	TP34.475x34.42x0.8125	30	-33.959	--	56.7	Pass
L31	75.17 - 70.17	Pole + Reinf.	TP35.583x34.475x0.8	31	-35.791	--	59.0	Pass
L32	70.17 - 65.17	Pole + Reinf.	TP36.69x35.583x0.7875	32	-37.654	--	61.1	Pass
L33	65.17 - 60.17	Pole + Reinf.	TP37.798x36.69x0.7625	33	-39.544	--	63.0	Pass
L34	60.17 - 57	Pole + Reinf.	TP38.5x37.798x0.75	34	-40.756	--	64.2	Pass
L35	57 - 56.75	Pole + Reinf.	TP38.555x38.5x0.75	35	-40.860	--	64.3	Pass
L36	56.75 - 53	Pole + Reinf.	TP39.386x38.555x0.7375	36	-42.300	--	65.6	Pass
L37	53 - 52.79	Pole + Reinf.	TP40.67x39.386x0.7375	37	-42.398	--	66.0	Pass
L38	52.79 - 46.2	Pole + Reinf.	TP40.266x38.808x0.7625	38	-47.222	--	65.6	Pass
L39	46.2 - 41.2	Pole + Reinf.	TP41.374x40.266x0.75	39	-49.355	--	66.8	Pass
L40	41.2 - 39.33	Pole + Reinf.	TP41.788x41.374x0.75	40	-50.155	--	67.2	Pass
L41	39.33 - 39.08	Pole + Reinf.	TP41.843x41.788x0.825	41	-50.287	--	61.4	Pass
L42	39.08 - 37.75	Pole + Reinf.	TP42.139x41.843x0.825	42	-50.902	--	61.7	Pass
L43	37.75 - 37.5	Pole + Reinf.	TP42.194x42.139x0.75	43	-51.020	--	67.7	Pass
L44	37.5 - 32.5	Pole + Reinf.	TP43.301x42.194x0.725	44	-53.196	--	68.7	Pass
L45	32.5 - 27.5	Pole + Reinf.	TP44.409x43.301x0.725	45	-55.407	--	69.7	Pass
L46	27.5 - 27.25	Pole + Reinf.	TP44.464x44.409x0.725	46	-55.525	--	69.7	Pass
L47	27.25 - 27	Pole + Reinf.	TP44.52x44.464x0.725	47	-55.637	--	69.8	Pass
L48	27 - 22	Pole + Reinf.	TP45.627x44.52x0.7125	48	-56.539	--	70.6	Pass
L49	22 - 21.25	Pole + Reinf.	TP45.793x45.627x0.7125	49	-57.888	--	70.8	Pass
L50	21.25 - 21	Pole + Reinf.	TP45.849x45.793x0.725	50	-58.223	--	66.6	Pass
L51	21 - 17	Pole + Reinf.	TP46.735x45.849x0.7125	51	-58.354	--	67.2	Pass
L52	17 - 16.75	Pole + Reinf.	TP46.79x46.735x0.7	52	-60.338	--	72.7	Pass
L53	16.75 - 16.25	Pole + Reinf.	TP46.901x46.79x0.7	53	-60.459	--	72.8	Pass
L54	16.25 - 16	Pole + Reinf.	TP46.956x46.901x0.775	54	-60.696	--	69.5	Pass
L55	16 - 11	Pole + Reinf.	TP48.064x46.956x0.75	55	-60.831	--	70.2	Pass
L56	11 - 6	Pole + Reinf.	TP49.171x48.064x0.75	56	-63.407	--	70.9	Pass
L57	6 - 1	Pole + Reinf.	TP50.279x49.171x0.7375	57	-66.010	--	71.5	Pass
L58	1 - 0	Pole + Reinf.	TP50.5x50.279x0.525	58	-68.644	--	77.8	Pass
							Summary	
						Pole	87.7	Pass
						Reinforcement	86.6	Pass
						Rating =	87.7	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Anchor Rod Brackets	Base	38.3	Pass
1,2	Anchor Rods	Base	51.3	Pass
1,2	Base Plate	Base	59.8	Pass
1,2	Base Foundation (Structure)	Base	70.9	Pass
1,2	Base Foundation (Soil Interaction)	Base	28.8	Pass

Structure Rating (max from all components) =	87.7%

Notes:
1) See additional documentation in “Appendix C - Additional Calculations” for calculations supporting the % capacity consumed.
2) Rating per TIA-222-H Section 15.5.

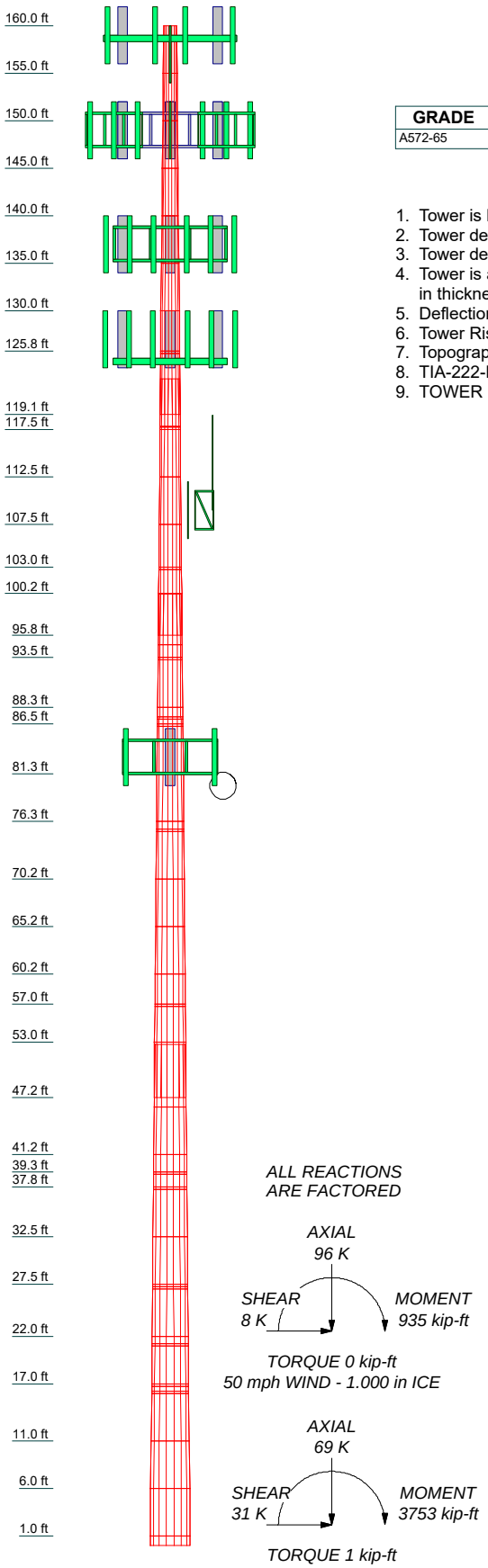
4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.000	18	0.188		16.500	17.620		0.2
2	5.000	18	0.188		17.620	18.741		0.2
3	5.000	18	0.188		18.741	19.861		0.2
4	5.000	18	0.188		19.861	20.981		0.2
5	5.000	18	0.188		20.981	22.102		0.2
6	5.000	18	0.188		22.102	23.222		0.2
7	5.000	18	0.188		23.222	24.343		0.2
8	5.000	18	0.188	3.750	24.343	25.463		0.3
9	5.000	18	0.188		25.463	26.584		0.3
10	5.000	18	0.188		26.584	27.704		0.3
11	5.000	18	0.188		27.704	28.825		0.3
12	5.000	18	0.188		28.825	29.945		0.3
13	5.000	18	0.188		29.945	31.066		0.3
14	5.000	18	0.188		31.066	32.186		0.3
15	5.000	18	0.188		32.186	33.307		0.3
16	5.000	18	0.188		33.307	34.427		0.3
17	5.000	18	0.188		34.427	35.548		0.3
18	5.000	18	0.188		35.548	36.668		0.3
19	5.000	18	0.188		36.668	37.789		0.3
20	5.000	18	0.188		37.789	38.909		0.3
21	5.000	18	0.188		38.909	40.030		0.3
22	5.000	18	0.188		40.030	41.150		0.3
23	5.000	18	0.188		41.150	42.271		0.3
24	5.000	18	0.188		42.271	43.391		0.3
25	5.000	18	0.188		43.391	44.512		0.3
26	5.000	18	0.188		44.512	45.632		0.3
27	5.000	18	0.188		45.632	46.753		0.3
28	5.000	18	0.188		46.753	47.873		0.3
29	5.000	18	0.188		47.873	48.994		0.3
30	5.000	18	0.188		48.994	50.114		0.3
31	5.000	18	0.188		50.114	51.235		0.3
32	5.000	18	0.188		51.235	52.355		0.3
33	5.000	18	0.188		52.355	53.476		0.3
34	5.000	18	0.188		53.476	54.596		0.3
35	3.750	18	0.188		54.596	55.717		0.2
36	3.750	18	0.188		55.717	56.837		0.2
37	6.583	18	0.188		56.837	57.958		0.3
38	5.000	18	0.188		57.958	59.078		0.3
39	5.000	18	0.188		59.078	60.199		0.3
40	5.000	18	0.188		60.199	61.319		0.3
41	5.000	18	0.188		61.319	62.440		0.3
42	5.000	18	0.188		62.440	63.560		0.3
43	5.000	18	0.188		63.560	64.681		0.3
44	5.000	18	0.188		64.681	65.801		0.3
45	5.000	18	0.188		65.801	66.922		0.3
46	5.000	18	0.188		66.922	68.042		0.3
47	5.000	18	0.188		68.042	69.163		0.3
48	5.000	18	0.188		69.163	70.283		0.3
49	5.000	18	0.188		70.283	71.404		0.3
50	5.000	18	0.188		71.404	72.524		0.3
51	5.000	18	0.188		72.524	73.645		0.3
52	5.000	18	0.188		73.645	74.765		0.3
53	5.000	18	0.188		74.765	75.886		0.3
54	5.000	18	0.188		75.886	77.006		0.3
55	5.000	18	0.188		77.006	78.127		0.3
56	5.000	18	0.188		78.127	79.247		0.3
57	5.000	18	0.188		79.247	80.368		0.3
58	1.000	18	0.188		80.368	80.488		0.1
							A572-65	



ALL REACTIONS ARE FACTORED

AXIAL 96 K

SHEAR 8 K *MOMENT 935 kip-ft*

TORQUE 0 kip-ft
50 mph WIND - 1.000 in ICE

AXIAL 69 K

SHEAR 31 K *MOMENT 3753 kip-ft*

TORQUE 1 kip-ft
REACTIONS - 123 mph WIND

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Windham County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 123 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 87.7%

B+T GRP

MTS Engineering, P.L.L.C.
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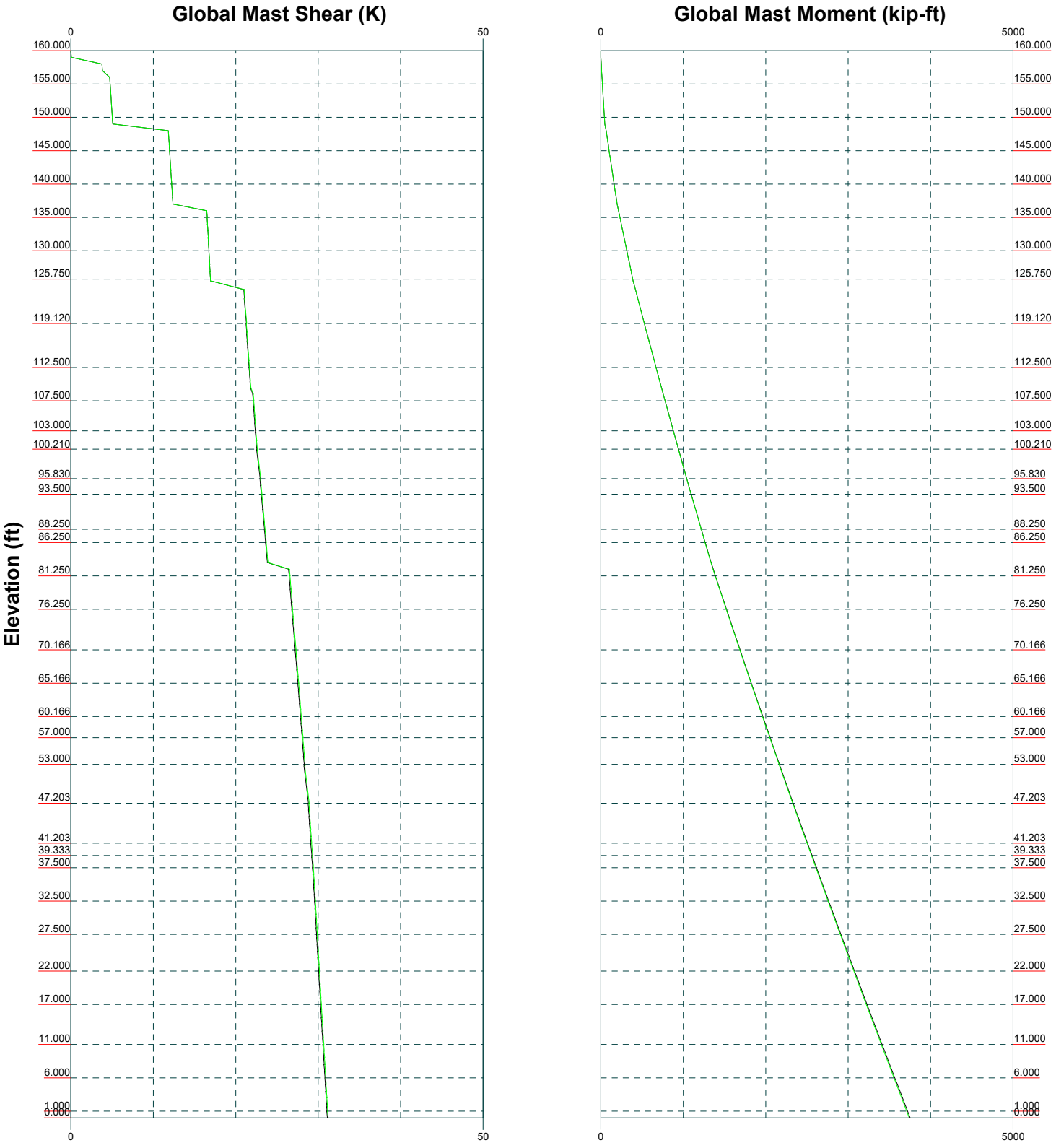
FAX: (918) 295-0265

Job: *136378.017.01.0001 - TOWN OF PLAINFIELD/SSUSA, CT (BU# 87640*		
Project:		
Client: Crown Castle	Drawn by: V. RAO	App'd:
Code: TIA-222-H	Date: 04/18/23	Scale: NTS
Path:		Dwg No. E-1

TIA-222-H - 123 mph/50 mph 1.000 in Ice Exposure B

Maximum Values

Vx Vz Mx Mz



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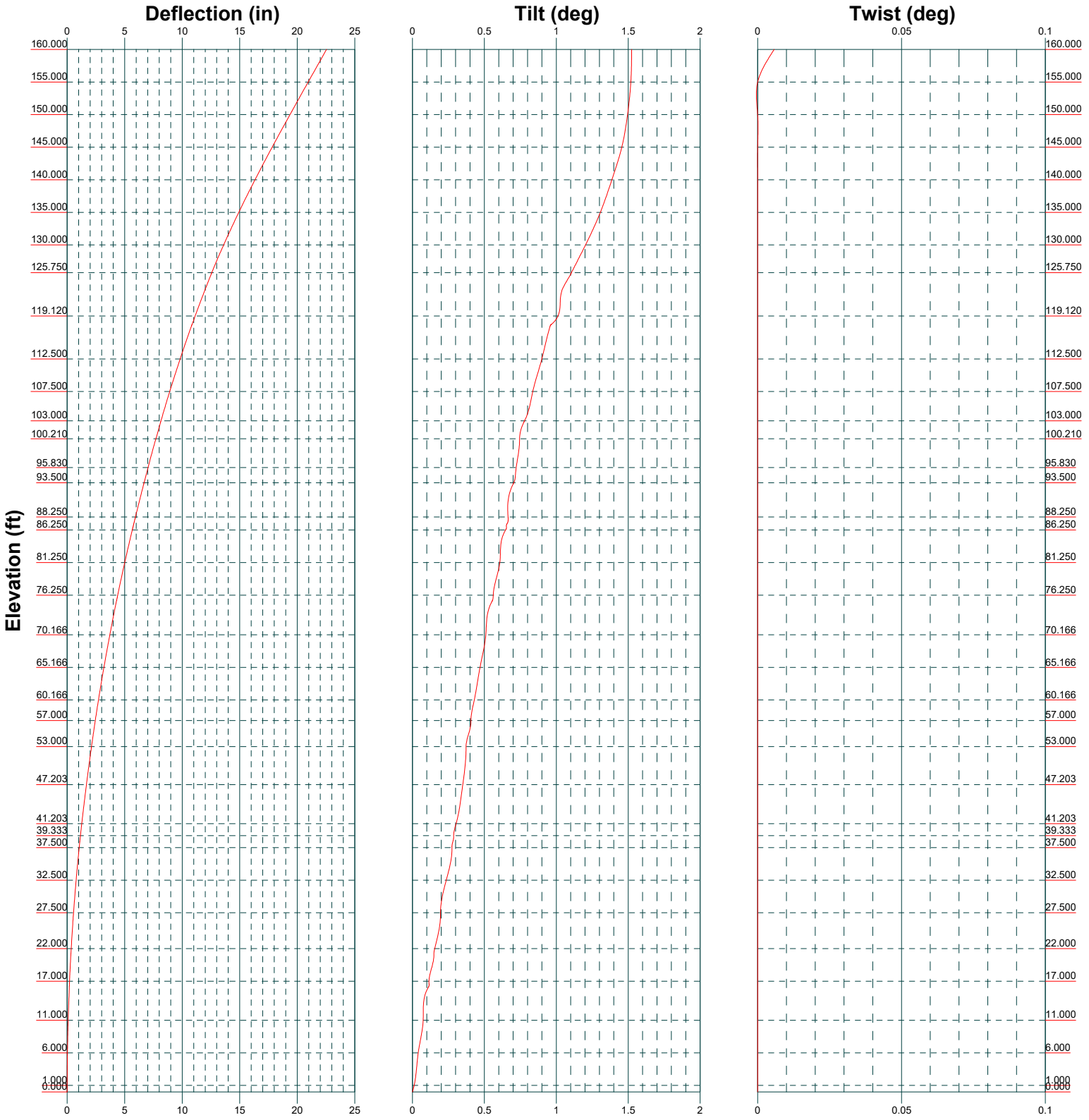
Project:		
Client: Crown Castle	Drawn by: V. RAO	App'd:
Code: TIA-222-H	Date: 04/18/23	Scale: NTS
Path:		Dwg No. E-4

TIA-222-H - Service - 60 mph

Maximum Values



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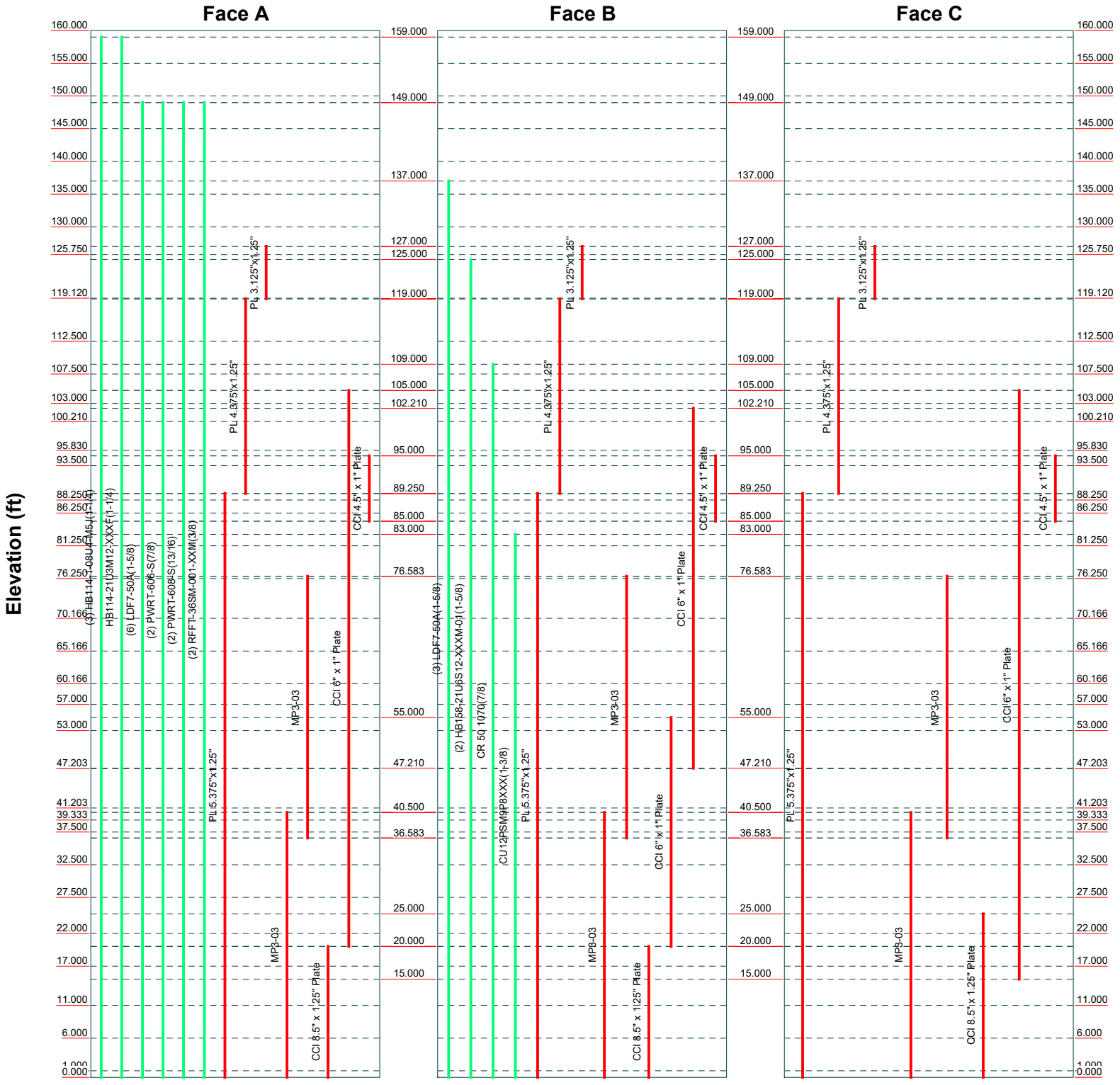
Job: *136378.017.01.0001 - TOWN OF PLAINFIELD/SSUSA, CT (BU# 87640*			
Project:			
Client: Crown Castle	Drawn by: V. RAO	App'd:	
Code: TIA-222-H	Date: 04/18/23	Scale: NTS	
Path:		Dwg No. E-5	

Feed Line Distribution Chart
0' - 160'

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



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Job: ***136378.017.01.0001 - TOWN OF PLAINFIELD/SSUSA, CT (BU# 87640***		
Project:		
Client: Crown Castle	Drawn by: V. RAO	App'd:
Code: TIA-222-H	Date: 04/18/23	Scale: NTS
Path:		Dwg No. E-7

Tower Input Data

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

Tower is located in Windham County, Connecticut.
Tower base elevation above sea level: 230.000 ft.
Basic wind speed of 123 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.000 ft.
Nominal ice thickness of 1.000 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 60 mph.
TIA-222-H Annex S.
TOWER RATING: 87.7%.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
Maximum demand-capacity ratio is: 1.05.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	160.000-155.000	5.000	0.000	18	16.500	17.620	0.188	0.750	A572-65 (65 ksi)
L2	155.000-150.000	5.000	0.000	18	17.620	18.741	0.188	0.750	A572-65 (65 ksi)
L3	150.000-145.000	5.000	0.000	18	18.741	19.861	0.188	0.750	A572-65 (65 ksi)
L4	145.000-140.000	5.000	0.000	18	19.861	20.981	0.188	0.750	A572-65 (65 ksi)
L5	140.000-135.000	5.000	0.000	18	20.981	22.102	0.188	0.750	A572-65 (65 ksi)
L6	135.000-130.000	5.000	0.000	18	22.102	23.222	0.188	0.750	A572-65 (65 ksi)
L7	130.000-125.750	4.250	0.000	18	23.222	24.174	0.188	0.750	A572-65 (65 ksi)
L8	125.750-125.500	0.250	0.000	18	24.174	24.230	0.188	0.750	A572-65 (65 ksi)
L9	125.500-119.120	6.380	3.750	18	24.230	25.660	0.188	0.750	A572-65 (65 ksi)
L10	119.120-117.870	5.000	0.000	18	24.445	25.544	0.250	1.000	A572-65 (65 ksi)
L11	117.870-117.750	0.120	0.000	18	25.544	25.570	0.250	1.000	A572-65 (65 ksi)
L12	117.750-117.500	0.250	0.000	18	25.570	25.625	0.250	1.000	A572-65 (65 ksi)
L13	117.500-112.500	5.000	0.000	18	25.625	26.725	0.475	1.900	A572-65 (65 ksi)
L14	112.500-107.500	5.000	0.000	18	26.725	27.824	0.469	1.875	A572-65 (65 ksi)
L15	107.500-103.000	4.500	0.000	18	27.824	28.814	0.463	1.850	A572-65 (65 ksi)
L16	103.000-102.750	0.250	0.000	18	28.814	28.869	0.550	2.200	A572-65 (65 ksi)
L17	102.750-100.210	2.540	0.000	18	28.869	29.427	0.537	2.150	A572-65 (65 ksi)
L18	100.210-95.830	4.380	4.333	18	29.427	30.390	0.688	2.750	A572-65 (65 ksi)
L19	95.830-94.830	5.333	0.000	18	28.937	30.119	0.738	2.950	A572-65 (65 ksi)
L20	94.830-93.500	1.330	0.000	18	30.119	30.413	0.738	2.950	A572-65 (65 ksi)
L21	93.500-93.250	0.250	0.000	18	30.413	30.469	0.912	3.650	A572-65 (65 ksi)
L22	93.250-88.250	5.000	0.000	18	30.469	31.576	0.887	3.550	A572-65 (65 ksi)
L23	88.250-87.250	1.000	0.000	18	31.576	31.798	0.887	3.550	A572-65 (65 ksi)
L24	87.250-87.000	0.250	0.000	18	31.798	31.853	0.938	3.750	A572-65 (65 ksi)
L25	87.000-86.500	0.500	0.000	18	31.853	31.964	0.925	3.700	A572-65 (65 ksi)
L26	86.500-86.250	0.250	0.000	18	31.964	32.020	0.762	3.050	A572-65 (65 ksi)
L27	86.250-81.250	5.000	0.000	18	32.020	33.127	0.738	2.950	A572-65 (65 ksi)
L28	81.250-76.250	5.000	0.000	18	33.127	34.235	0.725	2.900	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L29	76.250-75.416	0.834	0.000	18	34.235	34.420	0.725	2.900	A572-65 (65 ksi)
L30	75.416-75.166	0.250	0.000	18	34.420	34.475	0.813	3.250	A572-65 (65 ksi)
L31	75.166-70.166	5.000	0.000	18	34.475	35.583	0.800	3.200	A572-65 (65 ksi)
L32	70.166-65.166	5.000	0.000	18	35.583	36.690	0.787	3.150	A572-65 (65 ksi)
L33	65.166-60.166	5.000	0.000	18	36.690	37.798	0.762	3.050	A572-65 (65 ksi)
L34	60.166-57.000	3.166	0.000	18	37.798	38.500	0.750	3.000	A572-65 (65 ksi)
L35	57.000-56.750	0.250	0.000	18	38.500	38.555	0.750	3.000	A572-65 (65 ksi)
L36	56.750-53.000	3.750	0.000	18	38.555	39.386	0.738	2.950	A572-65 (65 ksi)
L37	53.000-47.203	5.797	5.583	18	39.386	40.670	0.738	2.950	A572-65 (65 ksi)
L38	47.203-46.203	6.583	0.000	18	38.808	40.266	0.762	3.050	A572-65 (65 ksi)
L39	46.203-41.203	5.000	0.000	18	40.266	41.374	0.750	3.000	A572-65 (65 ksi)
L40	41.203-39.333	1.870	0.000	18	41.374	41.788	0.750	3.000	A572-65 (65 ksi)
L41	39.333-39.083	0.250	0.000	18	41.788	41.843	0.825	3.300	A572-65 (65 ksi)
L42	39.083-37.750	1.333	0.000	18	41.843	42.139	0.825	3.300	A572-65 (65 ksi)
L43	37.750-37.500	0.250	0.000	18	42.139	42.194	0.750	3.000	A572-65 (65 ksi)
L44	37.500-32.500	5.000	0.000	18	42.194	43.301	0.725	2.900	A572-65 (65 ksi)
L45	32.500-27.500	5.000	0.000	18	43.301	44.409	0.725	2.900	A572-65 (65 ksi)
L46	27.500-27.250	0.250	0.000	18	44.409	44.464	0.725	2.900	A572-65 (65 ksi)
L47	27.250-27.000	0.250	0.000	18	44.464	44.520	0.725	2.900	A572-65 (65 ksi)
L48	27.000-22.000	5.000	0.000	18	44.520	45.627	0.713	2.850	A572-65 (65 ksi)
L49	22.000-21.250	0.750	0.000	18	45.627	45.793	0.713	2.850	A572-65 (65 ksi)
L50	21.250-21.000	0.250	0.000	18	45.793	45.849	0.725	2.900	A572-65 (65 ksi)
L51	21.000-17.000	4.000	0.000	18	45.849	46.735	0.713	2.850	A572-65 (65 ksi)
L52	17.000-16.750	0.250	0.000	18	46.735	46.790	0.700	2.800	A572-65 (65 ksi)
L53	16.750-16.250	0.500	0.000	18	46.790	46.901	0.700	2.800	A572-65 (65 ksi)
L54	16.250-16.000	0.250	0.000	18	46.901	46.956	0.775	3.100	A572-65 (65 ksi)
L55	16.000-11.000	5.000	0.000	18	46.956	48.064	0.750	3.000	A572-65 (65 ksi)
L56	11.000-6.000	5.000	0.000	18	48.064	49.171	0.750	3.000	A572-65 (65 ksi)
L57	6.000-1.000	5.000	0.000	18	49.171	50.279	0.738	2.950	A572-65 (65 ksi)
L58	1.000-0.000	1.000		18	50.279	50.500	0.525	2.100	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	16.726	9.708	326.368	5.791	8.382	38.937	653.165	4.855	2.574	13.728
	17.863	10.375	398.337	6.189	8.951	44.501	797.199	5.188	2.771	14.78
L2	17.863	10.375	398.337	6.189	8.951	44.501	797.199	5.188	2.771	14.78
	19.001	11.041	480.178	6.586	9.520	50.437	960.988	5.522	2.968	15.831
L3	19.001	11.041	480.178	6.586	9.520	50.437	960.988	5.522	2.968	15.831
	20.139	11.708	572.525	6.984	10.089	56.745	1145.803	5.855	3.166	16.883
L4	20.139	11.708	572.525	6.984	10.089	56.745	1145.803	5.855	3.166	16.883
	21.276	12.375	676.011	7.382	10.659	63.424	1352.912	6.189	3.363	17.935
L5	21.276	12.375	676.011	7.382	10.659	63.424	1352.912	6.189	3.363	17.935
	22.414	13.042	791.273	7.780	11.228	70.475	1583.586	6.522	3.560	18.986
L6	22.414	13.042	791.273	7.780	11.228	70.475	1583.586	6.522	3.560	18.986
	23.551	13.708	918.943	8.177	11.797	77.897	1839.094	6.856	3.757	20.038
L7	23.551	13.708	918.943	8.177	11.797	77.897	1839.094	6.856	3.757	20.038
	24.518	14.275	1037.693	8.515	12.281	84.499	2076.751	7.139	3.925	20.932
L8	24.518	14.275	1037.693	8.515	12.281	84.499	2076.751	7.139	3.925	20.932
	24.575	14.309	1044.980	8.535	12.309	84.895	2091.335	7.156	3.935	20.984
L9	24.575	14.309	1044.980	8.535	12.309	84.895	2091.335	7.156	3.935	20.984
	26.027	15.159	1242.683	9.043	13.035	95.332	2487.001	7.581	4.186	22.326
L10	25.620	19.199	1419.865	8.589	12.418	114.340	2841.598	9.601	3.862	15.449
	25.900	20.071	1622.337	8.979	12.976	125.022	3246.809	10.037	4.056	16.223
L11	25.900	20.071	1622.337	8.979	12.976	125.022	3246.809	10.037	4.056	16.223
	25.926	20.092	1627.419	8.989	12.990	125.284	3256.980	10.048	4.060	16.242
L12	25.926	20.092	1627.419	8.989	12.990	125.284	3256.980	10.048	4.060	16.242
	25.982	20.135	1638.041	9.008	13.018	125.832	3278.238	10.070	4.070	16.28
L13	25.947	37.918	3030.222	8.928	13.018	232.777	6064.431	18.963	3.674	7.735
	27.064	39.575	3445.204	9.319	13.576	253.768	6894.942	19.792	3.868	8.142
L14	27.065	39.064	3402.302	9.321	13.576	250.608	6809.080	19.536	3.879	8.274
	28.181	40.700	3847.811	9.711	14.135	272.225	7700.685	20.354	4.072	8.687
L15	28.182	40.166	3799.110	9.713	14.135	268.780	7603.218	20.087	4.083	8.828
	29.187	41.619	4226.326	10.065	14.637	288.737	8458.213	20.813	4.257	9.205
L16	29.173	49.340	4979.510	10.034	14.637	340.194	9965.573	24.675	4.103	7.46
	29.229	49.436	5008.619	10.053	14.665	341.531	10023.829	24.723	4.113	7.478
L17	29.231	48.333	4901.272	10.058	14.665	334.211	9808.993	24.171	4.135	7.693
	29.798	49.286	5196.868	10.256	14.949	347.642	10400.575	24.648	4.233	7.876
L18	29.775	62.713	6544.153	10.203	14.949	437.768	13096.918	31.363	3.969	5.773
	30.753	64.815	7224.305	10.544	15.438	467.952	14458.116	32.413	4.139	6.02
L19	30.245	66.011	6632.004	10.011	14.700	451.152	13272.735	33.012	3.795	5.146
	30.470	68.776	7500.984	10.430	15.300	490.250	15011.837	34.395	4.003	5.428
L20	30.470	68.776	7500.984	10.430	15.300	490.250	15011.837	34.395	4.003	5.428
	30.769	69.466	7728.922	10.535	15.450	500.253	15468.014	34.740	4.055	5.498
L21	30.742	85.443	9394.721	10.473	15.450	608.072	18801.804	42.730	3.747	4.106
	30.798	85.603	9447.733	10.492	15.478	610.392	18907.898	42.810	3.757	4.117
L22	30.802	83.328	9212.228	10.501	15.478	595.176	18436.578	41.672	3.801	4.282
	31.927	86.449	10286.340	10.895	16.041	641.259	20586.214	43.233	3.995	4.502
L23	31.927	86.449	10286.340	10.895	16.041	641.259	20586.214	43.233	3.995	4.502
	32.152	87.073	10510.718	10.973	16.153	650.681	21035.266	43.545	4.034	4.546
L24	32.144	91.829	11049.079	10.955	16.153	684.009	22112.697	45.923	3.946	4.21
	32.200	91.994	11108.675	10.975	16.182	686.503	22231.967	46.006	3.956	4.22
L25	32.202	90.804	10973.859	10.980	16.182	678.172	21962.159	45.411	3.978	4.301
	32.315	91.130	11092.190	11.019	16.238	683.109	22198.975	45.573	3.998	4.322
L26	32.340	75.514	9287.923	11.077	16.238	571.994	18588.068	37.764	4.284	5.618
	32.396	75.648	9337.471	11.096	16.266	574.050	18687.229	37.831	4.293	5.631
L27	32.400	73.226	9053.012	11.105	16.266	556.562	18117.936	36.620	4.337	5.881
	33.525	75.819	10049.164	11.498	16.829	597.146	20111.552	37.917	4.532	6.146
L28	33.526	74.562	9890.281	11.503	16.829	587.705	19793.577	37.288	4.554	6.282

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
	34.651	77.111	10939.670	11.896	17.391	629.029	21893.735	38.563	4.749	6.551
L29	34.651	77.111	10939.670	11.896	17.391	629.029	21893.735	38.563	4.749	6.551
	34.839	77.537	11121.624	11.962	17.485	636.059	22257.882	38.776	4.782	6.596
L30	34.825	86.669	12367.040	11.931	17.485	707.285	24750.354	43.343	4.628	5.696
	34.882	86.812	12428.283	11.950	17.513	709.646	24872.920	43.414	4.638	5.708
L31	34.884	85.508	12250.716	11.955	17.513	699.507	24517.552	42.762	4.660	5.825
	36.008	88.320	13499.826	12.348	18.076	746.834	27017.415	44.169	4.855	6.068
L32	36.010	86.972	13303.223	12.352	18.076	735.958	26623.951	43.494	4.877	6.192
	37.135	89.740	14614.606	12.746	18.639	784.097	29248.443	44.879	5.072	6.44
L33	37.139	86.952	14180.231	12.754	18.639	760.792	28379.121	43.484	5.116	6.709
	38.264	89.633	15532.653	13.148	19.201	808.930	31085.745	44.825	5.310	6.965
L34	38.266	88.193	15293.494	13.152	19.201	796.475	30607.112	44.105	5.332	7.11
	38.978	89.863	16178.646	13.401	19.558	827.223	32378.581	44.940	5.456	7.275
L35	38.978	89.863	16178.646	13.401	19.558	827.223	32378.581	44.940	5.456	7.275
	39.034	89.995	16249.960	13.421	19.586	829.675	32521.302	45.006	5.466	7.288
L36	39.036	88.524	15994.983	13.425	19.586	816.657	32011.012	44.270	5.488	7.441
	39.880	90.469	17072.439	13.720	20.008	853.283	34167.342	45.243	5.634	7.639
L37	39.880	90.469	17072.439	13.720	20.008	853.283	34167.342	45.243	5.634	7.639
	41.184	93.475	18831.543	14.176	20.660	911.482	37687.864	46.746	5.860	7.946
L38	40.545	92.077	16838.338	13.506	19.715	854.108	33698.831	46.047	5.488	7.198
	40.770	95.606	18849.476	14.024	20.455	921.498	37723.756	47.812	5.745	7.534
L39	40.772	94.068	18558.074	14.028	20.455	907.252	37140.568	47.043	5.767	7.689
	41.896	96.705	20162.529	14.421	21.018	959.305	40351.587	48.362	5.962	7.949
L40	41.896	96.705	20162.529	14.421	21.018	959.305	40351.587	48.362	5.962	7.949
	42.317	97.691	20785.564	14.568	21.228	979.146	41598.478	48.855	6.035	8.046
L41	42.305	107.263	22738.992	14.542	21.228	1071.166	45507.904	53.642	5.903	7.155
	42.362	107.408	22831.333	14.561	21.256	1074.092	45692.707	53.714	5.912	7.167
L42	42.362	107.408	22831.333	14.561	21.256	1074.092	45692.707	53.714	5.912	7.167
	42.661	108.182	23327.915	14.666	21.406	1089.764	46686.526	54.101	5.964	7.23
L43	42.673	98.525	21322.903	14.693	21.406	996.100	42673.863	49.272	6.096	8.129
	42.729	98.657	21408.602	14.713	21.435	998.791	42845.374	49.338	6.106	8.142
L44	42.733	95.426	20732.456	14.721	21.435	967.246	41492.191	47.722	6.150	8.483
	43.858	97.975	22438.266	15.115	21.997	1020.055	44906.056	48.997	6.345	8.752
L45	43.858	97.975	22438.266	15.115	21.997	1020.055	44906.056	48.997	6.345	8.752
	44.982	100.523	24235.164	15.508	22.560	1074.268	48502.218	50.271	6.540	9.021
L46	44.982	100.523	24235.164	15.508	22.560	1074.268	48502.218	50.271	6.540	9.021
	45.038	100.651	24327.443	15.527	22.588	1077.015	48686.897	50.335	6.550	9.034
L47	45.038	100.651	24327.443	15.527	22.588	1077.015	48686.897	50.335	6.550	9.034
	45.095	100.778	24419.956	15.547	22.616	1079.766	48872.044	50.399	6.559	9.048
L48	45.096	99.069	24019.478	15.552	22.616	1062.058	48070.561	49.544	6.581	9.237
	46.221	101.573	25887.609	15.945	23.179	1116.877	51809.281	50.796	6.776	9.511
L49	46.221	101.573	25887.609	15.945	23.179	1116.877	51809.281	50.796	6.776	9.511
	46.390	101.949	26175.918	16.004	23.263	1125.219	52386.278	50.984	6.806	9.552
L50	46.388	103.709	26612.994	15.999	23.263	1144.007	53261.007	51.864	6.784	9.357
	46.444	103.836	26711.211	16.019	23.291	1146.843	53457.569	51.928	6.793	9.37
L51	46.446	102.074	26272.494	16.023	23.291	1128.006	52579.558	51.047	6.815	9.565
	47.346	104.078	27850.178	16.338	23.741	1173.075	55737.001	52.049	6.971	9.784
L52	47.348	102.280	27383.879	16.342	23.741	1153.434	54803.791	51.150	6.993	9.99
	47.404	102.403	27482.816	16.362	23.769	1156.232	55001.795	51.211	7.003	10.004
L53	47.404	102.403	27482.816	16.362	23.769	1156.232	55001.795	51.211	7.003	10.004
	47.516	102.649	27681.404	16.401	23.826	1161.837	55399.231	51.334	7.023	10.032
L54	47.505	113.462	30498.257	16.375	23.826	1280.065	61036.644	56.742	6.891	8.891
	47.561	113.599	30608.228	16.394	23.854	1283.166	61256.731	56.810	6.900	8.904
L55	47.565	109.994	29668.998	16.403	23.854	1243.791	59377.034	55.007	6.944	9.259
	48.689	112.630	31853.877	16.796	24.416	1304.616	63749.668	56.326	7.139	9.519
L56	48.689	112.630	31853.877	16.796	24.416	1304.616	63749.668	56.326	7.139	9.519
	49.814	115.266	34143.470	17.189	24.979	1366.893	68331.866	57.644	7.334	9.779
L57	49.816	113.374	33600.421	17.194	24.979	1345.153	67245.053	56.698	7.356	9.974
	50.940	115.967	35958.439	17.587	25.541	1407.845	71964.194	57.994	7.551	10.239
L58	50.973	82.907	25928.340	17.662	25.541	1015.146	51890.798	41.461	7.925	15.095
	51.198	83.276	26276.171	17.741	25.654	1024.252	52586.917	41.646	7.964	15.17

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 160.000-155.000				1	1	1			
L2 155.000-150.000				1	1	1			
L3 150.000-145.000				1	1	1			
L4 145.000-140.000				1	1	1			
L5 140.000-135.000				1	1	1			
L6 135.000-130.000				1	1	1			
L7 130.000-125.750				1	1	1			
L8 125.750-125.500				1	1	1			
L9 125.500-119.120				1	1	1			
L10 119.120-117.870				1	1	1			
L11 117.870-117.750				1	1	1			
L12 117.750-117.500				1	1	1			
L13 117.500-112.500				1	1	0.945398			
L14 112.500-107.500				1	1	0.940718			
L15 107.500-103.000				1	1	0.938811			
L16 103.000-102.750				1	1	1.03399			
L17 102.750-100.210				1	1	1.04612			
L18 100.210-95.830				1	1	0.917622			
L19 95.830-94.830				1	1	0.930138			
L20				1	1	0.92511			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
94.830-93.500									
L21				1	1	0.90907			
93.500-93.250									
L22				1	1	0.912889			
93.250-88.250									
L23				1	1	0.90887			
88.250-87.250									
L24				1	1	0.901609			
87.250-87.000									
L25				1	1	0.911369			
87.000-86.500									
L26				1	1	0.920149			
86.500-86.250									
L27				1	1	0.932563			
86.250-81.250									
L28				1	1	0.931178			
81.250-76.250									
L29				1	1	0.928435			
76.250-75.416									
L30				1	1	0.930785			
75.416-75.166									
L31				1	1	0.927324			
75.166-70.166									
L32				1	1	0.924894			
70.166-65.166									
L33				1	1	0.938262			
65.166-60.166									
L34				1	1	0.943602			
60.166-57.000									
L35				1	1	0.94283			
57.000-56.750									
L36				1	1	0.946998			
56.750-53.000									
L37				1	1	1.0126			
53.000-47.203									
L38				1	1	0.98737			
47.203-46.203									
L39				1	1	0.989782			
46.203-41.203									
L40				1	1	0.984839			
41.203-39.333									
L41				1	1	0.977911			
39.333-39.083									
L42				1	1	0.97417			
39.083-37.750									
L43				1	1	0.980089			
37.750-37.500									
L44				1	1	1.00037			
37.500-32.500									
L45				1	1	0.988123			
32.500-27.500									
L46				1	1	0.987527			
27.500-27.250									
L47				1	1	0.986932			
27.250-27.000									
L48				1	1	0.992183			
27.000-22.000									
L49				1	1	0.990466			
22.000-21.250									

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L50 21.250-21.000				1	1	1.07543			
L51 21.000-17.000				1	1	1.08306			
L52 17.000-16.750				1	1	1.04283			
L53 16.750-16.250				1	1	1.04161			
L54 16.250-16.000				1	1	1.02322			
L55 16.000-11.000				1	1	1.04373			
L56 11.000-6.000				1	1	1.03129			
L57 6.000-1.000				1	1	1.03643			
L58 1.000-0.000				1	1	1.09921			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
*										
*										
PL 5.375"x1.25"	A	No	Surface Af (CaAa)	89.250 - 0.000	1	1	0.300 0.325	5.375	13.250	0.000
PL 5.375"x1.25"	B	No	Surface Af (CaAa)	89.250 - 0.000	1	1	0.300 0.325	5.375	13.250	0.000
PL 5.375"x1.25"	C	No	Surface Af (CaAa)	89.250 - 0.000	1	1	0.300 0.325	5.375	13.250	0.000
*										
PL 4.375"x1.25"	A	No	Surface Af (CaAa)	119.000 - 89.250	1	1	0.300 0.325	4.375	11.250	0.000
PL 4.375"x1.25"	B	No	Surface Af (CaAa)	119.000 - 89.250	1	1	0.300 0.325	4.375	11.250	0.000
PL 4.375"x1.25"	C	No	Surface Af (CaAa)	119.000 - 89.250	1	1	0.300 0.325	4.375	11.250	0.000
*										
PL 3.125"x1.25"	A	No	Surface Af (CaAa)	127.000 - 119.000	1	1	0.300 0.325	3.125	8.750	0.000
PL 3.125"x1.25"	B	No	Surface Af (CaAa)	127.000 - 119.000	1	1	0.300 0.325	3.125	8.750	0.000
PL 3.125"x1.25"	C	No	Surface Af (CaAa)	127.000 - 119.000	1	1	0.300 0.325	3.125	8.750	0.000
**										
MP3-03	A	No	Surface Af (CaAa)	40.500 - 0.000	1	1	0.350 0.375	4.060	11.260	0.000
MP3-03	B	No	Surface Af (CaAa)	40.500 - 0.000	1	1	0.350 0.375	4.060	11.260	0.000
MP3-03	C	No	Surface Af (CaAa)	40.500 - 0.000	1	1	0.350 0.375	4.060	11.260	0.000
*										

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
MP3-03	A	No	Surface Af (CaAa)	76.583 - 36.583	1	1	0.400 0.425	4.060	11.260	0.000
MP3-03	B	No	Surface Af (CaAa)	76.583 - 36.583	1	1	0.400 0.425	4.060	11.260	0.000
MP3-03	C	No	Surface Af (CaAa)	76.583 - 36.583	1	1	0.400 0.425	4.060	11.260	0.000
*										
CCI 8.5" x 1.25" Plate	A	No	Surface Af (CaAa)	20.000 - 0.000	1	1	-0.325 -0.300	8.500	19.500	0.000
CCI 8.5" x 1.25" Plate	B	No	Surface Af (CaAa)	20.000 - 0.000	1	1	-0.425 -0.400	8.500	19.500	0.000
CCI 8.5" x 1.25" Plate	C	No	Surface Af (CaAa)	25.000 - 0.000	1	1	-0.175 -0.150	8.500	19.500	0.000
*										
CCI 6" x 1" Plate	B	No	Surface Af (CaAa)	55.000 - 20.000	1	1	-0.425 -0.400	6.000	14.000	0.000
CCI 6" x 1" Plate	A	No	Surface Af (CaAa)	105.000 - 20.000	1	1	-0.325 -0.300	6.000	14.000	0.000
CCI 6" x 1" Plate	C	No	Surface Af (CaAa)	105.000 - 15.000	1	1	-0.225 -0.200	6.000	14.000	0.000
CCI 6" x 1" Plate	B	No	Surface Af (CaAa)	102.210 - 47.210	1	1	-0.275 -0.250	6.000	14.000	0.000
*										
CCI 4.5" x 1" Plate	A	No	Surface Af (CaAa)	95.000 - 85.000	1	1	0.400 0.425	4.500	11.000	0.000
CCI 4.5" x 1" Plate	B	No	Surface Af (CaAa)	95.000 - 85.000	1	1	0.400 0.425	4.500	11.000	0.000
CCI 4.5" x 1" Plate	C	No	Surface Af (CaAa)	95.000 - 85.000	1	1	0.400 0.425	4.500	11.000	0.000
*										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
HB114-1-08U4-M5J (1-1/4)	A	No	No	Inside Pole	159.000 - 0.000	3	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
HB114-21U3M12-XXXF(1-1/4)	A	No	No	Inside Pole	159.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
*									
LDF7-50A(1-5/8)	A	No	No	Inside Pole	149.000 - 0.000	6	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
PWRT-606-S(7/8)	A	No	No	Inside Pole	149.000 - 0.000	2	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
PWRT-608-S(13/16)	A	No	No	Inside Pole	149.000 - 0.000	2	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
RFFT-36SM-001-XXM(3/8)	A	No	No	Inside Pole	149.000 - 0.000	2	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000
*									

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
LDF7-50A(1-5/8)	B	No	No	Inside Pole	137.000 - 0.000	3	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
*									
HB158-21U6S12-XXXM-01(1-5/8)	B	No	No	Inside Pole	125.000 - 0.000	2	No Ice	0.000	0.002
							1/2" Ice	0.000	0.002
							1" Ice	0.000	0.002
*									
CR 50 1070(7/8)	B	No	No	Inside Pole	109.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
*									
CU12PSM9P8XXX(1-3/8)	B	No	No	Inside Pole	83.000 - 0.000	1	No Ice	0.000	0.002
							1/2" Ice	0.000	0.002
							1" Ice	0.000	0.002
*									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	160.000-155.000	A	0.000	0.000	0.000	0.000	0.018
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
L2	155.000-150.000	A	0.000	0.000	0.000	0.000	0.022
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
L3	150.000-145.000	A	0.000	0.000	0.000	0.000	0.055
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
L4	145.000-140.000	A	0.000	0.000	0.000	0.000	0.063
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
L5	140.000-135.000	A	0.000	0.000	0.000	0.000	0.063
		B	0.000	0.000	0.000	0.000	0.005
		C	0.000	0.000	0.000	0.000	0.000
L6	135.000-130.000	A	0.000	0.000	0.000	0.000	0.063
		B	0.000	0.000	0.000	0.000	0.012
		C	0.000	0.000	0.000	0.000	0.000
L7	130.000-125.750	A	0.000	0.000	0.651	0.000	0.053
		B	0.000	0.000	0.651	0.000	0.010
		C	0.000	0.000	0.651	0.000	0.000
L8	125.750-125.500	A	0.000	0.000	0.130	0.000	0.003
		B	0.000	0.000	0.130	0.000	0.001
		C	0.000	0.000	0.130	0.000	0.000
L9	125.500-119.120	A	0.000	0.000	3.323	0.000	0.080
		B	0.000	0.000	3.323	0.000	0.038
		C	0.000	0.000	3.323	0.000	0.000
L10	119.120-117.870	A	0.000	0.000	0.886	0.000	0.016
		B	0.000	0.000	0.886	0.000	0.008
		C	0.000	0.000	0.886	0.000	0.000
L11	117.870-117.750	A	0.000	0.000	0.087	0.000	0.002
		B	0.000	0.000	0.087	0.000	0.001

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	0.087	0.000	0.000
L12	117.750-117.500	A	0.000	0.000	0.182	0.000	0.003
		B	0.000	0.000	0.182	0.000	0.002
		C	0.000	0.000	0.182	0.000	0.000
L13	117.500-112.500	A	0.000	0.000	3.646	0.000	0.063
		B	0.000	0.000	3.646	0.000	0.031
		C	0.000	0.000	3.646	0.000	0.000
L14	112.500-107.500	A	0.000	0.000	3.646	0.000	0.063
		B	0.000	0.000	3.646	0.000	0.032
		C	0.000	0.000	3.646	0.000	0.000
L15	107.500-103.000	A	0.000	0.000	5.281	0.000	0.057
		B	0.000	0.000	3.281	0.000	0.029
		C	0.000	0.000	5.281	0.000	0.000
L16	103.000-102.750	A	0.000	0.000	0.432	0.000	0.003
		B	0.000	0.000	0.182	0.000	0.002
		C	0.000	0.000	0.432	0.000	0.000
L17	102.750-100.210	A	0.000	0.000	4.392	0.000	0.032
		B	0.000	0.000	3.852	0.000	0.017
		C	0.000	0.000	4.392	0.000	0.000
L18	100.210-95.830	A	0.000	0.000	7.574	0.000	0.055
		B	0.000	0.000	7.574	0.000	0.029
		C	0.000	0.000	7.574	0.000	0.000
L19	95.830-94.830	A	0.000	0.000	1.857	0.000	0.013
		B	0.000	0.000	1.857	0.000	0.007
		C	0.000	0.000	1.857	0.000	0.000
L20	94.830-93.500	A	0.000	0.000	3.297	0.000	0.017
		B	0.000	0.000	3.297	0.000	0.009
		C	0.000	0.000	3.297	0.000	0.000
L21	93.500-93.250	A	0.000	0.000	0.620	0.000	0.003
		B	0.000	0.000	0.620	0.000	0.002
		C	0.000	0.000	0.620	0.000	0.000
L22	93.250-88.250	A	0.000	0.000	12.563	0.000	0.063
		B	0.000	0.000	12.563	0.000	0.033
		C	0.000	0.000	12.563	0.000	0.000
L23	88.250-87.250	A	0.000	0.000	2.646	0.000	0.013
		B	0.000	0.000	2.646	0.000	0.007
		C	0.000	0.000	2.646	0.000	0.000
L24	87.250-87.000	A	0.000	0.000	0.661	0.000	0.003
		B	0.000	0.000	0.661	0.000	0.002
		C	0.000	0.000	0.661	0.000	0.000
L25	87.000-86.500	A	0.000	0.000	1.323	0.000	0.006
		B	0.000	0.000	1.323	0.000	0.003
		C	0.000	0.000	1.323	0.000	0.000
L26	86.500-86.250	A	0.000	0.000	0.661	0.000	0.003
		B	0.000	0.000	0.661	0.000	0.002
		C	0.000	0.000	0.661	0.000	0.000
L27	86.250-81.250	A	0.000	0.000	10.417	0.000	0.063
		B	0.000	0.000	10.417	0.000	0.036
		C	0.000	0.000	10.417	0.000	0.000
L28	81.250-76.250	A	0.000	0.000	9.704	0.000	0.063
		B	0.000	0.000	9.704	0.000	0.041
		C	0.000	0.000	9.704	0.000	0.000
L29	76.250-75.416	A	0.000	0.000	2.145	0.000	0.010
		B	0.000	0.000	2.145	0.000	0.007
		C	0.000	0.000	2.145	0.000	0.000
L30	75.416-75.166	A	0.000	0.000	0.643	0.000	0.003
		B	0.000	0.000	0.643	0.000	0.002
		C	0.000	0.000	0.643	0.000	0.000
L31	75.166-70.166	A	0.000	0.000	12.863	0.000	0.063
		B	0.000	0.000	12.863	0.000	0.041
		C	0.000	0.000	12.863	0.000	0.000

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L32	70.166-65.166	A	0.000	0.000	12.863	0.000	0.063
		B	0.000	0.000	12.863	0.000	0.041
		C	0.000	0.000	12.863	0.000	0.000
L33	65.166-60.166	A	0.000	0.000	12.863	0.000	0.063
		B	0.000	0.000	12.863	0.000	0.041
		C	0.000	0.000	12.863	0.000	0.000
L34	60.166-57.000	A	0.000	0.000	8.145	0.000	0.040
		B	0.000	0.000	8.145	0.000	0.026
		C	0.000	0.000	8.145	0.000	0.000
L35	57.000-56.750	A	0.000	0.000	0.643	0.000	0.003
		B	0.000	0.000	0.643	0.000	0.002
		C	0.000	0.000	0.643	0.000	0.000
L36	56.750-53.000	A	0.000	0.000	9.647	0.000	0.047
		B	0.000	0.000	11.647	0.000	0.031
		C	0.000	0.000	9.647	0.000	0.000
L37	53.000-47.203	A	0.000	0.000	14.913	0.000	0.073
		B	0.000	0.000	20.703	0.000	0.048
		C	0.000	0.000	14.913	0.000	0.000
L38	47.203-46.203	A	0.000	0.000	2.572	0.000	0.013
		B	0.000	0.000	2.572	0.000	0.008
		C	0.000	0.000	2.572	0.000	0.000
L39	46.203-41.203	A	0.000	0.000	12.863	0.000	0.063
		B	0.000	0.000	12.863	0.000	0.041
		C	0.000	0.000	12.863	0.000	0.000
L40	41.203-39.333	A	0.000	0.000	5.600	0.000	0.024
		B	0.000	0.000	5.600	0.000	0.015
		C	0.000	0.000	5.600	0.000	0.000
L41	39.333-39.083	A	0.000	0.000	0.812	0.000	0.003
		B	0.000	0.000	0.812	0.000	0.002
		C	0.000	0.000	0.812	0.000	0.000
L42	39.083-37.750	A	0.000	0.000	4.331	0.000	0.017
		B	0.000	0.000	4.331	0.000	0.011
		C	0.000	0.000	4.331	0.000	0.000
L43	37.750-37.500	A	0.000	0.000	0.812	0.000	0.003
		B	0.000	0.000	0.812	0.000	0.002
		C	0.000	0.000	0.812	0.000	0.000
L44	37.500-32.500	A	0.000	0.000	13.483	0.000	0.063
		B	0.000	0.000	13.483	0.000	0.041
		C	0.000	0.000	13.483	0.000	0.000
L45	32.500-27.500	A	0.000	0.000	12.863	0.000	0.063
		B	0.000	0.000	12.863	0.000	0.041
		C	0.000	0.000	12.863	0.000	0.000
L46	27.500-27.250	A	0.000	0.000	0.643	0.000	0.003
		B	0.000	0.000	0.643	0.000	0.002
		C	0.000	0.000	0.643	0.000	0.000
L47	27.250-27.000	A	0.000	0.000	0.643	0.000	0.003
		B	0.000	0.000	0.643	0.000	0.002
		C	0.000	0.000	0.643	0.000	0.000
L48	27.000-22.000	A	0.000	0.000	12.863	0.000	0.063
		B	0.000	0.000	12.863	0.000	0.041
		C	0.000	0.000	17.113	0.000	0.000
L49	22.000-21.250	A	0.000	0.000	1.929	0.000	0.009
		B	0.000	0.000	1.929	0.000	0.006
		C	0.000	0.000	2.992	0.000	0.000
L50	21.250-21.000	A	0.000	0.000	0.643	0.000	0.003
		B	0.000	0.000	0.643	0.000	0.002
		C	0.000	0.000	0.997	0.000	0.000
L51	21.000-17.000	A	0.000	0.000	11.540	0.000	0.050
		B	0.000	0.000	11.540	0.000	0.033
		C	0.000	0.000	15.957	0.000	0.000
L52	17.000-16.750	A	0.000	0.000	0.747	0.000	0.003

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	0.747	0.000	0.002
		C	0.000	0.000	0.997	0.000	0.000
L53	16.750-16.250	A	0.000	0.000	1.495	0.000	0.006
		B	0.000	0.000	1.495	0.000	0.004
		C	0.000	0.000	1.995	0.000	0.000
L54	16.250-16.000	A	0.000	0.000	0.747	0.000	0.003
		B	0.000	0.000	0.747	0.000	0.002
		C	0.000	0.000	0.997	0.000	0.000
L55	16.000-11.000	A	0.000	0.000	14.946	0.000	0.063
		B	0.000	0.000	14.946	0.000	0.041
		C	0.000	0.000	15.946	0.000	0.000
L56	11.000-6.000	A	0.000	0.000	14.946	0.000	0.063
		B	0.000	0.000	14.946	0.000	0.041
		C	0.000	0.000	14.946	0.000	0.000
L57	6.000-1.000	A	0.000	0.000	14.946	0.000	0.063
		B	0.000	0.000	14.946	0.000	0.041
		C	0.000	0.000	14.946	0.000	0.000
L58	1.000-0.000	A	0.000	0.000	2.989	0.000	0.013
		B	0.000	0.000	2.989	0.000	0.008
		C	0.000	0.000	2.989	0.000	0.000

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	160.000-155.000	A	0.994	0.000	0.000	0.000	0.000	0.018
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
L2	155.000-150.000	A	0.991	0.000	0.000	0.000	0.000	0.022
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
L3	150.000-145.000	A	0.987	0.000	0.000	0.000	0.000	0.055
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
L4	145.000-140.000	A	0.984	0.000	0.000	0.000	0.000	0.063
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
L5	140.000-135.000	A	0.980	0.000	0.000	0.000	0.000	0.063
		B		0.000	0.000	0.000	0.000	0.005
		C		0.000	0.000	0.000	0.000	0.000
L6	135.000-130.000	A	0.977	0.000	0.000	0.000	0.000	0.063
		B		0.000	0.000	0.000	0.000	0.012
		C		0.000	0.000	0.000	0.000	0.000
L7	130.000-125.750	A	0.973	0.000	0.000	0.820	0.000	0.059
		B		0.000	0.000	0.820	0.000	0.016
		C		0.000	0.000	0.820	0.000	0.006
L8	125.750-125.500	A	0.972	0.000	0.000	0.164	0.000	0.004
		B		0.000	0.000	0.164	0.000	0.002
		C		0.000	0.000	0.164	0.000	0.001
L9	125.500-119.120	A	0.969	0.000	0.000	4.182	0.000	0.110
		B		0.000	0.000	4.182	0.000	0.068
		C		0.000	0.000	4.182	0.000	0.030
L10	119.120-117.870	A	0.966	0.000	0.000	1.122	0.000	0.023
		B		0.000	0.000	1.122	0.000	0.015
		C		0.000	0.000	1.122	0.000	0.007
L11	117.870-117.750	A	0.965	0.000	0.000	0.111	0.000	0.002
		B		0.000	0.000	0.111	0.000	0.001

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		0.000	0.000	0.111	0.000	0.001
L12	117.750-117.500	A	0.965	0.000	0.000	0.231	0.000	0.005
		B		0.000	0.000	0.231	0.000	0.003
		C		0.000	0.000	0.231	0.000	0.001
L13	117.500-112.500	A	0.963	0.000	0.000	4.609	0.000	0.091
		B		0.000	0.000	4.609	0.000	0.059
		C		0.000	0.000	4.609	0.000	0.028
L14	112.500-107.500	A	0.959	0.000	0.000	4.605	0.000	0.091
		B		0.000	0.000	4.605	0.000	0.059
		C		0.000	0.000	4.605	0.000	0.028
L15	107.500-103.000	A	0.955	0.000	0.000	6.522	0.000	0.095
		B		0.000	0.000	4.140	0.000	0.054
		C		0.000	0.000	6.522	0.000	0.038
L16	103.000-102.750	A	0.952	0.000	0.000	0.528	0.000	0.006
		B		0.000	0.000	0.230	0.000	0.003
		C		0.000	0.000	0.528	0.000	0.003
L17	102.750-100.210	A	0.951	0.000	0.000	5.358	0.000	0.062
		B		0.000	0.000	4.716	0.000	0.044
		C		0.000	0.000	5.358	0.000	0.030
L18	100.210-95.830	A	0.948	0.000	0.000	9.234	0.000	0.107
		B		0.000	0.000	9.234	0.000	0.081
		C		0.000	0.000	9.234	0.000	0.052
L19	95.830-94.830	A	0.945	0.000	0.000	2.255	0.000	0.025
		B		0.000	0.000	2.255	0.000	0.019
		C		0.000	0.000	2.255	0.000	0.013
L20	94.830-93.500	A	0.944	0.000	0.000	3.949	0.000	0.040
		B		0.000	0.000	3.949	0.000	0.032
		C		0.000	0.000	3.949	0.000	0.023
L21	93.500-93.250	A	0.943	0.000	0.000	0.742	0.000	0.007
		B		0.000	0.000	0.742	0.000	0.006
		C		0.000	0.000	0.742	0.000	0.004
L22	93.250-88.250	A	0.940	0.000	0.000	15.005	0.000	0.149
		B		0.000	0.000	15.005	0.000	0.119
		C		0.000	0.000	15.005	0.000	0.087
L23	88.250-87.250	A	0.937	0.000	0.000	3.133	0.000	0.030
		B		0.000	0.000	3.133	0.000	0.024
		C		0.000	0.000	3.133	0.000	0.018
L24	87.250-87.000	A	0.937	0.000	0.000	0.783	0.000	0.008
		B		0.000	0.000	0.783	0.000	0.006
		C		0.000	0.000	0.783	0.000	0.004
L25	87.000-86.500	A	0.936	0.000	0.000	1.566	0.000	0.015
		B		0.000	0.000	1.566	0.000	0.012
		C		0.000	0.000	1.566	0.000	0.009
L26	86.500-86.250	A	0.936	0.000	0.000	0.783	0.000	0.008
		B		0.000	0.000	0.783	0.000	0.006
		C		0.000	0.000	0.783	0.000	0.004
L27	86.250-81.250	A	0.933	0.000	0.000	12.422	0.000	0.132
		B		0.000	0.000	12.422	0.000	0.104
		C		0.000	0.000	12.422	0.000	0.069
L28	81.250-76.250	A	0.927	0.000	0.000	11.621	0.000	0.126
		B		0.000	0.000	11.621	0.000	0.105
		C		0.000	0.000	11.621	0.000	0.064
L29	76.250-75.416	A	0.924	0.000	0.000	2.608	0.000	0.025
		B		0.000	0.000	2.608	0.000	0.022
		C		0.000	0.000	2.608	0.000	0.015
L30	75.416-75.166	A	0.923	0.000	0.000	0.782	0.000	0.008
		B		0.000	0.000	0.782	0.000	0.006
		C		0.000	0.000	0.782	0.000	0.004
L31	75.166-70.166	A	0.920	0.000	0.000	15.622	0.000	0.150
		B		0.000	0.000	15.622	0.000	0.129
		C		0.000	0.000	15.622	0.000	0.088

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L32	70.166-65.166	A	0.913	0.000	0.000	15.602	0.000	0.150
		B		0.000	0.000	15.602	0.000	0.128
		C		0.000	0.000	15.602	0.000	0.087
L33	65.166-60.166	A	0.906	0.000	0.000	15.581	0.000	0.149
		B		0.000	0.000	15.581	0.000	0.127
		C		0.000	0.000	15.581	0.000	0.086
L34	60.166-57.000	A	0.900	0.000	0.000	9.855	0.000	0.094
		B		0.000	0.000	9.855	0.000	0.080
		C		0.000	0.000	9.855	0.000	0.054
L35	57.000-56.750	A	0.898	0.000	0.000	0.778	0.000	0.007
		B		0.000	0.000	0.778	0.000	0.006
		C		0.000	0.000	0.778	0.000	0.004
L36	56.750-53.000	A	0.894	0.000	0.000	11.659	0.000	0.111
		B		0.000	0.000	14.017	0.000	0.106
		C		0.000	0.000	11.659	0.000	0.063
L37	53.000-47.203	A	0.886	0.000	0.000	17.995	0.000	0.170
		B		0.000	0.000	24.811	0.000	0.179
		C		0.000	0.000	17.995	0.000	0.097
L38	47.203-46.203	A	0.880	0.000	0.000	3.104	0.000	0.029
		B		0.000	0.000	3.104	0.000	0.025
		C		0.000	0.000	3.104	0.000	0.017
L39	46.203-41.203	A	0.874	0.000	0.000	15.485	0.000	0.145
		B		0.000	0.000	15.485	0.000	0.123
		C		0.000	0.000	15.485	0.000	0.082
L40	41.203-39.333	A	0.867	0.000	0.000	6.775	0.000	0.060
		B		0.000	0.000	6.775	0.000	0.052
		C		0.000	0.000	6.775	0.000	0.036
L41	39.333-39.083	A	0.865	0.000	0.000	0.985	0.000	0.008
		B		0.000	0.000	0.985	0.000	0.007
		C		0.000	0.000	0.985	0.000	0.005
L42	39.083-37.750	A	0.863	0.000	0.000	5.251	0.000	0.045
		B		0.000	0.000	5.251	0.000	0.039
		C		0.000	0.000	5.251	0.000	0.028
L43	37.750-37.500	A	0.861	0.000	0.000	0.985	0.000	0.008
		B		0.000	0.000	0.985	0.000	0.007
		C		0.000	0.000	0.985	0.000	0.005
L44	37.500-32.500	A	0.855	0.000	0.000	16.205	0.000	0.147
		B		0.000	0.000	16.205	0.000	0.126
		C		0.000	0.000	16.205	0.000	0.085
L45	32.500-27.500	A	0.842	0.000	0.000	15.388	0.000	0.142
		B		0.000	0.000	15.388	0.000	0.120
		C		0.000	0.000	15.388	0.000	0.079
L46	27.500-27.250	A	0.834	0.000	0.000	0.768	0.000	0.007
		B		0.000	0.000	0.768	0.000	0.006
		C		0.000	0.000	0.768	0.000	0.004
L47	27.250-27.000	A	0.833	0.000	0.000	0.768	0.000	0.007
		B		0.000	0.000	0.768	0.000	0.006
		C		0.000	0.000	0.768	0.000	0.004
L48	27.000-22.000	A	0.825	0.000	0.000	15.338	0.000	0.140
		B		0.000	0.000	15.338	0.000	0.118
		C		0.000	0.000	20.083	0.000	0.099
L49	22.000-21.250	A	0.815	0.000	0.000	2.296	0.000	0.021
		B		0.000	0.000	2.296	0.000	0.018
		C		0.000	0.000	3.481	0.000	0.017
L50	21.250-21.000	A	0.813	0.000	0.000	0.765	0.000	0.007
		B		0.000	0.000	0.765	0.000	0.006
		C		0.000	0.000	1.160	0.000	0.006
L51	21.000-17.000	A	0.804	0.000	0.000	13.455	0.000	0.115
		B		0.000	0.000	13.455	0.000	0.098
		C		0.000	0.000	18.530	0.000	0.088
L52	17.000-16.750	A	0.795	0.000	0.000	0.865	0.000	0.007

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	0.865	0.000	0.006
		C		0.000	0.000	1.156	0.000	0.005
L53	16.750-16.250	A	0.793	0.000	0.000	1.730	0.000	0.014
		B		0.000	0.000	1.730	0.000	0.012
		C		0.000	0.000	2.312	0.000	0.011
L54	16.250-16.000	A	0.791	0.000	0.000	0.865	0.000	0.007
		B		0.000	0.000	0.865	0.000	0.006
		C		0.000	0.000	1.156	0.000	0.005
L55	16.000-11.000	A	0.777	0.000	0.000	17.260	0.000	0.143
		B		0.000	0.000	17.260	0.000	0.121
		C		0.000	0.000	18.433	0.000	0.085
L56	11.000-6.000	A	0.742	0.000	0.000	17.158	0.000	0.139
		B		0.000	0.000	17.158	0.000	0.117
		C		0.000	0.000	17.172	0.000	0.076
L57	6.000-1.000	A	0.679	0.000	0.000	16.973	0.000	0.131
		B		0.000	0.000	16.973	0.000	0.109
		C		0.000	0.000	16.983	0.000	0.068
L58	1.000-0.000	A	0.559	0.000	0.000	3.324	0.000	0.024
		B		0.000	0.000	3.324	0.000	0.019
		C		0.000	0.000	3.325	0.000	0.011

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	160.000-155.000	0.000	0.000	0.000	0.000
L2	155.000-150.000	0.000	0.000	0.000	0.000
L3	150.000-145.000	0.000	0.000	0.000	0.000
L4	145.000-140.000	0.000	0.000	0.000	0.000
L5	140.000-135.000	0.000	0.000	0.000	0.000
L6	135.000-130.000	0.000	0.000	0.000	0.000
L7	130.000-125.750	0.000	0.000	0.000	0.000
L8	125.750-125.500	0.000	0.000	0.000	0.000
L9	125.500-119.120	0.000	0.000	0.000	0.000
L10	119.120-117.870	0.000	0.000	0.000	0.000
L11	117.870-117.750	0.000	0.000	0.000	0.000
L12	117.750-117.500	0.000	0.000	0.000	0.000
L13	117.500-112.500	0.000	0.000	0.000	0.000
L14	112.500-107.500	0.000	0.000	0.000	0.000
L15	107.500-103.000	-0.152	1.985	-0.127	1.657
L16	103.000-102.750	-0.279	3.641	-0.240	3.133
L17	102.750-100.210	-0.193	1.271	-0.169	1.111
L18	100.210-95.830	-0.176	0.735	-0.154	0.644
L19	95.830-94.830	-0.167	0.699	-0.148	0.617
L20	94.830-93.500	-0.135	0.562	-0.122	0.511
L21	93.500-93.250	-0.135	0.565	-0.123	0.514
L22	93.250-88.250	-0.136	0.567	-0.124	0.516
L23	88.250-87.250	-0.132	0.553	-0.122	0.508
L24	87.250-87.000	-0.133	0.555	-0.122	0.510
L25	87.000-86.500	-0.133	0.556	-0.122	0.511
L26	86.500-86.250	-0.133	0.558	-0.122	0.511
L27	86.250-81.250	-0.163	0.681	-0.146	0.610
L28	81.250-76.250	-0.176	0.736	-0.156	0.652
L29	76.250-75.416	-0.144	0.602	-0.129	0.538
L30	75.416-75.166	-0.144	0.604	-0.129	0.539
L31	75.166-70.166	-0.146	0.612	-0.130	0.546

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L32	70.166-65.166	-0.150	0.627	-0.133	0.558
L33	65.166-60.166	-0.153	0.641	-0.136	0.570
L34	60.166-57.000	-0.156	0.653	-0.138	0.580
L35	57.000-56.750	-0.157	0.658	-0.139	0.584
L36	56.750-53.000	-0.762	-0.506	-0.680	-0.451
L37	53.000-47.203	-1.265	-1.454	-1.131	-1.300
L38	47.203-46.203	-1.446	0.665	-1.280	0.588
L39	46.203-41.203	-1.464	0.673	-1.294	0.595
L40	41.203-39.333	-1.321	0.608	-1.174	0.540
L41	39.333-39.083	-1.245	0.572	-1.109	0.510
L42	39.083-37.750	-1.249	0.574	-1.112	0.511
L43	37.750-37.500	-1.253	0.576	-1.115	0.513
L44	37.500-32.500	-1.462	0.672	-1.291	0.594
L45	32.500-27.500	-1.543	0.710	-1.357	0.624
L46	27.500-27.250	-1.558	0.717	-1.369	0.630
L47	27.250-27.000	-1.560	0.717	-1.370	0.630
L48	27.000-22.000	-0.354	2.130	-0.356	1.837
L49	22.000-21.250	0.357	2.975	0.254	2.572
L50	21.250-21.000	0.358	2.980	0.255	2.576
L51	21.000-17.000	-0.560	2.614	-0.447	2.310
L52	17.000-16.750	-0.851	2.513	-0.675	2.235
L53	16.750-16.250	-0.852	2.516	-0.677	2.238
L54	16.250-16.000	-0.854	2.520	-0.678	2.240
L55	16.000-11.000	-2.215	1.548	-1.891	1.348
L56	11.000-6.000	-2.622	1.304	-2.247	1.123
L57	6.000-1.000	-2.666	1.326	-2.284	1.140
L58	1.000-0.000	-2.691	1.339	-2.307	1.148

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L7	31	PL 3.125"x1.25"	125.75 - 127.00	1.0000	1.0000
L7	32	PL 3.125"x1.25"	125.75 - 127.00	1.0000	1.0000
L7	33	PL 3.125"x1.25"	125.75 - 127.00	1.0000	1.0000
L8	31	PL 3.125"x1.25"	125.50 - 125.75	1.0000	1.0000
L8	32	PL 3.125"x1.25"	125.50 - 125.75	1.0000	1.0000
L8	33	PL 3.125"x1.25"	125.50 - 125.75	1.0000	1.0000
L9	31	PL 3.125"x1.25"	119.12 - 125.50	1.0000	1.0000
L9	32	PL 3.125"x1.25"	119.12 - 125.50	1.0000	1.0000
L9	33	PL 3.125"x1.25"	119.12 - 125.50	1.0000	1.0000
L10	27	PL 4.375"x1.25"	117.87 - 119.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L10	28	PL 4.375"x1.25"	117.87 - 119.00	1.0000	1.0000
L10	29	PL 4.375"x1.25"	117.87 - 119.00	1.0000	1.0000
L10	31	PL 3.125"x1.25"	119.00 - 119.12	1.0000	1.0000
L10	32	PL 3.125"x1.25"	119.00 - 119.12	1.0000	1.0000
L10	33	PL 3.125"x1.25"	119.00 - 119.12	1.0000	1.0000
L11	27	PL 4.375"x1.25"	117.75 - 117.87	1.0000	1.0000
L11	28	PL 4.375"x1.25"	117.75 - 117.87	1.0000	1.0000
L11	29	PL 4.375"x1.25"	117.75 - 117.87	1.0000	1.0000
L12	27	PL 4.375"x1.25"	117.50 - 117.75	1.0000	1.0000
L12	28	PL 4.375"x1.25"	117.50 - 117.75	1.0000	1.0000
L12	29	PL 4.375"x1.25"	117.50 - 117.75	1.0000	1.0000
L13	27	PL 4.375"x1.25"	112.50 - 117.50	1.0000	1.0000
L13	28	PL 4.375"x1.25"	112.50 - 117.50	1.0000	1.0000
L13	29	PL 4.375"x1.25"	112.50 - 117.50	1.0000	1.0000
L14	27	PL 4.375"x1.25"	107.50 - 112.50	1.0000	1.0000
L14	28	PL 4.375"x1.25"	107.50 - 112.50	1.0000	1.0000
L14	29	PL 4.375"x1.25"	107.50 - 112.50	1.0000	1.0000
L15	27	PL 4.375"x1.25"	103.00 - 107.50	1.0000	1.0000
L15	28	PL 4.375"x1.25"	103.00 - 107.50	1.0000	1.0000
L15	29	PL 4.375"x1.25"	103.00 - 107.50	1.0000	1.0000
L15	48	CCI 6" x 1" Plate	103.00 - 105.00	1.0000	1.0000
L15	49	CCI 6" x 1" Plate	103.00 - 105.00	1.0000	1.0000
L16	27	PL 4.375"x1.25"	102.75 - 103.00	1.0000	1.0000
L16	28	PL 4.375"x1.25"	102.75 - 103.00	1.0000	1.0000
L16	29	PL 4.375"x1.25"	102.75 - 103.00	1.0000	1.0000
L16	48	CCI 6" x 1" Plate	102.75 - 103.00	1.0000	1.0000
L16	49	CCI 6" x 1" Plate	102.75 - 103.00	1.0000	1.0000
L17	27	PL 4.375"x1.25"	100.21 - 102.75	1.0000	1.0000
L17	28	PL 4.375"x1.25"	100.21 - 102.75	1.0000	1.0000
L17	29	PL 4.375"x1.25"	100.21 - 102.75	1.0000	1.0000
L17	48	CCI 6" x 1" Plate	100.21 - 102.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L17	49	CCI 6" x 1" Plate	100.21 - 102.75	1.0000	1.0000
L17	50	CCI 6" x 1" Plate	100.21 - 102.21	1.0000	1.0000
L18	27	PL 4.375"x1.25"	95.83 - 100.21	1.0000	1.0000
L18	28	PL 4.375"x1.25"	95.83 - 100.21	1.0000	1.0000
L18	29	PL 4.375"x1.25"	95.83 - 100.21	1.0000	1.0000
L18	48	CCI 6" x 1" Plate	95.83 - 100.21	1.0000	1.0000
L18	49	CCI 6" x 1" Plate	95.83 - 100.21	1.0000	1.0000
L18	50	CCI 6" x 1" Plate	95.83 - 100.21	1.0000	1.0000
L19	27	PL 4.375"x1.25"	94.83 - 95.83	1.0000	1.0000
L19	28	PL 4.375"x1.25"	94.83 - 95.83	1.0000	1.0000
L19	29	PL 4.375"x1.25"	94.83 - 95.83	1.0000	1.0000
L19	48	CCI 6" x 1" Plate	94.83 - 95.83	1.0000	1.0000
L19	49	CCI 6" x 1" Plate	94.83 - 95.83	1.0000	1.0000
L19	50	CCI 6" x 1" Plate	94.83 - 95.83	1.0000	1.0000
L19	52	CCI 4.5" x 1" Plate	94.83 - 95.00	1.0000	1.0000
L19	53	CCI 4.5" x 1" Plate	94.83 - 95.00	1.0000	1.0000
L19	54	CCI 4.5" x 1" Plate	94.83 - 95.00	1.0000	1.0000
L20	27	PL 4.375"x1.25"	93.50 - 94.83	1.0000	1.0000
L20	28	PL 4.375"x1.25"	93.50 - 94.83	1.0000	1.0000
L20	29	PL 4.375"x1.25"	93.50 - 94.83	1.0000	1.0000
L20	48	CCI 6" x 1" Plate	93.50 - 94.83	1.0000	1.0000
L20	49	CCI 6" x 1" Plate	93.50 - 94.83	1.0000	1.0000
L20	50	CCI 6" x 1" Plate	93.50 - 94.83	1.0000	1.0000
L20	52	CCI 4.5" x 1" Plate	93.50 - 94.83	1.0000	1.0000
L20	53	CCI 4.5" x 1" Plate	93.50 - 94.83	1.0000	1.0000
L20	54	CCI 4.5" x 1" Plate	93.50 - 94.83	1.0000	1.0000
L21	27	PL 4.375"x1.25"	93.25 - 93.50	1.0000	1.0000
L21	28	PL 4.375"x1.25"	93.25 - 93.50	1.0000	1.0000
L21	29	PL 4.375"x1.25"	93.25 - 93.50	1.0000	1.0000
L21	48	CCI 6" x 1" Plate	93.25 - 93.50	1.0000	1.0000
L21	49	CCI 6" x 1" Plate	93.25 - 93.50	1.0000	1.0000
L21	50	CCI 6" x 1" Plate	93.25 - 93.50	1.0000	1.0000
L21	52	CCI 4.5" x 1" Plate	93.25 - 93.50	1.0000	1.0000
L21	53	CCI 4.5" x 1" Plate	93.25 - 93.50	1.0000	1.0000
L21	54	CCI 4.5" x 1" Plate	93.25 - 93.50	1.0000	1.0000
L22	23	PL 5.375"x1.25"	88.25 - 89.25	1.0000	1.0000
L22	24	PL 5.375"x1.25"	88.25 - 89.25	1.0000	1.0000
L22	25	PL 5.375"x1.25"	88.25 - 89.25	1.0000	1.0000
L22	27	PL 4.375"x1.25"	89.25 - 93.25	1.0000	1.0000
L22	28	PL 4.375"x1.25"	89.25 - 93.25	1.0000	1.0000
L22	29	PL 4.375"x1.25"	89.25 - 93.25	1.0000	1.0000
L22	48	CCI 6" x 1" Plate	88.25 - 93.25	1.0000	1.0000
L22	49	CCI 6" x 1" Plate	88.25 - 93.25	1.0000	1.0000
L22	50	CCI 6" x 1" Plate	88.25 - 93.25	1.0000	1.0000
L22	52	CCI 4.5" x 1" Plate	88.25 - 93.25	1.0000	1.0000
L22	53	CCI 4.5" x 1" Plate	88.25 - 93.25	1.0000	1.0000
L22	54	CCI 4.5" x 1" Plate	88.25 - 93.25	1.0000	1.0000
L23	23	PL 5.375"x1.25"	87.25 - 88.25	1.0000	1.0000
L23	24	PL 5.375"x1.25"	87.25 - 88.25	1.0000	1.0000
L23	25	PL 5.375"x1.25"	87.25 - 88.25	1.0000	1.0000
L23	48	CCI 6" x 1" Plate	87.25 - 88.25	1.0000	1.0000
L23	49	CCI 6" x 1" Plate	87.25 - 88.25	1.0000	1.0000
L23	50	CCI 6" x 1" Plate	87.25 - 88.25	1.0000	1.0000
L23	52	CCI 4.5" x 1" Plate	87.25 - 88.25	1.0000	1.0000
L23	53	CCI 4.5" x 1" Plate	87.25 - 88.25	1.0000	1.0000
L23	54	CCI 4.5" x 1" Plate	87.25 - 88.25	1.0000	1.0000
L24	23	PL 5.375"x1.25"	87.00 - 87.25	1.0000	1.0000
L24	24	PL 5.375"x1.25"	87.00 - 87.25	1.0000	1.0000
L24	25	PL 5.375"x1.25"	87.00 - 87.25	1.0000	1.0000
L24	48	CCI 6" x 1" Plate	87.00 - 87.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L24	49	CCI 6" x 1" Plate	87.00 - 87.25	1.0000	1.0000
L24	50	CCI 6" x 1" Plate	87.00 - 87.25	1.0000	1.0000
L24	52	CCI 4.5" x 1" Plate	87.00 - 87.25	1.0000	1.0000
L24	53	CCI 4.5" x 1" Plate	87.00 - 87.25	1.0000	1.0000
L24	54	CCI 4.5" x 1" Plate	87.00 - 87.25	1.0000	1.0000
L25	23	PL 5.375"x1.25"	86.50 - 87.00	1.0000	1.0000
L25	24	PL 5.375"x1.25"	86.50 - 87.00	1.0000	1.0000
L25	25	PL 5.375"x1.25"	86.50 - 87.00	1.0000	1.0000
L25	48	CCI 6" x 1" Plate	86.50 - 87.00	1.0000	1.0000
L25	49	CCI 6" x 1" Plate	86.50 - 87.00	1.0000	1.0000
L25	50	CCI 6" x 1" Plate	86.50 - 87.00	1.0000	1.0000
L25	52	CCI 4.5" x 1" Plate	86.50 - 87.00	1.0000	1.0000
L25	53	CCI 4.5" x 1" Plate	86.50 - 87.00	1.0000	1.0000
L25	54	CCI 4.5" x 1" Plate	86.50 - 87.00	1.0000	1.0000
L26	23	PL 5.375"x1.25"	86.25 - 86.50	1.0000	1.0000
L26	24	PL 5.375"x1.25"	86.25 - 86.50	1.0000	1.0000
L26	25	PL 5.375"x1.25"	86.25 - 86.50	1.0000	1.0000
L26	48	CCI 6" x 1" Plate	86.25 - 86.50	1.0000	1.0000
L26	49	CCI 6" x 1" Plate	86.25 - 86.50	1.0000	1.0000
L26	50	CCI 6" x 1" Plate	86.25 - 86.50	1.0000	1.0000
L26	52	CCI 4.5" x 1" Plate	86.25 - 86.50	1.0000	1.0000
L26	53	CCI 4.5" x 1" Plate	86.25 - 86.50	1.0000	1.0000
L26	54	CCI 4.5" x 1" Plate	86.25 - 86.50	1.0000	1.0000
L27	23	PL 5.375"x1.25"	81.25 - 86.25	1.0000	1.0000
L27	24	PL 5.375"x1.25"	81.25 - 86.25	1.0000	1.0000
L27	25	PL 5.375"x1.25"	81.25 - 86.25	1.0000	1.0000
L27	48	CCI 6" x 1" Plate	81.25 - 86.25	1.0000	1.0000
L27	49	CCI 6" x 1" Plate	81.25 - 86.25	1.0000	1.0000
L27	50	CCI 6" x 1" Plate	81.25 - 86.25	1.0000	1.0000
L27	52	CCI 4.5" x 1" Plate	85.00 - 86.25	1.0000	1.0000
L27	53	CCI 4.5" x 1" Plate	85.00 - 86.25	1.0000	1.0000
L27	54	CCI 4.5" x 1" Plate	85.00 - 86.25	1.0000	1.0000
L28	23	PL 5.375"x1.25"	76.25 - 81.25	1.0000	1.0000
L28	24	PL 5.375"x1.25"	76.25 - 81.25	1.0000	1.0000
L28	25	PL 5.375"x1.25"	76.25 - 81.25	1.0000	1.0000
L28	39	MP3-03	76.25 - 76.58	1.0000	1.0000
L28	40	MP3-03	76.25 - 76.58	1.0000	1.0000
L28	41	MP3-03	76.25 - 76.58	1.0000	1.0000
L28	48	CCI 6" x 1" Plate	76.25 - 81.25	1.0000	1.0000
L28	49	CCI 6" x 1" Plate	76.25 - 81.25	1.0000	1.0000
L28	50	CCI 6" x 1" Plate	76.25 - 81.25	1.0000	1.0000
L29	23	PL 5.375"x1.25"	75.42 - 76.25	1.0000	1.0000
L29	24	PL 5.375"x1.25"	75.42 - 76.25	1.0000	1.0000
L29	25	PL 5.375"x1.25"	75.42 - 76.25	1.0000	1.0000
L29	39	MP3-03	75.42 - 76.25	1.0000	1.0000
L29	40	MP3-03	75.42 - 76.25	1.0000	1.0000
L29	41	MP3-03	75.42 - 76.25	1.0000	1.0000
L29	48	CCI 6" x 1" Plate	75.42 - 76.25	1.0000	1.0000
L29	49	CCI 6" x 1" Plate	75.42 - 76.25	1.0000	1.0000
L29	50	CCI 6" x 1" Plate	75.42 - 76.25	1.0000	1.0000
L30	23	PL 5.375"x1.25"	75.17 - 75.42	1.0000	1.0000
L30	24	PL 5.375"x1.25"	75.17 - 75.42	1.0000	1.0000
L30	25	PL 5.375"x1.25"	75.17 - 75.42	1.0000	1.0000
L30	39	MP3-03	75.17 - 75.42	1.0000	1.0000
L30	40	MP3-03	75.17 - 75.42	1.0000	1.0000
L30	41	MP3-03	75.17 - 75.42	1.0000	1.0000
L30	48	CCI 6" x 1" Plate	75.17 - 75.42	1.0000	1.0000
L30	49	CCI 6" x 1" Plate	75.17 - 75.42	1.0000	1.0000
L30	50	CCI 6" x 1" Plate	75.17 - 75.42	1.0000	1.0000
L31	23	PL 5.375"x1.25"	70.17 - 75.17	1.0000	1.0000
L31	24	PL 5.375"x1.25"	70.17 - 75.17	1.0000	1.0000
L31	25	PL 5.375"x1.25"	70.17 - 75.17	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L31	39	MP3-03	70.17 - 75.17	1.0000	1.0000
L31	40	MP3-03	70.17 - 75.17	1.0000	1.0000
L31	41	MP3-03	70.17 - 75.17	1.0000	1.0000
L31	48	CCI 6" x 1" Plate	70.17 - 75.17	1.0000	1.0000
L31	49	CCI 6" x 1" Plate	70.17 - 75.17	1.0000	1.0000
L31	50	CCI 6" x 1" Plate	70.17 - 75.17	1.0000	1.0000
L32	23	PL 5.375"x1.25"	65.17 - 70.17	1.0000	1.0000
L32	24	PL 5.375"x1.25"	65.17 - 70.17	1.0000	1.0000
L32	25	PL 5.375"x1.25"	65.17 - 70.17	1.0000	1.0000
L32	39	MP3-03	65.17 - 70.17	1.0000	1.0000
L32	40	MP3-03	65.17 - 70.17	1.0000	1.0000
L32	41	MP3-03	65.17 - 70.17	1.0000	1.0000
L32	48	CCI 6" x 1" Plate	65.17 - 70.17	1.0000	1.0000
L32	49	CCI 6" x 1" Plate	65.17 - 70.17	1.0000	1.0000
L32	50	CCI 6" x 1" Plate	65.17 - 70.17	1.0000	1.0000
L33	23	PL 5.375"x1.25"	60.17 - 65.17	1.0000	1.0000
L33	24	PL 5.375"x1.25"	60.17 - 65.17	1.0000	1.0000
L33	25	PL 5.375"x1.25"	60.17 - 65.17	1.0000	1.0000
L33	39	MP3-03	60.17 - 65.17	1.0000	1.0000
L33	40	MP3-03	60.17 - 65.17	1.0000	1.0000
L33	41	MP3-03	60.17 - 65.17	1.0000	1.0000
L33	48	CCI 6" x 1" Plate	60.17 - 65.17	1.0000	1.0000
L33	49	CCI 6" x 1" Plate	60.17 - 65.17	1.0000	1.0000
L33	50	CCI 6" x 1" Plate	60.17 - 65.17	1.0000	1.0000
L34	23	PL 5.375"x1.25"	57.00 - 60.17	1.0000	1.0000
L34	24	PL 5.375"x1.25"	57.00 - 60.17	1.0000	1.0000
L34	25	PL 5.375"x1.25"	57.00 - 60.17	1.0000	1.0000
L34	39	MP3-03	57.00 - 60.17	1.0000	1.0000
L34	40	MP3-03	57.00 - 60.17	1.0000	1.0000
L34	41	MP3-03	57.00 - 60.17	1.0000	1.0000
L34	48	CCI 6" x 1" Plate	57.00 - 60.17	1.0000	1.0000
L34	49	CCI 6" x 1" Plate	57.00 - 60.17	1.0000	1.0000
L34	50	CCI 6" x 1" Plate	57.00 - 60.17	1.0000	1.0000
L35	23	PL 5.375"x1.25"	56.75 - 57.00	1.0000	1.0000
L35	24	PL 5.375"x1.25"	56.75 - 57.00	1.0000	1.0000
L35	25	PL 5.375"x1.25"	56.75 - 57.00	1.0000	1.0000
L35	39	MP3-03	56.75 - 57.00	1.0000	1.0000
L35	40	MP3-03	56.75 - 57.00	1.0000	1.0000
L35	41	MP3-03	56.75 - 57.00	1.0000	1.0000
L35	48	CCI 6" x 1" Plate	56.75 - 57.00	1.0000	1.0000
L35	49	CCI 6" x 1" Plate	56.75 - 57.00	1.0000	1.0000
L35	50	CCI 6" x 1" Plate	56.75 - 57.00	1.0000	1.0000
L36	23	PL 5.375"x1.25"	53.00 - 56.75	1.0000	1.0000
L36	24	PL 5.375"x1.25"	53.00 - 56.75	1.0000	1.0000
L36	25	PL 5.375"x1.25"	53.00 - 56.75	1.0000	1.0000
L36	39	MP3-03	53.00 - 56.75	1.0000	1.0000
L36	40	MP3-03	53.00 - 56.75	1.0000	1.0000
L36	41	MP3-03	53.00 - 56.75	1.0000	1.0000
L36	47	CCI 6" x 1" Plate	53.00 - 55.00	1.0000	1.0000
L36	48	CCI 6" x 1" Plate	53.00 - 56.75	1.0000	1.0000
L36	49	CCI 6" x 1" Plate	53.00 - 56.75	1.0000	1.0000
L36	50	CCI 6" x 1" Plate	53.00 - 56.75	1.0000	1.0000
L37	23	PL 5.375"x1.25"	47.20 - 53.00	1.0000	1.0000
L37	24	PL 5.375"x1.25"	47.20 - 53.00	1.0000	1.0000
L37	25	PL 5.375"x1.25"	47.20 - 53.00	1.0000	1.0000
L37	39	MP3-03	47.20 - 53.00	1.0000	1.0000
L37	40	MP3-03	47.20 - 53.00	1.0000	1.0000
L37	41	MP3-03	47.20 - 53.00	1.0000	1.0000
L37	47	CCI 6" x 1" Plate	47.20 - 53.00	1.0000	1.0000
L37	48	CCI 6" x 1" Plate	47.20 - 53.00	1.0000	1.0000
L37	49	CCI 6" x 1" Plate	47.20 - 53.00	1.0000	1.0000
L37	50	CCI 6" x 1" Plate	47.21 - 53.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L38	23	PL 5.375"x1.25"	46.20 - 47.20	1.0000	1.0000
L38	24	PL 5.375"x1.25"	46.20 - 47.20	1.0000	1.0000
L38	25	PL 5.375"x1.25"	46.20 - 47.20	1.0000	1.0000
L38	39	MP3-03	46.20 - 47.20	1.0000	1.0000
L38	40	MP3-03	46.20 - 47.20	1.0000	1.0000
L38	41	MP3-03	46.20 - 47.20	1.0000	1.0000
L38	47	CCI 6" x 1" Plate	46.20 - 47.20	1.0000	1.0000
L38	48	CCI 6" x 1" Plate	46.20 - 47.20	1.0000	1.0000
L38	49	CCI 6" x 1" Plate	46.20 - 47.20	1.0000	1.0000
L39	23	PL 5.375"x1.25"	41.20 - 46.20	1.0000	1.0000
L39	24	PL 5.375"x1.25"	41.20 - 46.20	1.0000	1.0000
L39	25	PL 5.375"x1.25"	41.20 - 46.20	1.0000	1.0000
L39	39	MP3-03	41.20 - 46.20	1.0000	1.0000
L39	40	MP3-03	41.20 - 46.20	1.0000	1.0000
L39	41	MP3-03	41.20 - 46.20	1.0000	1.0000
L39	47	CCI 6" x 1" Plate	41.20 - 46.20	1.0000	1.0000
L39	48	CCI 6" x 1" Plate	41.20 - 46.20	1.0000	1.0000
L39	49	CCI 6" x 1" Plate	41.20 - 46.20	1.0000	1.0000
L40	23	PL 5.375"x1.25"	39.33 - 41.20	1.0000	1.0000
L40	24	PL 5.375"x1.25"	39.33 - 41.20	1.0000	1.0000
L40	25	PL 5.375"x1.25"	39.33 - 41.20	1.0000	1.0000
L40	35	MP3-03	39.33 - 40.50	1.0000	1.0000
L40	36	MP3-03	39.33 - 40.50	1.0000	1.0000
L40	37	MP3-03	39.33 - 40.50	1.0000	1.0000
L40	39	MP3-03	39.33 - 41.20	1.0000	1.0000
L40	40	MP3-03	39.33 - 41.20	1.0000	1.0000
L40	41	MP3-03	39.33 - 41.20	1.0000	1.0000
L40	47	CCI 6" x 1" Plate	39.33 - 41.20	1.0000	1.0000
L40	48	CCI 6" x 1" Plate	39.33 - 41.20	1.0000	1.0000
L40	49	CCI 6" x 1" Plate	39.33 - 41.20	1.0000	1.0000
L41	23	PL 5.375"x1.25"	39.08 - 39.33	1.0000	1.0000
L41	24	PL 5.375"x1.25"	39.08 - 39.33	1.0000	1.0000
L41	25	PL 5.375"x1.25"	39.08 - 39.33	1.0000	1.0000
L41	35	MP3-03	39.08 - 39.33	1.0000	1.0000
L41	36	MP3-03	39.08 - 39.33	1.0000	1.0000
L41	37	MP3-03	39.08 - 39.33	1.0000	1.0000
L41	39	MP3-03	39.08 - 39.33	1.0000	1.0000
L41	40	MP3-03	39.08 - 39.33	1.0000	1.0000
L41	41	MP3-03	39.08 - 39.33	1.0000	1.0000
L41	47	CCI 6" x 1" Plate	39.08 - 39.33	1.0000	1.0000
L41	48	CCI 6" x 1" Plate	39.08 - 39.33	1.0000	1.0000
L41	49	CCI 6" x 1" Plate	39.08 - 39.33	1.0000	1.0000
L42	23	PL 5.375"x1.25"	37.75 - 39.08	1.0000	1.0000
L42	24	PL 5.375"x1.25"	37.75 - 39.08	1.0000	1.0000
L42	25	PL 5.375"x1.25"	37.75 - 39.08	1.0000	1.0000
L42	35	MP3-03	37.75 - 39.08	1.0000	1.0000
L42	36	MP3-03	37.75 - 39.08	1.0000	1.0000
L42	37	MP3-03	37.75 - 39.08	1.0000	1.0000
L42	39	MP3-03	37.75 - 39.08	1.0000	1.0000
L42	40	MP3-03	37.75 - 39.08	1.0000	1.0000
L42	41	MP3-03	37.75 - 39.08	1.0000	1.0000
L42	47	CCI 6" x 1" Plate	37.75 - 39.08	1.0000	1.0000
L42	48	CCI 6" x 1" Plate	37.75 - 39.08	1.0000	1.0000
L42	49	CCI 6" x 1" Plate	37.75 - 39.08	1.0000	1.0000
L43	23	PL 5.375"x1.25"	37.50 - 37.75	1.0000	1.0000
L43	24	PL 5.375"x1.25"	37.50 - 37.75	1.0000	1.0000
L43	25	PL 5.375"x1.25"	37.50 - 37.75	1.0000	1.0000
L43	35	MP3-03	37.50 - 37.75	1.0000	1.0000
L43	36	MP3-03	37.50 - 37.75	1.0000	1.0000
L43	37	MP3-03	37.50 - 37.75	1.0000	1.0000
L43	39	MP3-03	37.50 - 37.75	1.0000	1.0000
L43	40	MP3-03	37.50 - 37.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L43	41	MP3-03	37.50 - 37.75	1.0000	1.0000
L43	47	CCI 6" x 1" Plate	37.50 - 37.75	1.0000	1.0000
L43	48	CCI 6" x 1" Plate	37.50 - 37.75	1.0000	1.0000
L43	49	CCI 6" x 1" Plate	37.50 - 37.75	1.0000	1.0000
L44	23	PL 5.375"x1.25"	32.50 - 37.50	1.0000	1.0000
L44	24	PL 5.375"x1.25"	32.50 - 37.50	1.0000	1.0000
L44	25	PL 5.375"x1.25"	32.50 - 37.50	1.0000	1.0000
L44	35	MP3-03	32.50 - 37.50	1.0000	1.0000
L44	36	MP3-03	32.50 - 37.50	1.0000	1.0000
L44	37	MP3-03	32.50 - 37.50	1.0000	1.0000
L44	39	MP3-03	36.58 - 37.50	1.0000	1.0000
L44	40	MP3-03	36.58 - 37.50	1.0000	1.0000
L44	41	MP3-03	36.58 - 37.50	1.0000	1.0000
L44	47	CCI 6" x 1" Plate	32.50 - 37.50	1.0000	1.0000
L44	48	CCI 6" x 1" Plate	32.50 - 37.50	1.0000	1.0000
L44	49	CCI 6" x 1" Plate	32.50 - 37.50	1.0000	1.0000
L45	23	PL 5.375"x1.25"	27.50 - 32.50	1.0000	1.0000
L45	24	PL 5.375"x1.25"	27.50 - 32.50	1.0000	1.0000
L45	25	PL 5.375"x1.25"	27.50 - 32.50	1.0000	1.0000
L45	35	MP3-03	27.50 - 32.50	1.0000	1.0000
L45	36	MP3-03	27.50 - 32.50	1.0000	1.0000
L45	37	MP3-03	27.50 - 32.50	1.0000	1.0000
L45	47	CCI 6" x 1" Plate	27.50 - 32.50	1.0000	1.0000
L45	48	CCI 6" x 1" Plate	27.50 - 32.50	1.0000	1.0000
L45	49	CCI 6" x 1" Plate	27.50 - 32.50	1.0000	1.0000
L46	23	PL 5.375"x1.25"	27.25 - 27.50	1.0000	1.0000
L46	24	PL 5.375"x1.25"	27.25 - 27.50	1.0000	1.0000
L46	25	PL 5.375"x1.25"	27.25 - 27.50	1.0000	1.0000
L46	35	MP3-03	27.25 - 27.50	1.0000	1.0000
L46	36	MP3-03	27.25 - 27.50	1.0000	1.0000
L46	37	MP3-03	27.25 - 27.50	1.0000	1.0000
L46	47	CCI 6" x 1" Plate	27.25 - 27.50	1.0000	1.0000
L46	48	CCI 6" x 1" Plate	27.25 - 27.50	1.0000	1.0000
L46	49	CCI 6" x 1" Plate	27.25 - 27.50	1.0000	1.0000
L47	23	PL 5.375"x1.25"	27.00 - 27.25	1.0000	1.0000
L47	24	PL 5.375"x1.25"	27.00 - 27.25	1.0000	1.0000
L47	25	PL 5.375"x1.25"	27.00 - 27.25	1.0000	1.0000
L47	35	MP3-03	27.00 - 27.25	1.0000	1.0000
L47	36	MP3-03	27.00 - 27.25	1.0000	1.0000
L47	37	MP3-03	27.00 - 27.25	1.0000	1.0000
L47	47	CCI 6" x 1" Plate	27.00 - 27.25	1.0000	1.0000
L47	48	CCI 6" x 1" Plate	27.00 - 27.25	1.0000	1.0000
L47	49	CCI 6" x 1" Plate	27.00 - 27.25	1.0000	1.0000
L48	23	PL 5.375"x1.25"	22.00 - 27.00	1.0000	1.0000
L48	24	PL 5.375"x1.25"	22.00 - 27.00	1.0000	1.0000
L48	25	PL 5.375"x1.25"	22.00 - 27.00	1.0000	1.0000
L48	35	MP3-03	22.00 - 27.00	1.0000	1.0000
L48	36	MP3-03	22.00 - 27.00	1.0000	1.0000
L48	37	MP3-03	22.00 - 27.00	1.0000	1.0000
L48	45	CCI 8.5" x 1.25" Plate	22.00 - 25.00	1.0000	1.0000
L48	47	CCI 6" x 1" Plate	22.00 - 27.00	1.0000	1.0000
L48	48	CCI 6" x 1" Plate	22.00 - 27.00	1.0000	1.0000
L48	49	CCI 6" x 1" Plate	22.00 - 27.00	1.0000	1.0000
L49	23	PL 5.375"x1.25"	21.25 - 22.00	1.0000	1.0000
L49	24	PL 5.375"x1.25"	21.25 - 22.00	1.0000	1.0000
L49	25	PL 5.375"x1.25"	21.25 - 22.00	1.0000	1.0000
L49	35	MP3-03	21.25 - 22.00	1.0000	1.0000
L49	36	MP3-03	21.25 - 22.00	1.0000	1.0000
L49	37	MP3-03	21.25 - 22.00	1.0000	1.0000
L49	45	CCI 8.5" x 1.25" Plate	21.25 - 22.00	1.0000	1.0000
L49	47	CCI 6" x 1" Plate	21.25 - 22.00	1.0000	1.0000
L49	48	CCI 6" x 1" Plate	21.25 - 22.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L49	49	CCI 6" x 1" Plate	21.25 - 22.00	1.0000	1.0000
L50	23	PL 5.375"x1.25"	21.00 - 21.25	1.0000	1.0000
L50	24	PL 5.375"x1.25"	21.00 - 21.25	1.0000	1.0000
L50	25	PL 5.375"x1.25"	21.00 - 21.25	1.0000	1.0000
L50	35	MP3-03	21.00 - 21.25	1.0000	1.0000
L50	36	MP3-03	21.00 - 21.25	1.0000	1.0000
L50	37	MP3-03	21.00 - 21.25	1.0000	1.0000
L50	45	CCI 8.5" x 1.25" Plate	21.00 - 21.25	1.0000	1.0000
L50	47	CCI 6" x 1" Plate	21.00 - 21.25	1.0000	1.0000
L50	48	CCI 6" x 1" Plate	21.00 - 21.25	1.0000	1.0000
L50	49	CCI 6" x 1" Plate	21.00 - 21.25	1.0000	1.0000
L51	23	PL 5.375"x1.25"	17.00 - 21.00	1.0000	1.0000
L51	24	PL 5.375"x1.25"	17.00 - 21.00	1.0000	1.0000
L51	25	PL 5.375"x1.25"	17.00 - 21.00	1.0000	1.0000
L51	35	MP3-03	17.00 - 21.00	1.0000	1.0000
L51	36	MP3-03	17.00 - 21.00	1.0000	1.0000
L51	37	MP3-03	17.00 - 21.00	1.0000	1.0000
L51	43	CCI 8.5" x 1.25" Plate	17.00 - 20.00	1.0000	1.0000
L51	44	CCI 8.5" x 1.25" Plate	17.00 - 20.00	1.0000	1.0000
L51	45	CCI 8.5" x 1.25" Plate	17.00 - 21.00	1.0000	1.0000
L51	47	CCI 6" x 1" Plate	20.00 - 21.00	1.0000	1.0000
L51	48	CCI 6" x 1" Plate	20.00 - 21.00	1.0000	1.0000
L51	49	CCI 6" x 1" Plate	17.00 - 21.00	1.0000	1.0000
L52	23	PL 5.375"x1.25"	16.75 - 17.00	1.0000	1.0000
L52	24	PL 5.375"x1.25"	16.75 - 17.00	1.0000	1.0000
L52	25	PL 5.375"x1.25"	16.75 - 17.00	1.0000	1.0000
L52	35	MP3-03	16.75 - 17.00	1.0000	1.0000
L52	36	MP3-03	16.75 - 17.00	1.0000	1.0000
L52	37	MP3-03	16.75 - 17.00	1.0000	1.0000
L52	43	CCI 8.5" x 1.25" Plate	16.75 - 17.00	1.0000	1.0000
L52	44	CCI 8.5" x 1.25" Plate	16.75 - 17.00	1.0000	1.0000
L52	45	CCI 8.5" x 1.25" Plate	16.75 - 17.00	1.0000	1.0000
L52	49	CCI 6" x 1" Plate	16.75 - 17.00	1.0000	1.0000
L53	23	PL 5.375"x1.25"	16.25 - 16.75	1.0000	1.0000
L53	24	PL 5.375"x1.25"	16.25 - 16.75	1.0000	1.0000
L53	25	PL 5.375"x1.25"	16.25 - 16.75	1.0000	1.0000
L53	35	MP3-03	16.25 - 16.75	1.0000	1.0000
L53	36	MP3-03	16.25 - 16.75	1.0000	1.0000
L53	37	MP3-03	16.25 - 16.75	1.0000	1.0000
L53	43	CCI 8.5" x 1.25" Plate	16.25 - 16.75	1.0000	1.0000
L53	44	CCI 8.5" x 1.25" Plate	16.25 - 16.75	1.0000	1.0000
L53	45	CCI 8.5" x 1.25" Plate	16.25 - 16.75	1.0000	1.0000
L53	49	CCI 6" x 1" Plate	16.25 - 16.75	1.0000	1.0000
L54	23	PL 5.375"x1.25"	16.00 - 16.25	1.0000	1.0000
L54	24	PL 5.375"x1.25"	16.00 - 16.25	1.0000	1.0000
L54	25	PL 5.375"x1.25"	16.00 - 16.25	1.0000	1.0000
L54	35	MP3-03	16.00 - 16.25	1.0000	1.0000
L54	36	MP3-03	16.00 - 16.25	1.0000	1.0000
L54	37	MP3-03	16.00 - 16.25	1.0000	1.0000
L54	43	CCI 8.5" x 1.25" Plate	16.00 - 16.25	1.0000	1.0000
L54	44	CCI 8.5" x 1.25" Plate	16.00 - 16.25	1.0000	1.0000
L54	45	CCI 8.5" x 1.25" Plate	16.00 - 16.25	1.0000	1.0000
L54	49	CCI 6" x 1" Plate	16.00 - 16.25	1.0000	1.0000
L55	23	PL 5.375"x1.25"	11.00 - 16.00	1.0000	1.0000
L55	24	PL 5.375"x1.25"	11.00 - 16.00	1.0000	1.0000
L55	25	PL 5.375"x1.25"	11.00 - 16.00	1.0000	1.0000
L55	35	MP3-03	11.00 - 16.00	1.0000	1.0000
L55	36	MP3-03	11.00 - 16.00	1.0000	1.0000
L55	37	MP3-03	11.00 - 16.00	1.0000	1.0000
L55	43	CCI 8.5" x 1.25" Plate	11.00 - 16.00	1.0000	1.0000
L55	44	CCI 8.5" x 1.25" Plate	11.00 - 16.00	1.0000	1.0000
L55	45	CCI 8.5" x 1.25" Plate	11.00 - 16.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L55	49	CCI 6" x 1" Plate	15.00 - 16.00	1.0000	1.0000
L56	23	PL 5.375"x1.25"	6.00 - 11.00	1.0000	1.0000
L56	24	PL 5.375"x1.25"	6.00 - 11.00	1.0000	1.0000
L56	25	PL 5.375"x1.25"	6.00 - 11.00	1.0000	1.0000
L56	35	MP3-03	6.00 - 11.00	1.0000	1.0000
L56	36	MP3-03	6.00 - 11.00	1.0000	1.0000
L56	37	MP3-03	6.00 - 11.00	1.0000	1.0000
L56	43	CCI 8.5" x 1.25" Plate	6.00 - 11.00	1.0000	1.0000
L56	44	CCI 8.5" x 1.25" Plate	6.00 - 11.00	1.0000	1.0000
L56	45	CCI 8.5" x 1.25" Plate	6.00 - 11.00	1.0000	1.0000
L57	23	PL 5.375"x1.25"	1.00 - 6.00	1.0000	1.0000
L57	24	PL 5.375"x1.25"	1.00 - 6.00	1.0000	1.0000
L57	25	PL 5.375"x1.25"	1.00 - 6.00	1.0000	1.0000
L57	35	MP3-03	1.00 - 6.00	1.0000	1.0000
L57	36	MP3-03	1.00 - 6.00	1.0000	1.0000
L57	37	MP3-03	1.00 - 6.00	1.0000	1.0000
L57	43	CCI 8.5" x 1.25" Plate	1.00 - 6.00	1.0000	1.0000
L57	44	CCI 8.5" x 1.25" Plate	1.00 - 6.00	1.0000	1.0000
L57	45	CCI 8.5" x 1.25" Plate	1.00 - 6.00	1.0000	1.0000
L58	23	PL 5.375"x1.25"	0.00 - 1.00	1.0000	1.0000
L58	24	PL 5.375"x1.25"	0.00 - 1.00	1.0000	1.0000
L58	25	PL 5.375"x1.25"	0.00 - 1.00	1.0000	1.0000
L58	35	MP3-03	0.00 - 1.00	1.0000	1.0000
L58	36	MP3-03	0.00 - 1.00	1.0000	1.0000
L58	37	MP3-03	0.00 - 1.00	1.0000	1.0000
L58	43	CCI 8.5" x 1.25" Plate	0.00 - 1.00	1.0000	1.0000
L58	44	CCI 8.5" x 1.25" Plate	0.00 - 1.00	1.0000	1.0000
L58	45	CCI 8.5" x 1.25" Plate	0.00 - 1.00	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L7	31	PL 3.125"x1.25"	125.75 - 127.00	Auto	0.0000
L7	32	PL 3.125"x1.25"	125.75 - 127.00	Auto	0.0000
L7	33	278ae161524b9b8c8ec25.75 -	125.75 - 127.00	Auto	0.0000
L8	31	PL 3.125"x1.25"	125.50 - 125.75	Auto	0.0000
L8	32	PL 3.125"x1.25"	125.50 - 125.75	Auto	0.0000
L8	33	PL 3.125"x1.25"	125.50 - 125.75	Auto	0.0000
L9	31	PL 3.125"x1.25"	119.12 - 125.50	Auto	0.0000
L9	32	PL 3.125"x1.25"	119.12 - 125.50	Auto	0.0000
L9	33	PL 3.125"x1.25"	119.12 - 125.50	Auto	0.0000
L10	27	PL 4.375"x1.25"	117.87 - 119.00	Auto	0.0780

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L10	28	PL 4.375"x1.25"	117.87 - 119.00	Auto	0.0780
L10	29	PL 4.375"x1.25"	117.87 - 119.00	Auto	0.0780
L10	31	PL 3.125"x1.25"	119.00 - 119.12	Auto	0.0000
L10	32	PL 3.125"x1.25"	119.00 - 119.12	Auto	0.0000
L10	33	PL 3.125"x1.25"	119.00 - 119.12	Auto	0.0000
L11	27	PL 4.375"x1.25"	117.75 - 117.87	Auto	0.0724
L11	28	PL 4.375"x1.25"	117.75 - 117.87	Auto	0.0724
L11	29	PL 4.375"x1.25"	117.75 - 117.87	Auto	0.0724
L12	27	PL 4.375"x1.25"	117.50 - 117.75	Auto	0.0708
L12	28	PL 4.375"x1.25"	117.50 - 117.75	Auto	0.0708
L12	29	PL 4.375"x1.25"	117.50 - 117.75	Auto	0.0708
L13	27	PL 4.375"x1.25"	112.50 - 117.50	Auto	0.1381
L13	28	PL 4.375"x1.25"	112.50 - 117.50	Auto	0.1381
L13	29	PL 4.375"x1.25"	112.50 - 117.50	Auto	0.1381
L14	27	PL 4.375"x1.25"	107.50 - 112.50	Auto	0.0914
L14	28	PL 4.375"x1.25"	107.50 - 112.50	Auto	0.0914
L14	29	PL 4.375"x1.25"	107.50 - 112.50	Auto	0.0914
L15	27	PL 4.375"x1.25"	103.00 - 107.50	Auto	0.0468
L15	28	PL 4.375"x1.25"	103.00 - 107.50	Auto	0.0468
L15	29	PL 4.375"x1.25"	103.00 - 107.50	Auto	0.0468
L15	48	CCI 6" x 1" Plate	103.00 - 105.00	Auto	0.2969
L15	49	CCI 6" x 1" Plate	103.00 - 105.00	Auto	0.2969
L16	27	PL 4.375"x1.25"	102.75 - 103.00	Auto	0.0610
L16	28	PL 4.375"x1.25"	102.75 - 103.00	Auto	0.0610
L16	29	PL 4.375"x1.25"	102.75 - 103.00	Auto	0.0610
L16	48	CCI 6" x 1" Plate	102.75 - 103.00	Auto	0.3153
L16	49	CCI 6" x 1" Plate	102.75 - 103.00	Auto	0.3153
L17	27	PL 4.375"x1.25"	100.21 - 102.75	Auto	0.0437
L17	28	PL 4.375"x1.25"	100.21 - 102.75	Auto	0.0437
L17	29	PL 4.375"x1.25"	100.21 - 102.75	Auto	0.0437
L17	48	CCI 6" x 1" Plate	100.21 -	Auto	0.3027

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
			102.75		
L17	49	CCI 6" x 1" Plate	100.21 - 102.75	Auto	0.3027
L17	50	CCI 6" x 1" Plate	100.21 - 102.21	Auto	0.3009
L18	27	PL 4.375"x1.25"	95.83 - 100.21	Auto	0.0734
L18	28	PL 4.375"x1.25"	95.83 - 100.21	Auto	0.0734
L18	29	PL 4.375"x1.25"	95.83 - 100.21	Auto	0.0734
L18	48	CCI 6" x 1" Plate	95.83 - 100.21	Auto	0.3244
L18	49	CCI 6" x 1" Plate	95.83 - 100.21	Auto	0.3244
L18	50	CCI 6" x 1" Plate	95.83 - 100.21	Auto	0.3244
L19	27	PL 4.375"x1.25"	94.83 - 95.83	Auto	0.0895
L19	28	PL 4.375"x1.25"	94.83 - 95.83	Auto	0.0895
L19	29	PL 4.375"x1.25"	94.83 - 95.83	Auto	0.0895
L19	48	CCI 6" x 1" Plate	94.83 - 95.83	Auto	0.3361
L19	49	CCI 6" x 1" Plate	94.83 - 95.83	Auto	0.3361
L19	50	CCI 6" x 1" Plate	94.83 - 95.83	Auto	0.3361
L19	52	CCI 4.5" x 1" Plate	94.83 - 95.00	Auto	0.1112
L19	53	CCI 4.5" x 1" Plate	94.83 - 95.00	Auto	0.1112
L19	54	CCI 4.5" x 1" Plate	94.83 - 95.00	Auto	0.1112
L20	27	PL 4.375"x1.25"	93.50 - 94.83	Auto	0.0791
L20	28	PL 4.375"x1.25"	93.50 - 94.83	Auto	0.0791
L20	29	PL 4.375"x1.25"	93.50 - 94.83	Auto	0.0791
L20	48	CCI 6" x 1" Plate	93.50 - 94.83	Auto	0.3285
L20	49	CCI 6" x 1" Plate	93.50 - 94.83	Auto	0.3285
L20	50	CCI 6" x 1" Plate	93.50 - 94.83	Auto	0.3285
L20	52	CCI 4.5" x 1" Plate	93.50 - 94.83	Auto	0.1047
L20	53	CCI 4.5" x 1" Plate	93.50 - 94.83	Auto	0.1047
L20	54	CCI 4.5" x 1" Plate	93.50 - 94.83	Auto	0.1047
L21	27	PL 4.375"x1.25"	93.25 - 93.50	Auto	0.1425
L21	28	PL 4.375"x1.25"	93.25 - 93.50	Auto	0.1425
L21	29	PL 4.375"x1.25"	93.25 - 93.50	Auto	0.1425
L21	48	CCI 6" x 1" Plate	93.25 - 93.50	Auto	0.3747
L21	49	CCI 6" x 1" Plate	93.25 - 93.50	Auto	0.3747
L21	50	CCI 6" x 1" Plate	93.25 - 93.50	Auto	0.3747
L21	52	CCI 4.5" x 1" Plate	93.25 - 93.50	Auto	0.1663
L21	53	CCI 4.5" x 1" Plate	93.25 - 93.50	Auto	0.1663
L21	54	CCI 4.5" x 1" Plate	93.25 - 93.50	Auto	0.1663
L22	23	PL 5.375"x1.25"	88.25 - 89.25	Auto	0.2603
L22	24	PL 5.375"x1.25"	88.25 - 89.25	Auto	0.2603
L22	25	PL 5.375"x1.25"	88.25 - 89.25	Auto	0.2603
L22	27	PL 4.375"x1.25"	89.25 - 93.25	Auto	0.1135
L22	28	PL 4.375"x1.25"	89.25 - 93.25	Auto	0.1135
L22	29	PL 4.375"x1.25"	89.25 - 93.25	Auto	0.1135
L22	48	CCI 6" x 1" Plate	88.25 - 93.25	Auto	0.3503
L22	49	CCI 6" x 1" Plate	88.25 - 93.25	Auto	0.3503
L22	50	CCI 6" x 1" Plate	88.25 - 93.25	Auto	0.3503
L22	52	CCI 4.5" x 1" Plate	88.25 - 93.25	Auto	0.1338
L22	53	CCI 4.5" x 1" Plate	88.25 - 93.25	Auto	0.1338
L22	54	CCI 4.5" x 1" Plate	88.25 - 93.25	Auto	0.1338
L23	23	PL 5.375"x1.25"	87.25 - 88.25	Auto	0.2530
L23	24	PL 5.375"x1.25"	87.25 - 88.25	Auto	0.2530
L23	25	PL 5.375"x1.25"	87.25 - 88.25	Auto	0.2530
L23	48	CCI 6" x 1" Plate	87.25 - 88.25	Auto	0.3308
L23	49	CCI 6" x 1" Plate	87.25 - 88.25	Auto	0.3308
L23	50	CCI 6" x 1" Plate	87.25 - 88.25	Auto	0.3308
L23	52	CCI 4.5" x 1" Plate	87.25 - 88.25	Auto	0.1078
L23	53	CCI 4.5" x 1" Plate	87.25 - 88.25	Auto	0.1078
L23	54	CCI 4.5" x 1" Plate	87.25 - 88.25	Auto	0.1078
L24	23	PL 5.375"x1.25"	87.00 - 87.25	Auto	0.2649
L24	24	PL 5.375"x1.25"	87.00 - 87.25	Auto	0.2649

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L24	25	PL 5.375"x1.25"	87.00 - 87.25	Auto	0.2649
L24	48	CCI 6" x 1" Plate	87.00 - 87.25	Auto	0.3414
L24	49	CCI 6" x 1" Plate	87.00 - 87.25	Auto	0.3414
L24	50	CCI 6" x 1" Plate	87.00 - 87.25	Auto	0.3414
L24	52	CCI 4.5" x 1" Plate	87.00 - 87.25	Auto	0.1219
L24	53	CCI 4.5" x 1" Plate	87.00 - 87.25	Auto	0.1219
L24	54	CCI 4.5" x 1" Plate	87.00 - 87.25	Auto	0.1219
L25	23	PL 5.375"x1.25"	86.50 - 87.00	Auto	0.2581
L25	24	PL 5.375"x1.25"	86.50 - 87.00	Auto	0.2581
L25	25	PL 5.375"x1.25"	86.50 - 87.00	Auto	0.2581
L25	48	CCI 6" x 1" Plate	86.50 - 87.00	Auto	0.3353
L25	49	CCI 6" x 1" Plate	86.50 - 87.00	Auto	0.3353
L25	50	CCI 6" x 1" Plate	86.50 - 87.00	Auto	0.3353
L25	52	CCI 4.5" x 1" Plate	86.50 - 87.00	Auto	0.1138
L25	53	CCI 4.5" x 1" Plate	86.50 - 87.00	Auto	0.1138
L25	54	CCI 4.5" x 1" Plate	86.50 - 87.00	Auto	0.1138
L26	23	PL 5.375"x1.25"	86.25 - 86.50	Auto	0.2021
L26	24	PL 5.375"x1.25"	86.25 - 86.50	Auto	0.2021
L26	25	PL 5.375"x1.25"	86.25 - 86.50	Auto	0.2021
L26	48	CCI 6" x 1" Plate	86.25 - 86.50	Auto	0.2852
L26	49	CCI 6" x 1" Plate	86.25 - 86.50	Auto	0.2852
L26	50	CCI 6" x 1" Plate	86.25 - 86.50	Auto	0.2852
L26	52	CCI 4.5" x 1" Plate	86.25 - 86.50	Auto	0.0470
L26	53	CCI 4.5" x 1" Plate	86.25 - 86.50	Auto	0.0470
L26	54	CCI 4.5" x 1" Plate	86.25 - 86.50	Auto	0.0470
L27	23	PL 5.375"x1.25"	81.25 - 86.25	Auto	0.1749
L27	24	PL 5.375"x1.25"	81.25 - 86.25	Auto	0.1749
L27	25	PL 5.375"x1.25"	81.25 - 86.25	Auto	0.1749
L27	48	CCI 6" x 1" Plate	81.25 - 86.25	Auto	0.2608
L27	49	CCI 6" x 1" Plate	81.25 - 86.25	Auto	0.2608
L27	50	CCI 6" x 1" Plate	81.25 - 86.25	Auto	0.2608
L27	52	CCI 4.5" x 1" Plate	85.00 - 86.25	Auto	0.0307
L27	53	CCI 4.5" x 1" Plate	85.00 - 86.25	Auto	0.0307
L27	54	CCI 4.5" x 1" Plate	85.00 - 86.25	Auto	0.0307
L28	23	PL 5.375"x1.25"	76.25 - 81.25	Auto	0.1345
L28	24	PL 5.375"x1.25"	76.25 - 81.25	Auto	0.1345
L28	25	PL 5.375"x1.25"	76.25 - 81.25	Auto	0.1345
L28	39	MP3-03	76.25 - 76.58	Auto	0.0000
L28	40	MP3-03	76.25 - 76.58	Auto	0.0000
L28	41	MP3-03	76.25 - 76.58	Auto	0.0000
L28	48	CCI 6" x 1" Plate	76.25 - 81.25	Auto	0.2247
L28	49	CCI 6" x 1" Plate	76.25 - 81.25	Auto	0.2247
L28	50	CCI 6" x 1" Plate	76.25 - 81.25	Auto	0.2247
L29	23	PL 5.375"x1.25"	75.42 - 76.25	Auto	0.1134
L29	24	PL 5.375"x1.25"	75.42 - 76.25	Auto	0.1134
L29	25	PL 5.375"x1.25"	75.42 - 76.25	Auto	0.1134
L29	39	MP3-03	75.42 - 76.25	Auto	0.0000
L29	40	MP3-03	75.42 - 76.25	Auto	0.0000
L29	41	MP3-03	75.42 - 76.25	Auto	0.0000
L29	48	CCI 6" x 1" Plate	75.42 - 76.25	Auto	0.2057
L29	49	CCI 6" x 1" Plate	75.42 - 76.25	Auto	0.2057
L29	50	CCI 6" x 1" Plate	75.42 - 76.25	Auto	0.2057
L30	23	PL 5.375"x1.25"	75.17 - 75.42	Auto	0.1381
L30	24	PL 5.375"x1.25"	75.17 - 75.42	Auto	0.1381
L30	25	PL 5.375"x1.25"	75.17 - 75.42	Auto	0.1381
L30	39	MP3-03	75.17 - 75.42	Auto	0.0000
L30	40	MP3-03	75.17 - 75.42	Auto	0.0000
L30	41	MP3-03	75.17 - 75.42	Auto	0.0000
L30	48	CCI 6" x 1" Plate	75.17 - 75.42	Auto	0.2279
L30	49	CCI 6" x 1" Plate	75.17 - 75.42	Auto	0.2279
L30	50	CCI 6" x 1" Plate	75.17 - 75.42	Auto	0.2279

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L31	23	PL 5.375"x1.25"	70.17 - 75.17	Auto	0.1150
L31	24	PL 5.375"x1.25"	70.17 - 75.17	Auto	0.1150
L31	25	PL 5.375"x1.25"	70.17 - 75.17	Auto	0.1150
L31	39	MP3-03	70.17 - 75.17	Auto	0.0000
L31	40	MP3-03	70.17 - 75.17	Auto	0.0000
L31	41	MP3-03	70.17 - 75.17	Auto	0.0000
L31	48	CCI 6" x 1" Plate	70.17 - 75.17	Auto	0.2072
L31	49	CCI 6" x 1" Plate	70.17 - 75.17	Auto	0.2072
L31	50	CCI 6" x 1" Plate	70.17 - 75.17	Auto	0.2072
L32	23	PL 5.375"x1.25"	65.17 - 70.17	Auto	0.0746
L32	24	PL 5.375"x1.25"	65.17 - 70.17	Auto	0.0746
L32	25	PL 5.375"x1.25"	65.17 - 70.17	Auto	0.0746
L32	39	MP3-03	65.17 - 70.17	Auto	0.0000
L32	40	MP3-03	65.17 - 70.17	Auto	0.0000
L32	41	MP3-03	65.17 - 70.17	Auto	0.0000
L32	48	CCI 6" x 1" Plate	65.17 - 70.17	Auto	0.1710
L32	49	CCI 6" x 1" Plate	65.17 - 70.17	Auto	0.1710
L32	50	CCI 6" x 1" Plate	65.17 - 70.17	Auto	0.1710
L33	23	PL 5.375"x1.25"	60.17 - 65.17	Auto	0.0301
L33	24	PL 5.375"x1.25"	60.17 - 65.17	Auto	0.0301
L33	25	PL 5.375"x1.25"	60.17 - 65.17	Auto	0.0301
L33	39	MP3-03	60.17 - 65.17	Auto	0.0000
L33	40	MP3-03	60.17 - 65.17	Auto	0.0000
L33	41	MP3-03	60.17 - 65.17	Auto	0.0000
L33	48	CCI 6" x 1" Plate	60.17 - 65.17	Auto	0.1312
L33	49	CCI 6" x 1" Plate	60.17 - 65.17	Auto	0.1312
L33	50	CCI 6" x 1" Plate	60.17 - 65.17	Auto	0.1312
L34	23	PL 5.375"x1.25"	57.00 - 60.17	Auto	0.0014
L34	24	PL 5.375"x1.25"	57.00 - 60.17	Auto	0.0014
L34	25	PL 5.375"x1.25"	57.00 - 60.17	Auto	0.0014
L34	39	MP3-03	57.00 - 60.17	Auto	0.0000
L34	40	MP3-03	57.00 - 60.17	Auto	0.0000
L34	41	MP3-03	57.00 - 60.17	Auto	0.0000
L34	48	CCI 6" x 1" Plate	57.00 - 60.17	Auto	0.1010
L34	49	CCI 6" x 1" Plate	57.00 - 60.17	Auto	0.1010
L34	50	CCI 6" x 1" Plate	57.00 - 60.17	Auto	0.1010
L35	23	PL 5.375"x1.25"	56.75 - 57.00	Auto	0.0000
L35	24	PL 5.375"x1.25"	56.75 - 57.00	Auto	0.0000
L35	25	PL 5.375"x1.25"	56.75 - 57.00	Auto	0.0000
L35	39	MP3-03	56.75 - 57.00	Auto	0.0000
L35	40	MP3-03	56.75 - 57.00	Auto	0.0000
L35	41	MP3-03	56.75 - 57.00	Auto	0.0000
L35	48	CCI 6" x 1" Plate	56.75 - 57.00	Auto	0.0899
L35	49	CCI 6" x 1" Plate	56.75 - 57.00	Auto	0.0899
L35	50	CCI 6" x 1" Plate	56.75 - 57.00	Auto	0.0899
L36	23	PL 5.375"x1.25"	53.00 - 56.75	Auto	0.0000
L36	24	PL 5.375"x1.25"	53.00 - 56.75	Auto	0.0000
L36	25	PL 5.375"x1.25"	53.00 - 56.75	Auto	0.0000
L36	39	MP3-03	53.00 - 56.75	Auto	0.0000
L36	40	MP3-03	53.00 - 56.75	Auto	0.0000
L36	41	MP3-03	53.00 - 56.75	Auto	0.0000
L36	47	CCI 6" x 1" Plate	53.00 - 55.00	Auto	0.0675
L36	48	CCI 6" x 1" Plate	53.00 - 56.75	Auto	0.0732
L36	49	CCI 6" x 1" Plate	53.00 - 56.75	Auto	0.0732
L36	50	CCI 6" x 1" Plate	53.00 - 56.75	Auto	0.0732
L37	23	PL 5.375"x1.25"	47.20 - 53.00	Auto	0.0000
L37	24	PL 5.375"x1.25"	47.20 - 53.00	Auto	0.0000
L37	25	PL 5.375"x1.25"	47.20 - 53.00	Auto	0.0000
L37	39	MP3-03	47.20 - 53.00	Auto	0.0000
L37	40	MP3-03	47.20 - 53.00	Auto	0.0000
L37	41	MP3-03	47.20 - 53.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L37	47	CCI 6" x 1" Plate	47.20 - 53.00	Auto	0.0422
L37	48	CCI 6" x 1" Plate	47.20 - 53.00	Auto	0.0422
L37	49	CCI 6" x 1" Plate	47.20 - 53.00	Auto	0.0422
L37	50	CCI 6" x 1" Plate	47.21 - 53.00	Auto	0.0422
L38	23	PL 5.375"x1.25"	46.20 - 47.20	Auto	0.0000
L38	24	PL 5.375"x1.25"	46.20 - 47.20	Auto	0.0000
L38	25	PL 5.375"x1.25"	46.20 - 47.20	Auto	0.0000
L38	39	MP3-03	46.20 - 47.20	Auto	0.0000
L38	40	MP3-03	46.20 - 47.20	Auto	0.0000
L38	41	MP3-03	46.20 - 47.20	Auto	0.0000
L38	47	CCI 6" x 1" Plate	46.20 - 47.20	Auto	0.0458
L38	48	CCI 6" x 1" Plate	46.20 - 47.20	Auto	0.0458
L38	49	CCI 6" x 1" Plate	46.20 - 47.20	Auto	0.0458
L39	23	PL 5.375"x1.25"	41.20 - 46.20	Auto	0.0000
L39	24	PL 5.375"x1.25"	41.20 - 46.20	Auto	0.0000
L39	25	PL 5.375"x1.25"	41.20 - 46.20	Auto	0.0000
L39	39	MP3-03	41.20 - 46.20	Auto	0.0000
L39	40	MP3-03	41.20 - 46.20	Auto	0.0000
L39	41	MP3-03	41.20 - 46.20	Auto	0.0000
L39	47	CCI 6" x 1" Plate	41.20 - 46.20	Auto	0.0226
L39	48	CCI 6" x 1" Plate	41.20 - 46.20	Auto	0.0226
L39	49	CCI 6" x 1" Plate	41.20 - 46.20	Auto	0.0226
L40	23	PL 5.375"x1.25"	39.33 - 41.20	Auto	0.0000
L40	24	PL 5.375"x1.25"	39.33 - 41.20	Auto	0.0000
L40	25	PL 5.375"x1.25"	39.33 - 41.20	Auto	0.0000
L40	35	MP3-03	39.33 - 40.50	Auto	0.0000
L40	36	MP3-03	39.33 - 40.50	Auto	0.0000
L40	37	MP3-03	39.33 - 40.50	Auto	0.0000
L40	39	MP3-03	39.33 - 41.20	Auto	0.0000
L40	40	MP3-03	39.33 - 41.20	Auto	0.0000
L40	41	MP3-03	39.33 - 41.20	Auto	0.0000
L40	47	CCI 6" x 1" Plate	39.33 - 41.20	Auto	0.0017
L40	48	CCI 6" x 1" Plate	39.33 - 41.20	Auto	0.0017
L40	49	CCI 6" x 1" Plate	39.33 - 41.20	Auto	0.0017
L41	23	PL 5.375"x1.25"	39.08 - 39.33	Auto	0.0000
L41	24	PL 5.375"x1.25"	39.08 - 39.33	Auto	0.0000
L41	25	PL 5.375"x1.25"	39.08 - 39.33	Auto	0.0000
L41	35	MP3-03	39.08 - 39.33	Auto	0.0000
L41	36	MP3-03	39.08 - 39.33	Auto	0.0000
L41	37	MP3-03	39.08 - 39.33	Auto	0.0000
L41	39	MP3-03	39.08 - 39.33	Auto	0.0000
L41	40	MP3-03	39.08 - 39.33	Auto	0.0000
L41	41	MP3-03	39.08 - 39.33	Auto	0.0000
L41	47	CCI 6" x 1" Plate	39.08 - 39.33	Auto	0.0154
L41	48	CCI 6" x 1" Plate	39.08 - 39.33	Auto	0.0154
L41	49	CCI 6" x 1" Plate	39.08 - 39.33	Auto	0.0154
L42	23	PL 5.375"x1.25"	37.75 - 39.08	Auto	0.0000
L42	24	PL 5.375"x1.25"	37.75 - 39.08	Auto	0.0000
L42	25	PL 5.375"x1.25"	37.75 - 39.08	Auto	0.0000
L42	35	MP3-03	37.75 - 39.08	Auto	0.0000
L42	36	MP3-03	37.75 - 39.08	Auto	0.0000
L42	37	MP3-03	37.75 - 39.08	Auto	0.0000
L42	39	MP3-03	37.75 - 39.08	Auto	0.0000
L42	40	MP3-03	37.75 - 39.08	Auto	0.0000
L42	41	MP3-03	37.75 - 39.08	Auto	0.0000
L42	47	CCI 6" x 1" Plate	37.75 - 39.08	Auto	0.0103
L42	48	CCI 6" x 1" Plate	37.75 - 39.08	Auto	0.0103
L42	49	CCI 6" x 1" Plate	37.75 - 39.08	Auto	0.0103
L43	23	PL 5.375"x1.25"	37.50 - 37.75	Auto	0.0000
L43	24	PL 5.375"x1.25"	37.50 - 37.75	Auto	0.0000
L43	25	PL 5.375"x1.25"	37.50 - 37.75	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L43	35	MP3-03	37.50 - 37.75	Auto	0.0000
L43	36	MP3-03	37.50 - 37.75	Auto	0.0000
L43	37	MP3-03	37.50 - 37.75	Auto	0.0000
L43	39	MP3-03	37.50 - 37.75	Auto	0.0000
L43	40	MP3-03	37.50 - 37.75	Auto	0.0000
L43	41	MP3-03	37.50 - 37.75	Auto	0.0000
L43	47	CCI 6" x 1" Plate	37.50 - 37.75	Auto	0.0000
L43	48	CCI 6" x 1" Plate	37.50 - 37.75	Auto	0.0000
L43	49	CCI 6" x 1" Plate	37.50 - 37.75	Auto	0.0000
L44	23	PL 5.375"x1.25"	32.50 - 37.50	Auto	0.0000
L44	24	PL 5.375"x1.25"	32.50 - 37.50	Auto	0.0000
L44	25	PL 5.375"x1.25"	32.50 - 37.50	Auto	0.0000
L44	35	MP3-03	32.50 - 37.50	Auto	0.0000
L44	36	MP3-03	32.50 - 37.50	Auto	0.0000
L44	37	MP3-03	32.50 - 37.50	Auto	0.0000
L44	39	MP3-03	36.58 - 37.50	Auto	0.0000
L44	40	MP3-03	36.58 - 37.50	Auto	0.0000
L44	41	MP3-03	36.58 - 37.50	Auto	0.0000
L44	47	CCI 6" x 1" Plate	32.50 - 37.50	Auto	0.0000
L44	48	CCI 6" x 1" Plate	32.50 - 37.50	Auto	0.0000
L44	49	CCI 6" x 1" Plate	32.50 - 37.50	Auto	0.0000
L45	23	PL 5.375"x1.25"	27.50 - 32.50	Auto	0.0000
L45	24	PL 5.375"x1.25"	27.50 - 32.50	Auto	0.0000
L45	25	PL 5.375"x1.25"	27.50 - 32.50	Auto	0.0000
L45	35	MP3-03	27.50 - 32.50	Auto	0.0000
L45	36	MP3-03	27.50 - 32.50	Auto	0.0000
L45	37	MP3-03	27.50 - 32.50	Auto	0.0000
L45	47	CCI 6" x 1" Plate	27.50 - 32.50	Auto	0.0000
L45	48	CCI 6" x 1" Plate	27.50 - 32.50	Auto	0.0000
L45	49	CCI 6" x 1" Plate	27.50 - 32.50	Auto	0.0000
L46	23	PL 5.375"x1.25"	27.25 - 27.50	Auto	0.0000
L46	24	PL 5.375"x1.25"	27.25 - 27.50	Auto	0.0000
L46	25	PL 5.375"x1.25"	27.25 - 27.50	Auto	0.0000
L46	35	MP3-03	27.25 - 27.50	Auto	0.0000
L46	36	MP3-03	27.25 - 27.50	Auto	0.0000
L46	37	MP3-03	27.25 - 27.50	Auto	0.0000
L46	47	CCI 6" x 1" Plate	27.25 - 27.50	Auto	0.0000
L46	48	CCI 6" x 1" Plate	27.25 - 27.50	Auto	0.0000
L46	49	CCI 6" x 1" Plate	27.25 - 27.50	Auto	0.0000
L47	23	PL 5.375"x1.25"	27.00 - 27.25	Auto	0.0000
L47	24	PL 5.375"x1.25"	27.00 - 27.25	Auto	0.0000
L47	25	PL 5.375"x1.25"	27.00 - 27.25	Auto	0.0000
L47	35	MP3-03	27.00 - 27.25	Auto	0.0000
L47	36	MP3-03	27.00 - 27.25	Auto	0.0000
L47	37	MP3-03	27.00 - 27.25	Auto	0.0000
L47	47	CCI 6" x 1" Plate	27.00 - 27.25	Auto	0.0000
L47	48	CCI 6" x 1" Plate	27.00 - 27.25	Auto	0.0000
L47	49	CCI 6" x 1" Plate	27.00 - 27.25	Auto	0.0000
L48	23	PL 5.375"x1.25"	22.00 - 27.00	Auto	0.0000
L48	24	PL 5.375"x1.25"	22.00 - 27.00	Auto	0.0000
L48	25	PL 5.375"x1.25"	22.00 - 27.00	Auto	0.0000
L48	35	MP3-03	22.00 - 27.00	Auto	0.0000
L48	36	MP3-03	22.00 - 27.00	Auto	0.0000
L48	37	MP3-03	22.00 - 27.00	Auto	0.0000
L48	45	CCI 8.5" x 1.25" Plate	22.00 - 25.00	Auto	0.2097
L48	47	CCI 6" x 1" Plate	22.00 - 27.00	Auto	0.0000
L48	48	CCI 6" x 1" Plate	22.00 - 27.00	Auto	0.0000
L48	49	CCI 6" x 1" Plate	22.00 - 27.00	Auto	0.0000
L49	23	PL 5.375"x1.25"	21.25 - 22.00	Auto	0.0000
L49	24	PL 5.375"x1.25"	21.25 - 22.00	Auto	0.0000
L49	25	PL 5.375"x1.25"	21.25 - 22.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L49	35	MP3-03	21.25 - 22.00	Auto	0.0000
L49	36	MP3-03	21.25 - 22.00	Auto	0.0000
L49	37	MP3-03	21.25 - 22.00	Auto	0.0000
L49	45	CCI 8.5" x 1.25" Plate	21.25 - 22.00	Auto	0.2011
L49	47	CCI 6" x 1" Plate	21.25 - 22.00	Auto	0.0000
L49	48	CCI 6" x 1" Plate	21.25 - 22.00	Auto	0.0000
L49	49	CCI 6" x 1" Plate	21.25 - 22.00	Auto	0.0000
L50	23	PL 5.375"x1.25"	21.00 - 21.25	Auto	0.0000
L50	24	PL 5.375"x1.25"	21.00 - 21.25	Auto	0.0000
L50	25	PL 5.375"x1.25"	21.00 - 21.25	Auto	0.0000
L50	35	MP3-03	21.00 - 21.25	Auto	0.0000
L50	36	MP3-03	21.00 - 21.25	Auto	0.0000
L50	37	MP3-03	21.00 - 21.25	Auto	0.0000
L50	45	CCI 8.5" x 1.25" Plate	21.00 - 21.25	Auto	0.2014
L50	47	CCI 6" x 1" Plate	21.00 - 21.25	Auto	0.0000
L50	48	CCI 6" x 1" Plate	21.00 - 21.25	Auto	0.0000
L50	49	CCI 6" x 1" Plate	21.00 - 21.25	Auto	0.0000
L51	23	PL 5.375"x1.25"	17.00 - 21.00	Auto	0.0000
L51	24	PL 5.375"x1.25"	17.00 - 21.00	Auto	0.0000
L51	25	PL 5.375"x1.25"	17.00 - 21.00	Auto	0.0000
L51	35	MP3-03	17.00 - 21.00	Auto	0.0000
L51	36	MP3-03	17.00 - 21.00	Auto	0.0000
L51	37	MP3-03	17.00 - 21.00	Auto	0.0000
L51	43	CCI 8.5" x 1.25" Plate	17.00 - 20.00	Auto	0.1867
L51	44	CCI 8.5" x 1.25" Plate	17.00 - 20.00	Auto	0.1867
L51	45	CCI 8.5" x 1.25" Plate	17.00 - 21.00	Auto	0.1890
L51	47	CCI 6" x 1" Plate	20.00 - 21.00	Auto	0.0000
L51	48	CCI 6" x 1" Plate	20.00 - 21.00	Auto	0.0000
L51	49	CCI 6" x 1" Plate	17.00 - 21.00	Auto	0.0000
L52	23	PL 5.375"x1.25"	16.75 - 17.00	Auto	0.0000
L52	24	PL 5.375"x1.25"	16.75 - 17.00	Auto	0.0000
L52	25	PL 5.375"x1.25"	16.75 - 17.00	Auto	0.0000
L52	35	MP3-03	16.75 - 17.00	Auto	0.0000
L52	36	MP3-03	16.75 - 17.00	Auto	0.0000
L52	37	MP3-03	16.75 - 17.00	Auto	0.0000
L52	43	CCI 8.5" x 1.25" Plate	16.75 - 17.00	Auto	0.1767
L52	44	CCI 8.5" x 1.25" Plate	16.75 - 17.00	Auto	0.1767
L52	45	CCI 8.5" x 1.25" Plate	16.75 - 17.00	Auto	0.1767
L52	49	CCI 6" x 1" Plate	16.75 - 17.00	Auto	0.0000
L53	23	PL 5.375"x1.25"	16.25 - 16.75	Auto	0.0000
L53	24	PL 5.375"x1.25"	16.25 - 16.75	Auto	0.0000
L53	25	PL 5.375"x1.25"	16.25 - 16.75	Auto	0.0000
L53	35	MP3-03	16.25 - 16.75	Auto	0.0000
L53	36	MP3-03	16.25 - 16.75	Auto	0.0000
L53	37	MP3-03	16.25 - 16.75	Auto	0.0000
L53	43	CCI 8.5" x 1.25" Plate	16.25 - 16.75	Auto	0.1750
L53	44	CCI 8.5" x 1.25" Plate	16.25 - 16.75	Auto	0.1750
L53	45	CCI 8.5" x 1.25" Plate	16.25 - 16.75	Auto	0.1750
L53	49	CCI 6" x 1" Plate	16.25 - 16.75	Auto	0.0000
L54	23	PL 5.375"x1.25"	16.00 - 16.25	Auto	0.0000
L54	24	PL 5.375"x1.25"	16.00 - 16.25	Auto	0.0000
L54	25	PL 5.375"x1.25"	16.00 - 16.25	Auto	0.0000
L54	35	MP3-03	16.00 - 16.25	Auto	0.0000
L54	36	MP3-03	16.00 - 16.25	Auto	0.0000
L54	37	MP3-03	16.00 - 16.25	Auto	0.0000
L54	43	CCI 8.5" x 1.25" Plate	16.00 - 16.25	Auto	0.1888
L54	44	CCI 8.5" x 1.25" Plate	16.00 - 16.25	Auto	0.1888
L54	45	CCI 8.5" x 1.25" Plate	16.00 - 16.25	Auto	0.1888
L54	49	CCI 6" x 1" Plate	16.00 - 16.25	Auto	0.0000
L55	23	PL 5.375"x1.25"	11.00 - 16.00	Auto	0.0000
L55	24	PL 5.375"x1.25"	11.00 - 16.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L55	25	PL 5.375"x1.25"	11.00 - 16.00	Auto	0.0000
L55	35	MP3-03	11.00 - 16.00	Auto	0.0000
L55	36	MP3-03	11.00 - 16.00	Auto	0.0000
L55	37	MP3-03	11.00 - 16.00	Auto	0.0000
L55	43	CCI 8.5" x 1.25" Plate	11.00 - 16.00	Auto	0.1716
L55	44	CCI 8.5" x 1.25" Plate	11.00 - 16.00	Auto	0.1716
L55	45	CCI 8.5" x 1.25" Plate	11.00 - 16.00	Auto	0.1716
L55	49	CCI 6" x 1" Plate	15.00 - 16.00	Auto	0.0000
L56	23	PL 5.375"x1.25"	6.00 - 11.00	Auto	0.0000
L56	24	PL 5.375"x1.25"	6.00 - 11.00	Auto	0.0000
L56	25	PL 5.375"x1.25"	6.00 - 11.00	Auto	0.0000
L56	35	MP3-03	6.00 - 11.00	Auto	0.0000
L56	36	MP3-03	6.00 - 11.00	Auto	0.0000
L56	37	MP3-03	6.00 - 11.00	Auto	0.0000
L56	43	CCI 8.5" x 1.25" Plate	6.00 - 11.00	Auto	0.1486
L56	44	CCI 8.5" x 1.25" Plate	6.00 - 11.00	Auto	0.1486
L56	45	CCI 8.5" x 1.25" Plate	6.00 - 11.00	Auto	0.1486
L57	23	PL 5.375"x1.25"	1.00 - 6.00	Auto	0.0000
L57	24	PL 5.375"x1.25"	1.00 - 6.00	Auto	0.0000
L57	25	PL 5.375"x1.25"	1.00 - 6.00	Auto	0.0000
L57	35	MP3-03	1.00 - 6.00	Auto	0.0000
L57	36	MP3-03	1.00 - 6.00	Auto	0.0000
L57	37	MP3-03	1.00 - 6.00	Auto	0.0000
L57	43	CCI 8.5" x 1.25" Plate	1.00 - 6.00	Auto	0.1231
L57	44	CCI 8.5" x 1.25" Plate	1.00 - 6.00	Auto	0.1231
L57	45	CCI 8.5" x 1.25" Plate	1.00 - 6.00	Auto	0.1231
L58	23	PL 5.375"x1.25"	0.00 - 1.00	Auto	0.0000
L58	24	PL 5.375"x1.25"	0.00 - 1.00	Auto	0.0000
L58	25	PL 5.375"x1.25"	0.00 - 1.00	Auto	0.0000
L58	35	MP3-03	0.00 - 1.00	Auto	0.0000
L58	36	MP3-03	0.00 - 1.00	Auto	0.0000
L58	37	MP3-03	0.00 - 1.00	Auto	0.0000
L58	43	CCI 8.5" x 1.25" Plate	0.00 - 1.00	Auto	0.0654
L58	44	CCI 8.5" x 1.25" Plate	0.00 - 1.00	Auto	0.0654
L58	45	CCI 8.5" x 1.25" Plate	0.00 - 1.00	Auto	0.0654

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	4.601 5.045 5.500	4.011 4.448 4.894	0.095 0.160 0.235
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	4.601 5.045 5.500	4.011 4.448 4.894	0.095 0.160 0.235
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	4.601 5.045 5.500	4.011 4.448 4.894	0.095 0.160 0.235

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
APXVTM14-ALU-I20 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	4.091 4.480 4.880	2.862 3.229 3.607	0.077 0.127 0.185
APXVTM14-ALU-I20 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	4.091 4.480 4.880	2.862 3.229 3.607	0.077 0.127 0.185
APXVTM14-ALU-I20 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	4.091 4.480 4.880	2.862 3.229 3.607	0.077 0.127 0.185
TD-RRH8x20-25	A	From Leg	4.000 0.000 2.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	3.704 3.946 4.196	1.294 1.465 1.642	0.066 0.090 0.117
TD-RRH8x20-25	B	From Leg	4.000 0.000 2.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	3.704 3.946 4.196	1.294 1.465 1.642	0.066 0.090 0.117
TD-RRH8x20-25	C	From Leg	4.000 0.000 2.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	3.704 3.946 4.196	1.294 1.465 1.642	0.066 0.090 0.117
5' x 2" Pipe Mount	A	From Leg	2.000 0.000 2.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	1.188 1.496 1.807	1.188 1.496 1.807	0.018 0.027 0.040
(2) 8' x 2" Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	1.900 2.728 3.401	1.900 2.728 3.401	0.029 0.044 0.063
(2) 8' x 2" Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	1.900 2.728 3.401	1.900 2.728 3.401	0.029 0.044 0.063
(2) 8' x 2" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	159.000	No Ice 1/2" Ice 1" Ice	1.900 2.728 3.401	1.900 2.728 3.401	0.029 0.044 0.063
Platform Mount [LP 714-1]	C	None		0.000	159.000	No Ice 1/2" Ice 1" Ice	37.510 41.700 45.890	37.510 41.700 45.890	1.600 2.496 3.458
*									
800MHz 2X50W RRH W/FILTER	A	From Leg	2.000 0.000 2.000	0.000	157.000	No Ice 1/2" Ice 1" Ice	2.058 2.240 2.429	1.932 2.109 2.293	0.064 0.086 0.111
800MHz 2X50W RRH W/FILTER	B	From Leg	2.000 0.000 2.000	0.000	157.000	No Ice 1/2" Ice 1" Ice	2.058 2.240 2.429	1.932 2.109 2.293	0.064 0.086 0.111
800MHz 2X50W RRH W/FILTER	C	From Leg	2.000 0.000 2.000	0.000	157.000	No Ice 1/2" Ice 1" Ice	2.058 2.240 2.429	1.932 2.109 2.293	0.064 0.086 0.111
PCS 1900MHz 4x45W-65MHz	A	From Leg	2.000 0.000 2.000	0.000	157.000	No Ice 1/2" Ice 1" Ice	2.322 2.527 2.739	2.238 2.441 2.651	0.060 0.083 0.110
PCS 1900MHz 4x45W-65MHz	B	From Leg	2.000 0.000 2.000	0.000	157.000	No Ice 1/2" Ice 1" Ice	2.322 2.527 2.739	2.238 2.441 2.651	0.060 0.083 0.110
PCS 1900MHz 4x45W-65MHz	C	From Leg	2.000 0.000 2.000	0.000	157.000	No Ice 1/2" Ice 1" Ice	2.322 2.527 2.739	2.238 2.441 2.651	0.060 0.083 0.110
Pipe Mount [PM 601-3]	C	None		0.000	157.000	No Ice 1/2" Ice 1" Ice	3.170 3.790 4.420	3.170 3.790 4.420	0.195 0.232 0.279
Side Arm Mount [SO 102-3]	C	None		0.000	157.000	No Ice 1/2" Ice	3.600 4.180	3.600 4.180	0.075 0.105

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1" Ice	4.750	4.750	0.135
*									
*									
HPA-65R-BUU-H8 w/ Mount Pipe	A	From Leg	4.000	0.000	149.000	No Ice	12.246	8.325	0.105
			0.000			1/2" Ice	13.193	9.230	0.194
			1.000			1" Ice	14.158	10.153	0.297
HPA-65R-BUU-H8 w/ Mount Pipe	B	From Leg	4.000	0.000	149.000	No Ice	12.246	8.325	0.105
			0.000			1/2" Ice	13.193	9.230	0.194
			1.000			1" Ice	14.158	10.153	0.297
HPA-65R-BUU-H8 w/ Mount Pipe	C	From Leg	4.000	0.000	149.000	No Ice	12.246	8.325	0.105
			0.000			1/2" Ice	13.193	9.230	0.194
			1.000			1" Ice	14.158	10.153	0.297
DC6-48-60-18-8F	A	From Leg	4.000	0.000	149.000	No Ice	1.212	1.212	0.033
			0.000			1/2" Ice	1.892	1.892	0.055
			1.000			1" Ice	2.105	2.105	0.080
TPA65R-BU8DA-K w/ Mount Pipe	A	From Leg	4.000	0.000	149.000	No Ice	17.164	10.132	0.135
			0.000			1/2" Ice	18.167	11.061	0.249
			1.000			1" Ice	19.187	12.008	0.376
TPA65R-BU8DA-K w/ Mount Pipe	B	From Leg	4.000	0.000	149.000	No Ice	17.164	10.132	0.135
			0.000			1/2" Ice	18.167	11.061	0.249
			1.000			1" Ice	19.187	12.008	0.376
TPA65R-BU8DA-K w/ Mount Pipe	C	From Leg	4.000	0.000	149.000	No Ice	17.164	10.132	0.135
			0.000			1/2" Ice	18.167	11.061	0.249
			1.000			1" Ice	19.187	12.008	0.376
OPA65R-BU8DA-K w/ Mount Pipe	A	From Leg	4.000	0.000	149.000	No Ice	17.160	10.130	0.125
			0.000			1/2" Ice	18.170	11.060	0.238
			1.000			1" Ice	19.190	12.010	0.366
OPA65R-BU8DA-K w/ Mount Pipe	B	From Leg	4.000	0.000	149.000	No Ice	17.160	10.130	0.125
			0.000			1/2" Ice	18.170	11.060	0.238
			1.000			1" Ice	19.190	12.010	0.366
OPA65R-BU8DA-K w/ Mount Pipe	C	From Leg	4.000	0.000	149.000	No Ice	17.160	10.130	0.125
			0.000			1/2" Ice	18.170	11.060	0.238
			1.000			1" Ice	19.190	12.010	0.366
RRUS 4449 B5/B12	A	From Leg	4.000	0.000	149.000	No Ice	1.968	1.408	0.071
			0.000			1/2" Ice	2.144	1.564	0.090
			1.000			1" Ice	2.328	1.727	0.111
RRUS 4449 B5/B12	B	From Leg	4.000	0.000	149.000	No Ice	1.968	1.408	0.071
			0.000			1/2" Ice	2.144	1.564	0.090
			1.000			1" Ice	2.328	1.727	0.111
RRUS 4449 B5/B12	C	From Leg	4.000	0.000	149.000	No Ice	1.968	1.408	0.071
			0.000			1/2" Ice	2.144	1.564	0.090
			1.000			1" Ice	2.328	1.727	0.111
RADIO 4890HP B2/B25 B66	A	From Leg	4.000	0.000	149.000	No Ice	2.202	1.008	0.068
			0.000			1/2" Ice	2.387	1.146	0.085
			1.000			1" Ice	2.579	1.292	0.105
RADIO 4890HP B2/B25 B66	B	From Leg	4.000	0.000	149.000	No Ice	2.202	1.008	0.068
			0.000			1/2" Ice	2.387	1.146	0.085
			1.000			1" Ice	2.579	1.292	0.105
RADIO 4890HP B2/B25 B66	C	From Leg	4.000	0.000	149.000	No Ice	2.202	1.008	0.068
			0.000			1/2" Ice	2.387	1.146	0.085
			1.000			1" Ice	2.579	1.292	0.105
RRUS 4478 B14_CCIV2	A	From Leg	4.000	0.000	149.000	No Ice	2.021	1.246	0.059
			0.000			1/2" Ice	2.200	1.396	0.077
			1.000			1" Ice	2.386	1.554	0.097
RRUS 4478 B14_CCIV2	B	From Leg	4.000	0.000	149.000	No Ice	2.021	1.246	0.059
			0.000			1/2" Ice	2.200	1.396	0.077
			1.000			1" Ice	2.386	1.554	0.097

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RRUS 4478 B14_CCIV2	C	From Leg	4.000	0.000	149.000	No Ice	2.021	1.246	0.059
			0.000			1/2" Ice	2.200	1.396	0.077
			1.000			1" Ice	2.386	1.554	0.097
DC6-48-60-18-8C-EV	A	From Leg	4.000	0.000	149.000	No Ice	1.145	1.145	0.026
			0.000			1/2" Ice	1.792	1.792	0.047
			1.000			1" Ice	2.002	2.002	0.070
6' x 2" Mount Pipe	A	From Leg	2.000	0.000	149.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
6' x 2" Mount Pipe	B	From Leg	2.000	0.000	149.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
6' x 2" Mount Pipe	C	From Leg	2.000	0.000	149.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
10' x 2" Mount Pipe	A	From Leg	4.000	0.000	149.000	No Ice	2.375	2.375	0.037
			0.000			1/2" Ice	3.403	3.403	0.054
			0.000			1" Ice	4.448	4.448	0.079
10' x 2" Mount Pipe	B	From Leg	4.000	0.000	149.000	No Ice	2.375	2.375	0.037
			0.000			1/2" Ice	3.403	3.403	0.054
			0.000			1" Ice	4.448	4.448	0.079
10' x 2" Mount Pipe	C	From Leg	4.000	0.000	149.000	No Ice	2.375	2.375	0.037
			0.000			1/2" Ice	3.403	3.403	0.054
			0.000			1" Ice	4.448	4.448	0.079
Sector Mount [SM 503-3]	C	None		0.000	149.000	No Ice	30.430	30.430	1.690
						1/2" Ice	43.020	43.020	2.296
						1" Ice	55.430	55.430	3.097
Pipe Mount [PM 601-3]	C	None		0.000	149.000	No Ice	3.170	3.170	0.195
						1/2" Ice	3.790	3.790	0.232
						1" Ice	4.420	4.420	0.279
*									
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	A	From Leg	4.000	0.000	137.000	No Ice	6.290	2.760	0.061
			0.000			1/2" Ice	6.860	3.270	0.105
			0.000			1" Ice	7.450	3.790	0.157
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	B	From Leg	4.000	0.000	137.000	No Ice	6.290	2.760	0.061
			0.000			1/2" Ice	6.860	3.270	0.105
			0.000			1" Ice	7.450	3.790	0.157
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	C	From Leg	4.000	0.000	137.000	No Ice	6.290	2.760	0.061
			0.000			1/2" Ice	6.860	3.270	0.105
			0.000			1" Ice	7.450	3.790	0.157
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.000	0.000	137.000	No Ice	14.694	6.873	0.183
			0.000			1/2" Ice	15.455	7.554	0.311
			0.000			1" Ice	16.230	8.247	0.453
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.000	0.000	137.000	No Ice	14.694	6.873	0.183
			0.000			1/2" Ice	15.455	7.554	0.311
			0.000			1" Ice	16.230	8.247	0.453
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.000	0.000	137.000	No Ice	14.694	6.873	0.183
			0.000			1/2" Ice	15.455	7.554	0.311
			0.000			1" Ice	16.230	8.247	0.453
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.000	0.000	137.000	No Ice	5.187	2.705	0.128
			0.000			1/2" Ice	5.594	3.038	0.174
			2.000			1" Ice	6.016	3.385	0.227
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.000	0.000	137.000	No Ice	5.187	2.705	0.128
			0.000			1/2" Ice	5.594	3.038	0.174
			2.000			1" Ice	6.016	3.385	0.227
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.000	0.000	137.000	No Ice	5.187	2.705	0.128
			0.000			1/2" Ice	5.594	3.038	0.174

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			2.000			1" Ice	6.016	3.385	0.227
RADIO 4415 B66A_CCIV3	A	From Leg	4.000	0.000	137.000	No Ice	1.639	0.677	0.046
			0.000			1/2" Ice	1.799	0.789	0.059
			0.000			1" Ice	1.966	0.911	0.073
RADIO 4415 B66A_CCIV3	B	From Leg	4.000	0.000	137.000	No Ice	1.639	0.677	0.046
			0.000			1/2" Ice	1.799	0.789	0.059
			0.000			1" Ice	1.966	0.911	0.073
RADIO 4415 B66A_CCIV3	C	From Leg	4.000	0.000	137.000	No Ice	1.639	0.677	0.046
			0.000			1/2" Ice	1.799	0.789	0.059
			0.000			1" Ice	1.966	0.911	0.073
RADIO 4424 B25_TMO	A	From Leg	4.000	0.000	137.000	No Ice	2.052	1.610	0.086
			0.000			1/2" Ice	2.231	1.772	0.107
			0.000			1" Ice	2.417	1.941	0.131
RADIO 4424 B25_TMO	B	From Leg	4.000	0.000	137.000	No Ice	2.052	1.610	0.086
			0.000			1/2" Ice	2.231	1.772	0.107
			0.000			1" Ice	2.417	1.941	0.131
RADIO 4424 B25_TMO	C	From Leg	4.000	0.000	137.000	No Ice	2.052	1.610	0.086
			0.000			1/2" Ice	2.231	1.772	0.107
			0.000			1" Ice	2.417	1.941	0.131
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.000	0.000	137.000	No Ice	1.970	1.587	0.073
			0.000			1/2" Ice	2.147	1.749	0.093
			0.000			1" Ice	2.331	1.918	0.116
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.000	0.000	137.000	No Ice	1.970	1.587	0.073
			0.000			1/2" Ice	2.147	1.749	0.093
			0.000			1" Ice	2.331	1.918	0.116
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.000	0.000	137.000	No Ice	1.970	1.587	0.073
			0.000			1/2" Ice	2.147	1.749	0.093
			0.000			1" Ice	2.331	1.918	0.116
4' x 2" Pipe Mount	A	From Leg	4.000	0.000	137.000	No Ice	0.785	0.785	0.029
			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
4' x 2" Pipe Mount	B	From Leg	4.000	0.000	137.000	No Ice	0.785	0.785	0.029
			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
4' x 2" Pipe Mount	C	From Leg	4.000	0.000	137.000	No Ice	0.785	0.785	0.029
			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
Platform Mount [LP 303-1_KCKR-HR-1]	C	None		0.000	137.000	No Ice	28.310	28.310	1.770
						1/2" Ice	35.690	35.690	2.297
						1" Ice	43.110	43.110	2.943
*									
MT6407-77A w/ Mount Pipe	A	From Leg	4.000	0.000	125.000	No Ice	5.940	3.100	0.096
			0.000			1/2" Ice	6.470	3.550	0.132
			2.000			1" Ice	7.020	4.020	0.175
MT6407-77A w/ Mount Pipe	B	From Leg	4.000	0.000	125.000	No Ice	5.940	3.100	0.096
			0.000			1/2" Ice	6.470	3.550	0.132
			2.000			1" Ice	7.020	4.020	0.175
MT6407-77A w/ Mount Pipe	C	From Leg	4.000	0.000	125.000	No Ice	5.940	3.100	0.096
			0.000			1/2" Ice	6.470	3.550	0.132
			2.000			1" Ice	7.020	4.020	0.175
(2) JAHH-65B-R3B w/ Mount Pipe	A	From Leg	4.000	0.000	125.000	No Ice	5.504	4.384	0.096
			0.000			1/2" Ice	5.972	4.837	0.169
			2.000			1" Ice	6.451	5.301	0.254
(2) JAHH-65B-R3B w/ Mount Pipe	B	From Leg	4.000	0.000	125.000	No Ice	5.504	4.384	0.096
			0.000			1/2" Ice	5.972	4.837	0.169
			2.000			1" Ice	6.451	5.301	0.254
(2) JAHH-65B-R3B w/	C	From Leg	4.000	0.000	125.000	No Ice	5.504	4.384	0.096

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Mount Pipe			0.000			1/2" Ice	5.972	4.837	0.169
			2.000			1" Ice	6.451	5.301	0.254
RF4439D-25A	A	From Leg	4.000	0.000	125.000	No Ice	1.865	1.252	0.075
			0.000			1/2" Ice	2.035	1.394	0.093
			2.000			1" Ice	2.212	1.544	0.114
RF4439D-25A	B	From Leg	4.000	0.000	125.000	No Ice	1.865	1.252	0.075
			0.000			1/2" Ice	2.035	1.394	0.093
			2.000			1" Ice	2.212	1.544	0.114
RF4439D-25A	C	From Leg	4.000	0.000	125.000	No Ice	1.865	1.252	0.075
			0.000			1/2" Ice	2.035	1.394	0.093
			2.000			1" Ice	2.212	1.544	0.114
RF4440D-13A	A	From Leg	4.000	0.000	125.000	No Ice	1.865	1.129	0.073
			0.000			1/2" Ice	2.035	1.267	0.090
			2.000			1" Ice	2.212	1.411	0.110
RF4440D-13A	B	From Leg	4.000	0.000	125.000	No Ice	1.865	1.129	0.073
			0.000			1/2" Ice	2.035	1.267	0.090
			2.000			1" Ice	2.212	1.411	0.110
RF4440D-13A	C	From Leg	4.000	0.000	125.000	No Ice	1.865	1.129	0.073
			0.000			1/2" Ice	2.035	1.267	0.090
			2.000			1" Ice	2.212	1.411	0.110
CBC78T-DS-43-2X	A	From Leg	4.000	0.000	125.000	No Ice	0.368	0.512	0.021
			0.000			1/2" Ice	0.446	0.605	0.027
			2.000			1" Ice	0.531	0.705	0.035
CBC78T-DS-43-2X	B	From Leg	4.000	0.000	125.000	No Ice	0.368	0.512	0.021
			0.000			1/2" Ice	0.446	0.605	0.027
			2.000			1" Ice	0.531	0.705	0.035
CBC78T-DS-43-2X	C	From Leg	4.000	0.000	125.000	No Ice	0.368	0.512	0.021
			0.000			1/2" Ice	0.446	0.605	0.027
			2.000			1" Ice	0.531	0.705	0.035
RVZDC-6627-PF-48	A	From Leg	4.000	0.000	125.000	No Ice	3.792	2.514	0.032
			0.000			1/2" Ice	4.044	2.727	0.063
			2.000			1" Ice	4.303	2.947	0.099
6' x 2" Mount Pipe	A	From Leg	4.000	0.000	125.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
			2.000			1" Ice	2.294	2.294	0.048
6' x 2" Mount Pipe	B	From Leg	4.000	0.000	125.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
			2.000			1" Ice	2.294	2.294	0.048
6' x 2" Mount Pipe	C	From Leg	4.000	0.000	125.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
			2.000			1" Ice	2.294	2.294	0.048
Platform Mount [LP 303-1]	C	None		0.000	125.000	No Ice	14.690	14.690	1.250
						1/2" Ice	18.010	18.010	1.569
						1" Ice	21.340	21.340	1.942
Mount Reinforcement Specifications	C	None		0.000	125.000	No Ice	28.630	28.630	0.280
						1/2" Ice	37.310	37.310	0.670
						1" Ice	45.800	45.800	0.940
BSAMNT-SBS-2-2 Brackets	A	From Leg	4.000	0.000	125.000	No Ice	0.000	0.000	0.067
			0.000			1/2" Ice	0.000	0.000	0.088
			0.000			1" Ice	0.000	0.000	0.108
BSAMNT-SBS-2-2 Brackets	B	From Leg	4.000	0.000	125.000	No Ice	0.000	0.000	0.067
			0.000			1/2" Ice	0.000	0.000	0.088
			0.000			1" Ice	0.000	0.000	0.108
BSAMNT-SBS-2-2 Brackets	C	From Leg	4.000	0.000	125.000	No Ice	0.000	0.000	0.067
			0.000			1/2" Ice	0.000	0.000	0.088
			0.000			1" Ice	0.000	0.000	0.108

*

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
DB589	B	From Leg	4.000 0.000 5.000	0.000	109.000	No Ice 1/2" Ice 1" Ice	2.125 3.004 3.764	2.125 3.004 3.764	0.012 0.027 0.049
Side Arm Mount [SO 701-1]	B	From Leg	3.000 0.000 0.000	0.000	109.000	No Ice 1/2" Ice 1" Ice	0.850 1.140 1.430	1.670 2.340 3.010	0.065 0.079 0.093
Side Arm Mount [SO 201-1]	B	From Leg	1.000 0.000 0.000	0.000	109.000	No Ice 1/2" Ice 1" Ice	1.780 2.240 2.750	2.610 3.150 3.730	0.096 0.116 0.144
*									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1/2" Ice 1" Ice	8.009 8.518 9.038	4.233 4.689 5.156	0.108 0.194 0.292
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1/2" Ice 1" Ice	8.009 8.518 9.038	4.233 4.689 5.156	0.108 0.194 0.292
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1/2" Ice 1" Ice	8.009 8.518 9.038	4.233 4.689 5.156	0.108 0.194 0.292
TA08025-B605	A	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1/2" Ice 1" Ice	1.964 2.138 2.320	1.129 1.267 1.411	0.075 0.093 0.114
(2) TA08025-B605	B	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1/2" Ice 1" Ice	1.964 2.138 2.320	1.129 1.267 1.411	0.075 0.093 0.114
TA08025-B604	A	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1/2" Ice 1" Ice	1.964 2.138 2.320	0.981 1.112 1.250	0.064 0.081 0.100
(2) TA08025-B604	C	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1/2" Ice 1" Ice	1.964 2.138 2.320	0.981 1.112 1.250	0.064 0.081 0.100
RDIDC-9181-PF-48	A	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1/2" Ice 1" Ice	2.012 2.189 2.373	1.168 1.311 1.461	0.022 0.040 0.060
(2) 8' x 2" Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1/2" Ice 1" Ice	1.900 2.728 3.401	1.900 2.728 3.401	0.029 0.044 0.063
(2) 8' x 2" Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1/2" Ice 1" Ice	1.900 2.728 3.401	1.900 2.728 3.401	0.029 0.044 0.063
(2) 8' x 2" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	83.000	No Ice 1/2" Ice 1" Ice	1.900 2.728 3.401	1.900 2.728 3.401	0.029 0.044 0.063
Commscope MC-PK8-DSH	C	None		0.000	83.000	No Ice 1/2" Ice 1" Ice	34.240 62.950 91.660	34.240 62.950 91.660	1.749 2.099 2.450
*									

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	160 - 155	Pole	Max Tension	39	0.000	0.000	0.000
			Max. Compression	26	-7.514	-0.001	0.124
			Max. Mx	8	-3.463	-18.678	0.047

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-3.462	-0.002	18.740
			Max. Vy	8	4.765	-18.678	0.047
			Max. Vx	2	-4.766	-0.002	18.740
			Max. Torque	20			-0.144
L2	155 - 150	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-7.876	-0.003	0.134
			Max. Mx	8	-3.687	-43.147	0.054
			Max. My	2	-3.686	-0.004	43.213
			Max. Vy	8	5.025	-43.147	0.054
			Max. Vx	2	-5.026	-0.004	43.213
			Max. Torque	20			-0.144
L3	150 - 145	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-16.969	-0.006	0.919
			Max. Mx	8	-7.804	-100.078	0.361
			Max. My	2	-7.801	-0.009	100.491
			Max. Vy	8	11.977	-100.078	0.361
			Max. Vx	2	-11.979	-0.009	100.491
			Max. Torque	20			-0.563
L4	145 - 140	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-17.420	-0.009	0.936
			Max. Mx	8	-8.155	-160.586	0.373
			Max. My	2	-8.152	-0.015	161.009
			Max. Vy	8	12.234	-160.586	0.373
			Max. Vx	2	-12.236	-0.015	161.009
			Max. Torque	20			-0.563
L5	140 - 135	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-25.099	-0.013	0.953
			Max. Mx	8	-12.456	-231.250	0.386
			Max. My	2	-12.453	-0.021	231.684
			Max. Vy	8	16.536	-231.250	0.386
			Max. Vx	2	-16.539	-0.021	231.684
			Max. Torque	20			-0.562
L6	135 - 130	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-25.604	-0.018	0.970
			Max. Mx	8	-12.919	-314.436	0.399
			Max. My	2	-12.916	-0.029	314.883
			Max. Vy	8	16.757	-314.436	0.399
			Max. Vx	2	-16.760	-0.029	314.883
			Max. Torque	20			-0.562
L7	130 - 125.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-26.068	-0.023	0.982
			Max. Mx	8	-13.340	-385.990	0.409
			Max. My	2	-13.336	-0.036	386.448
			Max. Vy	8	16.939	-385.990	0.409
			Max. Vx	2	-16.941	-0.036	386.448
			Max. Torque	20			-0.561
L8	125.75 - 125.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-26.098	-0.023	0.983
			Max. Mx	8	-13.378	-390.223	0.409
			Max. My	2	-13.375	-0.037	390.681
			Max. Vy	8	16.939	-390.223	0.409
			Max. Vx	2	-16.942	-0.037	390.681
			Max. Torque	20			-0.561
L9	125.5 - 119.12	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-33.254	-0.024	1.504
			Max. Mx	8	-17.170	-447.312	0.574
			Max. My	2	-17.163	-0.042	448.140
			Max. Vy	8	21.058	-447.312	0.574
			Max. Vx	2	-21.103	-0.042	448.140
			Max. Torque	20			-0.959
L10	119.12 -	Pole	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
	117.87						
			Max. Compression	26	-34.342	-0.024	1.504
			Max. Mx	8	-18.005	-553.218	0.584
			Max. My	2	-17.999	-0.053	554.266
			Max. Vy	8	21.326	-553.218	0.584
			Max. Vx	2	-21.370	-0.053	554.266
			Max. Torque	20			-0.959
L11	117.87 - 117.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-34.360	-0.024	1.504
			Max. Mx	8	-18.042	-555.775	0.584
			Max. My	2	-18.035	-0.053	556.829
			Max. Vy	8	21.314	-555.775	0.584
			Max. Vx	2	-21.358	-0.053	556.829
			Max. Torque	20			-0.958
L12	117.75 - 117.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-34.398	-0.024	1.504
			Max. Mx	8	-18.074	-561.104	0.585
			Max. My	2	-18.067	-0.053	562.169
			Max. Vy	8	21.326	-561.104	0.585
			Max. Vx	2	-21.370	-0.053	562.169
			Max. Torque	20			-0.958
L13	117.5 - 112.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-35.504	-0.024	1.504
			Max. Mx	8	-19.005	-668.437	0.594
			Max. My	2	-18.998	-0.064	669.723
			Max. Vy	8	21.621	-668.437	0.594
			Max. Vx	2	-21.665	-0.064	669.723
			Max. Torque	20			-0.958
L14	112.5 - 107.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-36.949	-0.920	0.987
			Max. Mx	8	-20.161	-778.507	0.352
			Max. My	2	-20.153	-0.623	779.184
			Max. Vy	8	22.124	-778.507	0.352
			Max. Vx	2	-22.200	-0.623	779.184
			Max. Torque	20			-0.958
L15	107.5 - 103	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-38.014	-0.908	0.970
			Max. Mx	8	-21.050	-878.591	0.483
			Max. My	2	-21.042	-0.756	879.610
			Max. Vy	8	22.381	-878.591	0.483
			Max. Vx	2	-22.457	-0.756	879.610
			Max. Torque	12			0.923
L16	103 - 102.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-38.088	-0.907	0.968
			Max. Mx	8	-21.122	-884.186	0.490
			Max. My	2	-21.115	-0.763	885.223
			Max. Vy	8	22.387	-884.186	0.490
			Max. Vx	2	-22.463	-0.763	885.223
			Max. Torque	12			0.923
L17	102.75 - 100.21	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-38.853	-0.901	0.962
			Max. Mx	8	-21.740	-941.244	0.565
			Max. My	2	-21.732	-0.838	942.474
			Max. Vy	8	22.555	-941.244	0.565
			Max. Vx	2	-22.631	-0.838	942.474
			Max. Torque	12			0.923
L18	100.21 - 95.83	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-38.869	-0.901	0.962
			Max. Mx	8	-21.765	-942.303	0.566

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-21.757	-0.840	943.538
			Max. Vy	8	22.550	-942.303	0.566
			Max. Vx	2	-22.626	-0.840	943.538
			Max. Torque	12			0.923
L19	95.83 - 94.83	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-41.935	-0.894	0.959
			Max. Mx	8	-24.306	-1063.816	0.723
			Max. My	2	-24.299	-0.998	1065.457
			Max. Vy	8	23.014	-1063.816	0.723
			Max. Vx	2	-23.090	-0.998	1065.457
			Max. Torque	12			0.923
L20	94.83 - 93.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-42.430	-0.893	0.958
			Max. Mx	8	-24.697	-1094.473	0.762
			Max. My	2	-24.690	-1.037	1096.215
			Max. Vy	8	23.107	-1094.473	0.762
			Max. Vx	2	-23.183	-1.037	1096.215
			Max. Torque	12			0.923
L21	93.5 - 93.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-42.537	-0.893	0.958
			Max. Mx	8	-24.793	-1100.249	0.769
			Max. My	2	-24.786	-1.044	1102.011
			Max. Vy	8	23.116	-1100.249	0.769
			Max. Vx	2	-23.192	-1.044	1102.011
			Max. Torque	12			0.923
L22	93.25 - 88.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-44.679	-0.886	0.954
			Max. Mx	8	-26.533	-1216.725	0.916
			Max. My	2	-26.526	-1.192	1218.869
			Max. Vy	8	23.485	-1216.725	0.916
			Max. Vx	2	-23.562	-1.192	1218.869
			Max. Torque	12			0.922
L23	88.25 - 87.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-45.115	-0.885	0.953
			Max. Mx	8	-26.887	-1240.239	0.945
			Max. My	2	-26.880	-1.222	1242.460
			Max. Vy	8	23.558	-1240.239	0.945
			Max. Vx	2	-23.635	-1.222	1242.460
			Max. Torque	12			0.922
L24	87.25 - 87	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-45.228	-0.885	0.953
			Max. Mx	8	-26.985	-1246.129	0.952
			Max. My	2	-26.978	-1.229	1248.369
			Max. Vy	8	23.571	-1246.129	0.952
			Max. Vx	2	-23.648	-1.229	1248.369
			Max. Torque	12			0.922
L25	87 - 86.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-45.454	-0.884	0.953
			Max. Mx	8	-27.169	-1257.923	0.967
			Max. My	2	-27.162	-1.244	1260.201
			Max. Vy	8	23.610	-1257.923	0.967
			Max. Vx	2	-23.687	-1.244	1260.201
			Max. Torque	12			0.922
L26	86.5 - 86.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-45.554	-0.884	0.953
			Max. Mx	8	-27.250	-1263.826	0.974
			Max. My	2	-27.243	-1.251	1266.124
			Max. Vy	8	23.626	-1263.826	0.974
			Max. Vx	2	-23.702	-1.251	1266.124
			Max. Torque	12			0.922
L27	86.25 - 81.25	Pole	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-52.312	-1.023	1.279
			Max. Mx	8	-31.950	-1387.314	1.261
			Max. My	2	-31.942	-1.526	1390.057
			Max. Vy	8	26.488	-1387.314	1.261
			Max. Vx	2	-26.589	-1.526	1390.057
			Max. Torque	12			1.044
L28	81.25 - 76.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-54.267	-1.016	1.275
			Max. Mx	8	-33.590	-1520.504	1.426
			Max. My	2	-33.583	-1.693	1523.752
			Max. Vy	8	26.811	-1520.504	1.426
			Max. Vx	2	-26.912	-1.693	1523.752
			Max. Torque	12			1.044
L29	76.25 - 75.416	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-54.610	-1.015	1.275
			Max. Mx	8	-33.870	-1542.877	1.454
			Max. My	2	-33.862	-1.721	1546.209
			Max. Vy	8	26.863	-1542.877	1.454
			Max. Vx	2	-26.964	-1.721	1546.209
			Max. Torque	12			1.044
L30	75.416 - 75.166	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-54.722	-1.015	1.274
			Max. Mx	8	-33.967	-1549.592	1.462
			Max. My	2	-33.960	-1.729	1552.950
			Max. Vy	8	26.873	-1549.592	1.462
			Max. Vx	2	-26.974	-1.729	1552.950
			Max. Torque	12			1.044
L31	75.166 - 70.166	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-56.959	-1.008	1.271
			Max. Mx	8	-35.798	-1684.779	1.627
			Max. My	2	-35.791	-1.895	1688.641
			Max. Vy	8	27.216	-1684.779	1.627
			Max. Vx	2	-27.317	-1.895	1688.641
			Max. Torque	12			1.044
L32	70.166 - 65.166	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-59.221	-1.001	1.266
			Max. Mx	8	-37.661	-1821.626	1.792
			Max. My	2	-37.655	-2.061	1825.994
			Max. Vy	8	27.546	-1821.626	1.792
			Max. Vx	2	-27.647	-2.061	1825.994
			Max. Torque	12			1.044
L33	65.166 - 60.166	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-61.509	-0.994	1.262
			Max. Mx	8	-39.550	-1960.096	1.956
			Max. My	2	-39.544	-2.226	1964.968
			Max. Vy	8	27.867	-1960.096	1.956
			Max. Vx	2	-27.967	-2.226	1964.968
			Max. Torque	12			1.044
L34	60.166 - 57	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-62.973	-0.989	1.260
			Max. Mx	8	-40.762	-2048.596	2.060
			Max. My	2	-40.756	-2.330	2053.787
			Max. Vy	8	28.066	-2048.596	2.060
			Max. Vx	2	-28.167	-2.330	2053.787
			Max. Torque	12			1.043
L35	57 - 56.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-63.089	-0.989	1.259

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	8	-40.866	-2055.611	2.068
			Max. My	2	-40.860	-2.339	2060.827
			Max. Vy	8	28.071	-2055.611	2.068
			Max. Vx	2	-28.172	-2.339	2060.827
			Max. Torque	12			1.043
L36	56.75 - 53	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-64.848	-0.992	1.280
			Max. Mx	8	-42.306	-2161.295	2.191
			Max. My	2	-42.300	-2.462	2166.889
			Max. Vy	8	28.314	-2161.295	2.191
			Max. Vx	2	-28.414	-2.462	2166.889
			Max. Torque	12			1.043
L37	53 - 47.203	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-64.955	-0.993	1.283
			Max. Mx	8	-42.404	-2167.351	2.198
			Max. My	2	-42.398	-2.469	2172.967
			Max. Vy	8	28.313	-2167.351	2.198
			Max. Vx	2	-28.414	-2.469	2172.967
			Max. Torque	12			1.043
L38	47.203 - 46.203	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-70.642	-1.008	1.348
			Max. Mx	8	-47.228	-2355.535	2.413
			Max. My	2	-47.223	-2.685	2361.814
			Max. Vy	8	28.852	-2355.535	2.413
			Max. Vx	2	-28.953	-2.685	2361.814
			Max. Torque	12			1.043
L39	46.203 - 41.203	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-73.166	-0.993	1.357
			Max. Mx	8	-49.360	-2500.411	2.576
			Max. My	2	-49.356	-2.849	2507.193
			Max. Vy	8	29.128	-2500.411	2.576
			Max. Vx	2	-29.229	-2.849	2507.193
			Max. Torque	12			1.043
L40	41.203 - 39.333	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-74.137	-0.988	1.360
			Max. Mx	8	-50.160	-2554.946	2.637
			Max. My	2	-50.155	-2.910	2561.916
			Max. Vy	8	29.242	-2554.946	2.637
			Max. Vx	2	-29.342	-2.910	2561.916
			Max. Torque	12			1.043
L41	39.333 - 39.083	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-74.278	-0.987	1.360
			Max. Mx	8	-50.291	-2562.251	2.645
			Max. My	2	-50.287	-2.918	2569.247
			Max. Vy	8	29.231	-2562.251	2.645
			Max. Vx	2	-29.332	-2.918	2569.247
			Max. Torque	12			1.043
L42	39.083 - 37.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-75.028	-0.983	1.363
			Max. Mx	8	-50.906	-2601.262	2.689
			Max. My	2	-50.902	-2.962	2608.391
			Max. Vy	8	29.321	-2601.262	2.689
			Max. Vx	2	-29.422	-2.962	2608.391
			Max. Torque	12			1.043
L43	37.75 - 37.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-75.160	-0.982	1.363
			Max. Mx	8	-51.024	-2608.589	2.697

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-51.020	-2.970	2615.744
			Max. Vy	8	29.320	-2608.589	2.697
			Max. Vx	2	-29.420	-2.970	2615.744
			Max. Torque	12			1.043
L44	37.5 - 32.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-77.744	-0.967	1.372
			Max. Mx	8	-53.200	-2755.789	2.859
			Max. My	2	-53.196	-3.132	2763.444
			Max. Vy	8	29.581	-2755.789	2.859
			Max. Vx	2	-29.681	-3.132	2763.444
			Max. Torque	12			1.043
L45	32.5 - 27.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-80.339	-0.951	1.381
			Max. Mx	8	-55.410	-2904.193	3.020
			Max. My	2	-55.407	-3.294	2912.347
			Max. Vy	8	29.814	-2904.193	3.020
			Max. Vx	2	-29.914	-3.294	2912.347
			Max. Torque	12			1.042
L46	27.5 - 27.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-80.470	-0.950	1.381
			Max. Mx	8	-55.528	-2911.644	3.028
			Max. My	2	-55.526	-3.302	2919.823
			Max. Vy	8	29.813	-2911.644	3.028
			Max. Vx	2	-29.913	-3.302	2919.823
			Max. Torque	12			1.042
L47	27.25 - 27	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-80.601	-0.950	1.382
			Max. Mx	8	-55.640	-2919.098	3.036
			Max. My	2	-55.637	-3.310	2927.302
			Max. Vy	8	29.825	-2919.098	3.036
			Max. Vx	2	-29.925	-3.310	2927.302
			Max. Torque	12			1.042
L48	27 - 22	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-83.244	-0.948	1.349
			Max. Mx	8	-57.874	-3068.778	3.196
			Max. My	2	-57.872	-3.470	3077.479
			Max. Vy	8	30.069	-3068.778	3.196
			Max. Vx	2	-30.168	-3.470	3077.479
			Max. Torque	12			1.042
L49	22 - 21.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-83.646	-0.949	1.339
			Max. Mx	8	-58.217	-3091.330	3.220
			Max. My	2	-58.214	-3.494	3100.105
			Max. Vy	8	30.099	-3091.330	3.220
			Max. Vx	2	-30.198	-3.494	3100.105
			Max. Torque	12			1.042
L50	21.25 - 21	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-83.791	-0.949	1.336
			Max. Mx	8	-58.345	-3098.853	3.228
			Max. My	2	-58.343	-3.502	3107.653
			Max. Vy	8	30.102	-3098.853	3.228
			Max. Vx	2	-30.202	-3.502	3107.653
			Max. Torque	12			1.042
L51	21 - 17	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.118	-0.947	1.300
			Max. Mx	8	-60.329	-3219.619	3.356
			Max. My	2	-60.327	-3.630	3228.815
			Max. Vy	8	30.302	-3219.619	3.356
			Max. Vx	2	-30.401	-3.630	3228.815
			Max. Torque	12			1.042
L52	17 - 16.75	Pole	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-86.259	-0.947	1.298
			Max. Mx	8	-60.455	-3227.192	3.364
			Max. My	2	-60.453	-3.638	3236.413
			Max. Vy	8	30.301	-3227.192	3.364
			Max. Vx	2	-30.400	-3.638	3236.413
			Max. Torque	12			1.042
L53	16.75 - 16.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.540	-0.946	1.294
			Max. Mx	8	-60.691	-3242.346	3.379
			Max. My	2	-60.690	-3.654	3251.616
			Max. Vy	8	30.328	-3242.346	3.379
			Max. Vx	2	-30.427	-3.654	3251.616
			Max. Torque	12			1.042
L54	16.25 - 16	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.690	-0.946	1.292
			Max. Mx	8	-60.822	-3249.927	3.387
			Max. My	2	-60.821	-3.662	3259.222
			Max. Vy	8	30.336	-3249.927	3.387
			Max. Vx	2	-30.435	-3.662	3259.222
			Max. Torque	12			1.042
L55	16 - 11	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-89.663	-0.923	1.293
			Max. Mx	8	-63.392	-3402.191	3.546
			Max. My	2	-63.391	-3.820	3411.979
			Max. Vy	8	30.591	-3402.191	3.546
			Max. Vx	2	-30.689	-3.820	3411.979
			Max. Torque	12			1.042
L56	11 - 6	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-92.640	-0.897	1.304
			Max. Mx	8	-65.994	-3555.666	3.703
			Max. My	2	-65.994	-3.978	3565.944
			Max. Vy	8	30.833	-3555.666	3.703
			Max. Vx	2	-30.931	-3.978	3565.944
			Max. Torque	12			1.042
L57	6 - 1	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-95.607	-0.873	1.315
			Max. Mx	8	-68.625	-3710.344	3.860
			Max. My	2	-68.625	-4.135	3721.111
			Max. Vy	8	31.073	-3710.344	3.860
			Max. Vx	2	-31.170	-4.135	3721.111
			Max. Torque	12			1.042
L58	1 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-96.073	-0.869	1.317
			Max. Mx	8	-69.042	-3741.417	3.891
			Max. My	2	-69.042	-4.166	3752.281
			Max. Vy	8	31.114	-3741.417	3.891
			Max. Vx	2	-31.212	-4.166	3752.281
			Max. Torque	12			1.042

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	96.073	-0.000	0.000
	Max. H_x	20	69.053	31.090	-0.031
	Max. H_z	2	69.053	-0.031	31.187

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Max. M_x	2	3752.281	-0.031	31.187
	Max. M_z	8	3741.417	-31.090	0.031
	Max. Torsion	12	1.042	-15.518	-26.993
	Min. Vert	17	51.790	15.572	-27.025
	Min. H_x	8	69.053	-31.090	0.031
	Min. H_z	14	69.053	0.031	-31.187
	Min. M_x	14	-3751.370	0.031	-31.187
	Min. M_z	20	-3739.962	31.090	-0.031
	Min. Torsion	24	-1.038	15.518	26.993

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	57.544	0.000	0.000	-0.341	-0.567	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	69.053	0.031	-31.187	-3752.281	-4.166	0.803
0.9 Dead+1.0 Wind 0 deg - No Ice	51.790	0.031	-31.187	-3705.469	-3.941	0.808
1.2 Dead+1.0 Wind 30 deg - No Ice	69.053	15.572	-27.025	-3251.353	-1874.042	0.353
0.9 Dead+1.0 Wind 30 deg - No Ice	51.790	15.572	-27.025	-3210.779	-1850.535	0.363
1.2 Dead+1.0 Wind 60 deg - No Ice	69.053	26.940	-15.621	-1879.351	-3241.973	-0.193
0.9 Dead+1.0 Wind 60 deg - No Ice	51.790	26.940	-15.621	-1855.855	-3201.432	-0.180
1.2 Dead+1.0 Wind 90 deg - No Ice	69.053	31.090	-0.031	-3.891	-3741.417	-0.689
0.9 Dead+1.0 Wind 90 deg - No Ice	51.790	31.090	-0.031	-3.735	-3694.653	-0.676
1.2 Dead+1.0 Wind 120 deg - No Ice	69.053	26.909	15.567	1872.494	-3238.535	-1.000
0.9 Dead+1.0 Wind 120 deg - No Ice	51.790	26.909	15.567	1849.301	-3198.029	-0.992
1.2 Dead+1.0 Wind 150 deg - No Ice	69.053	15.518	26.993	3247.012	-1868.081	-1.042
0.9 Dead+1.0 Wind 150 deg - No Ice	51.790	15.518	26.993	3206.719	-1844.634	-1.040
1.2 Dead+1.0 Wind 180 deg - No Ice	69.053	-0.031	31.187	3751.370	2.718	-0.803
0.9 Dead+1.0 Wind 180 deg - No Ice	51.790	-0.031	31.187	3704.806	2.875	-0.809
1.2 Dead+1.0 Wind 210 deg - No Ice	69.053	-15.572	27.025	3250.442	1872.587	-0.349
0.9 Dead+1.0 Wind 210 deg - No Ice	51.790	-15.572	27.025	3210.115	1849.464	-0.360
1.2 Dead+1.0 Wind 240 deg - No Ice	69.053	-26.940	15.621	1878.447	3240.515	0.197
0.9 Dead+1.0 Wind 240 deg - No Ice	51.790	-26.940	15.621	1855.195	3200.358	0.184
1.2 Dead+1.0 Wind 270 deg - No Ice	69.053	-31.090	0.031	2.993	3739.962	0.689
0.9 Dead+1.0 Wind 270 deg - No Ice	51.790	-31.090	0.031	3.080	3693.582	0.677
1.2 Dead+1.0 Wind 300 deg -	69.053	-26.909	-15.567	-1873.392	3237.087	0.996

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
No Ice 0.9 Dead+1.0 Wind 300 deg - No Ice	51.790	-26.909	-15.567	-1849.955	3196.963	0.988
1.2 Dead+1.0 Wind 330 deg - No Ice	69.053	-15.518	-26.993	-3247.917	1866.636	1.038
0.9 Dead+1.0 Wind 330 deg - No Ice	51.790	-15.518	-26.993	-3207.378	1843.571	1.036
1.2 Dead+1.0 Ice+1.0 Temp	96.073	0.000	-0.000	-1.317	-0.869	0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	96.073	0.008	-7.832	-935.012	-1.839	0.217
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	96.073	3.913	-6.786	-810.374	-467.348	0.109
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	96.073	6.770	-3.923	-468.988	-807.892	-0.028
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	96.073	7.812	-0.008	-2.328	-932.222	-0.158
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	96.073	6.762	3.909	464.564	-807.024	-0.245
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	96.073	3.900	6.779	806.585	-465.844	-0.267
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	96.073	-0.008	7.832	932.091	-0.102	-0.217
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	96.073	-3.913	6.786	807.453	465.407	-0.109
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	96.073	-6.770	3.923	466.068	805.950	0.028
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	96.073	-7.812	0.008	-0.591	930.281	0.158
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	96.073	-6.762	-3.909	-467.483	805.083	0.245
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	96.073	-3.900	-6.779	-809.505	463.903	0.267
Dead+Wind 0 deg - Service	57.544	0.007	-6.993	-835.734	-1.369	0.182
Dead+Wind 30 deg - Service	57.544	3.491	-6.059	-724.201	-417.704	0.073
Dead+Wind 60 deg - Service	57.544	6.040	-3.502	-418.719	-722.276	-0.056
Dead+Wind 90 deg - Service	57.544	6.971	-0.007	-1.142	-833.477	-0.170
Dead+Wind 120 deg - Service	57.544	6.033	3.490	416.640	-721.509	-0.238
Dead+Wind 150 deg - Service	57.544	3.479	6.052	722.683	-416.375	-0.243
Dead+Wind 180 deg - Service	57.544	-0.007	6.993	834.983	0.164	-0.182
Dead+Wind 210 deg - Service	57.544	-3.491	6.059	723.450	416.498	-0.073
Dead+Wind 240 deg - Service	57.544	-6.040	3.502	417.968	721.071	0.056
Dead+Wind 270 deg - Service	57.544	-6.971	0.007	0.391	832.271	0.170
Dead+Wind 300 deg - Service	57.544	-6.033	-3.490	-417.391	720.304	0.238
Dead+Wind 330 deg - Service	57.544	-3.479	-6.052	-723.434	415.170	0.242

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.000	-57.544	0.000	0.000	57.544	0.000	0.000%
2	0.031	-69.053	-31.187	-0.031	69.053	31.187	0.000%
3	0.031	-51.790	-31.187	-0.031	51.790	31.187	0.000%
4	15.572	-69.053	-27.025	-15.572	69.053	27.025	0.000%
5	15.572	-51.790	-27.025	-15.572	51.790	27.025	0.000%
6	26.940	-69.053	-15.621	-26.940	69.053	15.621	0.000%
7	26.940	-51.790	-15.621	-26.940	51.790	15.621	0.000%
8	31.090	-69.053	-0.031	-31.090	69.053	0.031	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
9	31.090	-51.790	-0.031	-31.090	51.790	0.031	0.000%
10	26.909	-69.053	15.567	-26.909	69.053	-15.567	0.000%
11	26.909	-51.790	15.567	-26.909	51.790	-15.567	0.000%
12	15.518	-69.053	26.993	-15.518	69.053	-26.993	0.000%
13	15.518	-51.790	26.993	-15.518	51.790	-26.993	0.000%
14	-0.031	-69.053	31.187	0.031	69.053	-31.187	0.000%
15	-0.031	-51.790	31.187	0.031	51.790	-31.187	0.000%
16	-15.572	-69.053	27.025	15.572	69.053	-27.025	0.000%
17	-15.572	-51.790	27.025	15.572	51.790	-27.025	0.000%
18	-26.940	-69.053	15.621	26.940	69.053	-15.621	0.000%
19	-26.940	-51.790	15.621	26.940	51.790	-15.621	0.000%
20	-31.090	-69.053	0.031	31.090	69.053	-0.031	0.000%
21	-31.090	-51.790	0.031	31.090	51.790	-0.031	0.000%
22	-26.909	-69.053	-15.567	26.909	69.053	15.567	0.000%
23	-26.909	-51.790	-15.567	26.909	51.790	15.567	0.000%
24	-15.518	-69.053	-26.993	15.518	69.053	26.993	0.000%
25	-15.518	-51.790	-26.993	15.518	51.790	26.993	0.000%
26	0.000	-96.073	0.000	-0.000	96.073	0.000	0.000%
27	0.008	-96.073	-7.832	-0.008	96.073	7.832	0.000%
28	3.913	-96.073	-6.786	-3.913	96.073	6.786	0.000%
29	6.770	-96.073	-3.923	-6.770	96.073	3.923	0.000%
30	7.812	-96.073	-0.008	-7.812	96.073	0.008	0.000%
31	6.762	-96.073	3.909	-6.762	96.073	-3.909	0.000%
32	3.900	-96.073	6.779	-3.900	96.073	-6.779	0.000%
33	-0.008	-96.073	7.832	0.008	96.073	-7.832	0.000%
34	-3.913	-96.073	6.786	3.913	96.073	-6.786	0.000%
35	-6.770	-96.073	3.923	6.770	96.073	-3.923	0.000%
36	-7.812	-96.073	0.008	7.812	96.073	-0.008	0.000%
37	-6.762	-96.073	-3.909	6.762	96.073	3.909	0.000%
38	-3.900	-96.073	-6.779	3.900	96.073	6.779	0.000%
39	0.007	-57.544	-6.993	-0.007	57.544	6.993	0.000%
40	3.491	-57.544	-6.059	-3.491	57.544	6.059	0.000%
41	6.040	-57.544	-3.502	-6.040	57.544	3.502	0.000%
42	6.971	-57.544	-0.007	-6.971	57.544	0.007	0.000%
43	6.033	-57.544	3.490	-6.033	57.544	-3.490	0.000%
44	3.479	-57.544	6.052	-3.479	57.544	-6.052	0.000%
45	-0.007	-57.544	6.993	0.007	57.544	-6.993	0.000%
46	-3.491	-57.544	6.059	3.491	57.544	-6.059	0.000%
47	-6.040	-57.544	3.502	6.040	57.544	-3.502	0.000%
48	-6.971	-57.544	0.007	6.971	57.544	-0.007	0.000%
49	-6.033	-57.544	-3.490	6.033	57.544	3.490	0.000%
50	-3.479	-57.544	-6.052	3.479	57.544	6.052	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	6	0.00000001	0.00030436
3	Yes	6	0.00000001	0.00010656
4	Yes	7	0.00000001	0.00065554
5	Yes	7	0.00000001	0.00016030
6	Yes	7	0.00000001	0.00065316
7	Yes	7	0.00000001	0.00015942
8	Yes	6	0.00000001	0.00025596
9	Yes	6	0.00000001	0.00008693

10	Yes	7	0.00000001	0.00063885
11	Yes	7	0.00000001	0.00015586
12	Yes	7	0.00000001	0.00066028
13	Yes	7	0.00000001	0.00016180
14	Yes	6	0.00000001	0.00026015
15	Yes	6	0.00000001	0.00009051
16	Yes	7	0.00000001	0.00064669
17	Yes	7	0.00000001	0.00015784
18	Yes	7	0.00000001	0.00064846
19	Yes	7	0.00000001	0.00015824
20	Yes	6	0.00000001	0.00021338
21	Yes	6	0.00000001	0.00007133
22	Yes	7	0.00000001	0.00065933
23	Yes	7	0.00000001	0.00016152
24	Yes	7	0.00000001	0.00063837
25	Yes	7	0.00000001	0.00015525
26	Yes	5	0.00000001	0.00006956
27	Yes	7	0.00000001	0.00062069
28	Yes	7	0.00000001	0.00076071
29	Yes	7	0.00000001	0.00075930
30	Yes	7	0.00000001	0.00061777
31	Yes	7	0.00000001	0.00075033
32	Yes	7	0.00000001	0.00075397
33	Yes	7	0.00000001	0.00061488
34	Yes	7	0.00000001	0.00074983
35	Yes	7	0.00000001	0.00075020
36	Yes	7	0.00000001	0.00061551
37	Yes	7	0.00000001	0.00075663
38	Yes	7	0.00000001	0.00075390
39	Yes	5	0.00000001	0.00038237
40	Yes	6	0.00000001	0.00013330
41	Yes	6	0.00000001	0.00013242
42	Yes	5	0.00000001	0.00036777
43	Yes	6	0.00000001	0.00012430
44	Yes	6	0.00000001	0.00013703
45	Yes	5	0.00000001	0.00037667
46	Yes	6	0.00000001	0.00012785
47	Yes	6	0.00000001	0.00012854
48	Yes	5	0.00000001	0.00036273
49	Yes	6	0.00000001	0.00013653
50	Yes	6	0.00000001	0.00012405

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 155	22.544	40	1.526	0.003
L2	155 - 150	20.948	40	1.520	0.003
L3	150 - 145	19.367	40	1.498	0.003
L4	145 - 140	17.818	40	1.455	0.002
L5	140 - 135	16.328	40	1.389	0.002
L6	135 - 130	14.916	40	1.305	0.002
L7	130 - 125.75	13.601	40	1.204	0.001
L8	125.75 - 125.5	12.571	40	1.107	0.001
L9	125.5 - 119.12	12.514	40	1.102	0.001
L10	122.87 - 117.87	11.924	40	1.037	0.001
L11	117.87 - 117.75	10.870	40	0.967	0.001
L12	117.75 - 117.5	10.846	40	0.964	0.001
L13	117.5 - 112.5	10.795	40	0.959	0.001

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L14	112.5 - 107.5	9.823	40	0.899	0.001
L15	107.5 - 103	8.915	40	0.835	0.001
L16	103 - 102.75	8.155	40	0.776	0.001
L17	102.75 - 100.21	8.114	40	0.774	0.001
L18	100.21 - 95.83	7.711	40	0.745	0.001
L19	100.163 - 94.83	7.703	40	0.744	0.001
L20	94.83 - 93.5	6.886	40	0.715	0.000
L21	93.5 - 93.25	6.688	40	0.704	0.000
L22	93.25 - 88.25	6.651	40	0.702	0.000
L23	88.25 - 87.25	5.936	40	0.664	0.000
L24	87.25 - 87	5.798	40	0.657	0.000
L25	87 - 86.5	5.764	40	0.655	0.000
L26	86.5 - 86.25	5.695	40	0.651	0.000
L27	86.25 - 81.25	5.661	40	0.649	0.000
L28	81.25 - 76.25	5.004	40	0.605	0.000
L29	76.25 - 75.416	4.394	40	0.561	0.000
L30	75.416 - 75.166	4.296	40	0.554	0.000
L31	75.166 - 70.166	4.267	40	0.552	0.000
L32	70.166 - 65.166	3.711	40	0.512	0.000
L33	65.166 - 60.166	3.196	40	0.472	0.000
L34	60.166 - 57	2.722	40	0.432	0.000
L35	57 - 56.75	2.445	40	0.406	0.000
L36	56.75 - 53	2.424	40	0.404	0.000
L37	53 - 47.203	2.118	40	0.374	0.000
L38	52.786 - 46.203	2.101	40	0.372	0.000
L39	46.203 - 41.203	1.607	40	0.342	0.000
L40	41.203 - 39.333	1.270	40	0.302	0.000
L41	39.333 - 39.083	1.155	40	0.287	0.000
L42	39.083 - 37.75	1.140	40	0.286	0.000
L43	37.75 - 37.5	1.061	40	0.276	0.000
L44	37.5 - 32.5	1.047	40	0.274	0.000
L45	32.5 - 27.5	0.780	40	0.235	0.000
L46	27.5 - 27.25	0.555	40	0.196	0.000
L47	27.25 - 27	0.544	40	0.194	0.000
L48	27 - 22	0.534	40	0.193	0.000
L49	22 - 21.25	0.353	40	0.154	0.000
L50	21.25 - 21	0.329	40	0.149	0.000
L51	21 - 17	0.321	40	0.147	0.000
L52	17 - 16.75	0.210	40	0.117	0.000
L53	16.75 - 16.25	0.204	40	0.115	0.000
L54	16.25 - 16	0.192	40	0.112	0.000
L55	16 - 11	0.187	40	0.110	0.000
L56	11 - 6	0.089	40	0.076	0.000
L57	6 - 1	0.028	40	0.042	0.000
L58	1 - 0	0.001	40	0.009	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
159.000	APXVSPP18-C-A20 w/ Mount Pipe	40	22.224	1.526	0.003	19770
157.000	800MHz 2X50W RRH W/FILTER	40	21.585	1.524	0.003	19770
149.000	HPA-65R-BUU-H8 w/ Mount Pipe	40	19.054	1.491	0.003	8087
137.000	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	40	15.470	1.341	0.002	3338
125.000	MT6407-77A w/ Mount Pipe	40	12.399	1.089	0.001	2685

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
109.000	DB589	40	9.180	0.856	0.001	4500
83.000	MX08FRO665-21 w/ Mount Pipe	40	5.229	0.621	0.000	6555

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 155	101.158	2	6.852	0.012
L2	155 - 150	94.008	2	6.823	0.011
L3	150 - 145	86.926	2	6.724	0.011
L4	145 - 140	79.987	2	6.535	0.009
L5	140 - 135	73.305	2	6.238	0.008
L6	135 - 130	66.974	2	5.863	0.007
L7	130 - 125.75	61.075	2	5.409	0.006
L8	125.75 - 125.5	56.457	2	4.976	0.005
L9	125.5 - 119.12	56.197	2	4.949	0.005
L10	122.87 - 117.87	53.553	2	4.660	0.004
L11	117.87 - 117.75	48.820	2	4.345	0.004
L12	117.75 - 117.5	48.711	2	4.333	0.004
L13	117.5 - 112.5	48.485	2	4.309	0.003
L14	112.5 - 107.5	44.117	2	4.039	0.003
L15	107.5 - 103	40.040	2	3.754	0.003
L16	103 - 102.75	36.628	2	3.490	0.002
L17	102.75 - 100.21	36.446	2	3.477	0.002
L18	100.21 - 95.83	34.633	2	3.346	0.002
L19	100.163 - 94.83	34.600	2	3.344	0.002
L20	94.83 - 93.5	30.929	2	3.216	0.002
L21	93.5 - 93.25	30.041	2	3.163	0.002
L22	93.25 - 88.25	29.876	2	3.154	0.002
L23	88.25 - 87.25	26.664	2	2.985	0.002
L24	87.25 - 87	26.042	2	2.952	0.002
L25	87 - 86.5	25.888	2	2.944	0.002
L26	86.5 - 86.25	25.581	2	2.928	0.002
L27	86.25 - 81.25	25.428	2	2.918	0.002
L28	81.25 - 76.25	22.478	4	2.720	0.002
L29	76.25 - 75.416	19.735	4	2.521	0.001
L30	75.416 - 75.166	19.298	4	2.488	0.001
L31	75.166 - 70.166	19.168	4	2.479	0.001
L32	70.166 - 65.166	16.667	4	2.300	0.001
L33	65.166 - 60.166	14.353	4	2.121	0.001
L34	60.166 - 57	12.228	4	1.939	0.001
L35	57 - 56.75	10.981	4	1.824	0.001
L36	56.75 - 53	10.886	4	1.815	0.001
L37	53 - 47.203	9.514	4	1.679	0.001
L38	52.786 - 46.203	9.439	4	1.671	0.001
L39	46.203 - 41.203	7.218	4	1.535	0.001
L40	41.203 - 39.333	5.705	4	1.356	0.001
L41	39.333 - 39.083	5.187	4	1.291	0.001
L42	39.083 - 37.75	5.119	4	1.283	0.001
L43	37.75 - 37.5	4.767	4	1.241	0.001
L44	37.5 - 32.5	4.702	4	1.232	0.001
L45	32.5 - 27.5	3.505	4	1.055	0.000
L46	27.5 - 27.25	2.491	4	0.882	0.000
L47	27.25 - 27	2.445	4	0.873	0.000
L48	27 - 22	2.399	4	0.865	0.000

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L49	22 - 21.25	1.584	4	0.694	0.000
L50	21.25 - 21	1.477	4	0.669	0.000
L51	21 - 17	1.442	4	0.660	0.000
L52	17 - 16.75	0.945	4	0.527	0.000
L53	16.75 - 16.25	0.917	4	0.519	0.000
L54	16.25 - 16	0.864	4	0.502	0.000
L55	16 - 11	0.838	4	0.494	0.000
L56	11 - 6	0.401	4	0.340	0.000
L57	6 - 1	0.124	4	0.190	0.000
L58	1 - 0	0.004	4	0.040	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
159.000	APXVSPP18-C-A20 w/ Mount Pipe	2	99.725	6.849	0.012	4545
157.000	800MHz 2X50W RRH W/FILTER	2	96.863	6.840	0.012	4545
149.000	HPA-65R-BUU-H8 w/ Mount Pipe	2	85.523	6.694	0.011	1860
137.000	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	2	69.459	6.022	0.007	762
125.000	MT6407-77A w/ Mount Pipe	2	55.683	4.894	0.005	607
109.000	DB589	2	41.232	3.848	0.003	1010
83.000	MX08FRO665-21 w/ Mount Pipe	4	23.487	2.789	0.002	1465

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	160 - 155 (1)	TP17.62x16.5x0.188	5.000	0.000	0.0	10.375	-3.462	606.922	0.006
L2	155 - 150 (2)	TP18.741x17.62x0.188	5.000	0.000	0.0	11.042	-3.686	645.926	0.006
L3	150 - 145 (3)	TP19.861x18.741x0.188	5.000	0.000	0.0	11.708	-7.801	684.931	0.011
L4	145 - 140 (4)	TP20.981x19.861x0.188	5.000	0.000	0.0	12.375	-8.152	723.936	0.011
L5	140 - 135 (5)	TP22.102x20.981x0.188	5.000	0.000	0.0	13.042	-12.453	762.941	0.016
L6	135 - 130 (6)	TP23.222x22.102x0.188	5.000	0.000	0.0	13.708	-12.916	801.946	0.016
L7	130 - 125.75 (7)	TP24.174x23.222x0.188	4.250	0.000	0.0	14.275	-13.336	835.100	0.016
L8	125.75 - 125.5 (8)	TP24.23x24.174x0.188	0.250	0.000	0.0	14.309	-13.375	837.050	0.016
L9	125.5 - 119.12 (9)	TP25.66x24.23x0.188	6.380	0.000	0.0	14.659	-17.163	857.567	0.020
L10	119.12 - 117.87 (10)	TP25.544x24.445x0.25	5.000	0.000	0.0	20.071	-17.999	1174.150	0.015
L11	117.87 - 117.75 (11)	TP25.57x25.544x0.25	0.120	0.000	0.0	20.092	-18.035	1175.370	0.015
L12	117.75 - 117.5 (12)	TP25.625x25.57x0.25	0.250	0.000	0.0	20.135	-18.067	1177.920	0.015

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L13	117.5 - 112.5 (13)	TP26.725x25.625x0.475	5.000	0.000	0.0	39.576	-18.998	2315.170	0.008
L14	112.5 - 107.5 (14)	TP27.824x26.725x0.469	5.000	0.000	0.0	40.700	-20.153	2380.930	0.008
L15	107.5 - 103 (15)	TP28.814x27.824x0.463	4.500	0.000	0.0	41.619	-21.042	2434.690	0.009
L16	103 - 102.75 (16)	TP28.869x28.814x0.55	0.250	0.000	0.0	49.436	-21.114	2891.980	0.007
L17	102.75 - 100.21 (17)	TP29.427x28.869x0.538	2.540	0.000	0.0	49.286	-21.732	2883.240	0.008
L18	100.21 - 95.83 (18)	TP30.39x29.427x0.688	4.380	0.000	0.0	62.736	-21.757	3670.040	0.006
L19	95.83 - 94.83 (19)	TP30.119x28.937x0.738	5.333	0.000	0.0	68.776	-24.298	4023.420	0.006
L20	94.83 - 93.5 (20)	TP30.413x30.119x0.738	1.330	0.000	0.0	69.466	-24.689	4063.770	0.006
L21	93.5 - 93.25 (21)	TP30.469x30.413x0.913	0.250	0.000	0.0	85.603	-24.785	5007.790	0.005
L22	93.25 - 88.25 (22)	TP31.576x30.469x0.888	5.000	0.000	0.0	86.449	-26.525	5057.240	0.005
L23	88.25 - 87.25 (23)	TP31.798x31.576x0.888	1.000	0.000	0.0	87.073	-26.880	5093.750	0.005
L24	87.25 - 87 (24)	TP31.853x31.798x0.938	0.250	0.000	0.0	91.994	-26.978	5381.660	0.005
L25	87 - 86.5 (25)	TP31.964x31.853x0.925	0.500	0.000	0.0	91.130	-27.161	5331.080	0.005
L26	86.5 - 86.25 (26)	TP32.02x31.964x0.763	0.250	0.000	0.0	75.648	-27.242	4425.380	0.006
L27	86.25 - 81.25 (27)	TP33.127x32.02x0.738	5.000	0.000	0.0	75.819	-31.942	4435.400	0.007
L28	81.25 - 76.25 (28)	TP34.235x33.127x0.725	5.000	0.000	0.0	77.112	-33.583	4511.020	0.007
L29	76.25 - 75.416 (29)	TP34.42x34.235x0.725	0.834	0.000	0.0	77.537	-33.862	4535.890	0.007
L30	75.416 - 75.166 (30)	TP34.475x34.42x0.813	0.250	0.000	0.0	86.812	-33.959	5078.480	0.007
L31	75.166 - 70.166 (31)	TP35.583x34.475x0.8	5.000	0.000	0.0	88.321	-35.791	5166.750	0.007
L32	70.166 - 65.166 (32)	TP36.69x35.583x0.788	5.000	0.000	0.0	89.740	-37.654	5249.820	0.007
L33	65.166 - 60.166 (33)	TP37.798x36.69x0.763	5.000	0.000	0.0	89.633	-39.544	5243.520	0.008
L34	60.166 - 57 (34)	TP38.5x37.798x0.75	3.166	0.000	0.0	89.863	-40.756	5256.980	0.008
L35	57 - 56.75 (35)	TP38.555x38.5x0.75	0.250	0.000	0.0	89.995	-40.860	5264.690	0.008
L36	56.75 - 53 (36)	TP39.386x38.555x0.738	3.750	0.000	0.0	90.469	-42.300	5292.420	0.008
L37	53 - 47.203 (37)	TP40.67x39.386x0.738	5.797	0.000	0.0	90.580	-42.398	5298.920	0.008
L38	47.203 - 46.203 (38)	TP40.266x38.808x0.763	6.583	0.000	0.0	95.606	-47.222	5592.950	0.008
L39	46.203 - 41.203 (39)	TP41.374x40.266x0.75	5.000	0.000	0.0	96.705	-49.355	5657.230	0.009
L40	41.203 - 39.333 (40)	TP41.788x41.374x0.75	1.870	0.000	0.0	97.691	-50.155	5714.910	0.009
L41	39.333 - 39.083 (41)	TP41.843x41.788x0.825	0.250	0.000	0.0	107.408	-50.287	6283.400	0.008
L42	39.083 - 37.75 (42)	TP42.139x41.843x0.825	1.333	0.000	0.0	108.182	-50.902	6328.620	0.008
L43	37.75 - 37.5 (43)	TP42.194x42.139x0.75	0.250	0.000	0.0	98.657	-51.020	5771.450	0.009
L44	37.5 - 32.5 (44)	TP43.301x42.194x0.725	5.000	0.000	0.0	97.975	-53.196	5731.520	0.009
L45	32.5 - 27.5 (45)	TP44.409x43.301x0.725	5.000	0.000	0.0	100.523	-55.407	5880.610	0.009

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L46	27.5 - 27.25 (46)	TP44.464x44.409x0.725	0.250	0.000	0.0	100.651	-55.525	5888.060	0.009
L47	27.25 - 27 (47)	TP44.52x44.464x0.725	0.250	0.000	0.0	100.778	-55.637	5895.510	0.009
L48	27 - 22 (48)	TP45.627x44.52x0.713	5.000	0.000	0.0	100.071	-56.539	5854.130	0.010
L49	22 - 21.25 (49)	TP45.793x45.627x0.713	0.750	0.000	0.0	101.573	-57.888	5942.040	0.010
L50	21.25 - 21 (50)	TP45.849x45.793x0.725	0.250	0.000	0.0	103.709	-58.223	6066.960	0.010
L51	21 - 17 (51)	TP46.735x45.849x0.713	4.000	0.000	0.0	102.074	-58.354	5971.340	0.010
L52	17 - 16.75 (52)	TP46.79x46.735x0.7	0.250	0.000	0.0	102.280	-60.338	5983.360	0.010
L53	16.75 - 16.25 (53)	TP46.901x46.79x0.7	0.500	0.000	0.0	102.403	-60.459	5990.560	0.010
L54	16.25 - 16 (54)	TP46.956x46.901x0.775	0.250	0.000	0.0	113.462	-60.696	6637.550	0.009
L55	16 - 11 (55)	TP48.064x46.956x0.75	5.000	0.000	0.0	109.994	-60.831	6434.620	0.009
L56	11 - 6 (56)	TP49.171x48.064x0.75	5.000	0.000	0.0	112.630	-63.407	6588.850	0.010
L57	6 - 1 (57)	TP50.279x49.171x0.738	5.000	0.000	0.0	113.374	-66.010	6632.400	0.010
L58	1 - 0 (58)	TP50.5x50.279x0.525	1.000	0.000	0.0	82.907	-68.644	4850.050	0.014

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	160 - 155 (1)	TP17.62x16.5x0.188	18.740	275.518	0.068	0.000	275.518	0.000
L2	155 - 150 (2)	TP18.741x17.62x0.188	43.213	309.226	0.140	0.000	309.226	0.000
L3	150 - 145 (3)	TP19.861x18.741x0.188	100.492	342.633	0.293	0.000	342.633	0.000
L4	145 - 140 (4)	TP20.981x19.861x0.188	161.009	377.080	0.427	0.000	377.080	0.000
L5	140 - 135 (5)	TP22.102x20.981x0.188	231.684	412.461	0.562	0.000	412.461	0.000
L6	135 - 130 (6)	TP23.222x22.102x0.188	314.882	448.675	0.702	0.000	448.675	0.000
L7	130 - 125.75 (7)	TP24.174x23.222x0.188	386.447	480.033	0.805	0.000	480.033	0.000
L8	125.75 - 125.5 (8)	TP24.23x24.174x0.188	390.681	481.892	0.811	0.000	481.892	0.000
L9	125.5 - 119.12 (9)	TP25.66x24.23x0.188	448.140	501.550	0.894	0.000	501.550	0.000
L10	119.12 - 117.87 (10)	TP25.544x24.445x0.25	554.266	762.176	0.727	0.000	762.176	0.000
L11	117.87 - 117.75 (11)	TP25.57x25.544x0.25	556.828	763.569	0.729	0.000	763.569	0.000
L12	117.75 - 117.5 (12)	TP25.625x25.57x0.25	562.169	766.475	0.733	0.000	766.475	0.000
L13	117.5 - 112.5 (13)	TP26.725x25.625x0.475	669.723	1571.142	0.426	0.000	1571.142	0.000
L14	112.5 - 107.5 (14)	TP27.824x26.725x0.469	779.252	1685.417	0.462	0.000	1685.417	0.000
L15	107.5 - 103 (15)	TP28.814x27.824x0.463	879.708	1787.642	0.492	0.000	1787.642	0.000
L16	103 - 102.75 (16)	TP28.869x28.814x0.55	885.317	2114.500	0.419	0.000	2114.500	0.000
L17	102.75 - 100.21 (17)	TP29.427x28.869x0.538	942.583	2152.342	0.438	0.000	2152.342	0.000
L18	100.21 - 95.83 (18)	TP30.39x29.427x0.688	943.650	2712.308	0.348	0.000	2712.308	0.000
L19	95.83 - 94.83 (19)	TP30.119x28.937x0.738	1065.600	3035.258	0.351	0.000	3035.258	0.000
L20	94.83 - 93.5 (20)	TP30.413x30.119x0.738	1096.367	3097.192	0.354	0.000	3097.192	0.000
L21	93.5 - 93.25	TP30.469x30.413x0.913	1102.158	3779.083	0.292	0.000	3779.083	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L22	93.25 - 88.25 (21)	TP31.576x30.469x0.888	1219.050	3970.192	0.307	0.000	3970.192	0.000
L23	88.25 - 87.25 (22)	TP31.798x31.576x0.888	1242.642	4028.533	0.308	0.000	4028.533	0.000
L24	87.25 - 87 (23)	TP31.853x31.798x0.938	1248.558	4250.308	0.294	0.000	4250.308	0.000
L25	87 - 86.5 (24)	TP31.964x31.853x0.925	1260.392	4229.300	0.298	0.000	4229.300	0.000
L26	86.5 - 86.25 (25)	TP32.02x31.964x0.763	1266.317	3554.092	0.356	0.000	3554.092	0.000
L27	86.25 - 81.25 (26)	TP33.127x32.02x0.738	1390.317	3697.083	0.376	0.000	3697.083	0.000
L28	81.25 - 76.25 (27)	TP34.235x33.127x0.725	1524.025	3894.475	0.391	0.000	3894.475	0.000
L29	76.25 - 75.416 (28)	TP34.42x34.235x0.725	1546.483	3938.000	0.393	0.000	3938.000	0.000
L30	75.416 - 75.166 (29)	TP34.475x34.42x0.813	1553.225	4393.592	0.354	0.000	4393.592	0.000
L31	75.166 - 70.166 (30)	TP35.583x34.475x0.8	1688.933	4623.842	0.365	0.000	4623.842	0.000
L32	70.166 - 65.166 (31)	TP36.69x35.583x0.788	1826.300	4854.542	0.376	0.000	4854.542	0.000
L33	65.166 - 60.166 (32)	TP37.798x36.69x0.763	1965.292	5008.283	0.392	0.000	5008.283	0.000
L34	60.166 - 57 (33)	TP38.5x37.798x0.75	2054.117	5121.542	0.401	0.000	5121.542	0.000
L35	57 - 56.75 (34)	TP38.555x38.5x0.75	2061.158	5136.725	0.401	0.000	5136.725	0.000
L36	56.75 - 53 (35)	TP39.386x38.555x0.738	2167.233	5282.883	0.410	0.000	5282.883	0.000
L37	53 - 47.203 (36)	TP40.67x39.386x0.738	2173.308	5295.975	0.410	0.000	5295.975	0.000
L38	47.203 - 46.203 (37)	TP40.266x38.808x0.763	2362.175	5705.225	0.414	0.000	5705.225	0.000
L39	46.203 - 41.203 (38)	TP41.374x40.266x0.75	2507.567	5939.300	0.422	0.000	5939.300	0.000
L40	41.203 - 39.333 (39)	TP41.788x41.374x0.75	2562.300	6062.133	0.423	0.000	6062.133	0.000
L41	39.333 - 39.083 (40)	TP41.843x41.788x0.825	2569.633	6649.975	0.386	0.000	6649.975	0.000
L42	39.083 - 37.75 (41)	TP42.139x41.843x0.825	2608.775	6747.000	0.387	0.000	6747.000	0.000
L43	37.75 - 37.5 (42)	TP42.194x42.139x0.75	2616.133	6183.767	0.423	0.000	6183.767	0.000
L44	37.5 - 32.5 (43)	TP43.301x42.194x0.725	2763.850	6315.417	0.438	0.000	6315.417	0.000
L45	32.5 - 27.5 (44)	TP44.409x43.301x0.725	2912.767	6651.058	0.438	0.000	6651.058	0.000
L46	27.5 - 27.25 (45)	TP44.464x44.409x0.725	2920.242	6668.067	0.438	0.000	6668.067	0.000
L47	27.25 - 27 (46)	TP44.52x44.464x0.725	2927.717	6685.100	0.438	0.000	6685.100	0.000
L48	27 - 22 (47)	TP45.627x44.52x0.713	2987.658	6710.200	0.445	0.000	6710.200	0.000
L49	22 - 21.25 (48)	TP45.793x45.627x0.713	3077.908	6914.867	0.445	0.000	6914.867	0.000
L50	21.25 - 21 (49)	TP45.849x45.793x0.725	3100.542	7082.833	0.438	0.000	7082.833	0.000
L51	21 - 17 (50)	TP46.735x45.849x0.713	3108.092	6983.767	0.445	0.000	6983.767	0.000
L52	17 - 16.75 (51)	TP46.79x46.735x0.7	3229.267	7141.200	0.452	0.000	7141.200	0.000
L53	16.75 - 16.25 (52)	TP46.901x46.79x0.7	3236.858	7158.517	0.452	0.000	7158.517	0.000
L54	16.25 - 16 (53)	TP46.956x46.901x0.775	3252.067	7925.200	0.410	0.000	7925.200	0.000
L55	16 - 11 (54)	TP48.064x46.956x0.75	3259.675	7700.617	0.423	0.000	7700.617	0.000
L56	11 - 6 (55)	TP49.171x48.064x0.75	3412.442	8077.200	0.422	0.000	8077.200	0.000
L57	6 - 1 (56)	TP50.279x49.171x0.738	3566.425	8328.183	0.428	0.000	8328.183	0.000
L58	1 - 0 (57)	TP50.5x50.279x0.525	3721.600	6285.025	0.592	0.000	6285.025	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	160 - 155 (1)	TP17.62x16.5x0.188	4.766	182.076	0.026	0.000	277.973	0.000
L2	155 - 150 (2)	TP18.741x17.62x0.188	5.026	193.778	0.026	0.000	314.850	0.000
L3	150 - 145 (3)	TP19.861x18.741x0.188	11.979	205.479	0.058	0.000	354.022	0.000
L4	145 - 140 (4)	TP20.981x19.861x0.188	12.236	217.181	0.056	0.000	395.492	0.000
L5	140 - 135 (5)	TP22.102x20.981x0.188	16.538	228.882	0.072	0.001	439.257	0.000
L6	135 - 130 (6)	TP23.222x22.102x0.188	16.760	240.584	0.070	0.001	485.319	0.000
L7	130 - 125.75 (7)	TP24.174x23.222x0.188	16.942	250.530	0.068	0.001	526.277	0.000
L8	125.75 - 125.5 (8)	TP24.23x24.174x0.188	16.942	251.115	0.067	0.001	528.737	0.000
L9	125.5 - 119.12 (9)	TP25.66x24.23x0.188	21.102	257.270	0.082	0.001	554.974	0.000
L10	119.12 - 117.87 (10)	TP25.544x24.445x0.25	21.370	352.244	0.061	0.001	780.265	0.000
L11	117.87 - 117.75 (11)	TP25.57x25.544x0.25	21.358	352.611	0.061	0.001	781.893	0.000
L12	117.75 - 117.5 (12)	TP25.625x25.57x0.25	21.370	353.376	0.060	0.001	785.292	0.000
L13	117.5 - 112.5 (13)	TP26.725x25.625x0.475	21.665	694.550	0.031	0.001	1596.650	0.000
L14	112.5 - 107.5 (14)	TP27.824x26.725x0.469	22.205	714.279	0.031	0.410	1711.158	0.000
L15	107.5 - 103 (15)	TP28.814x27.824x0.463	22.463	730.407	0.031	0.409	1813.483	0.000
L16	103 - 102.75 (16)	TP28.869x28.814x0.55	22.469	867.595	0.026	0.409	2151.625	0.000
L17	102.75 - 100.21 (17)	TP29.427x28.869x0.538	22.637	864.972	0.026	0.409	2188.375	0.000
L18	100.21 - 95.83 (18)	TP30.39x29.427x0.688	22.647	1101.010	0.021	0.409	2772.083	0.000
L19	95.83 - 94.83 (19)	TP30.119x28.937x0.738	23.096	1207.030	0.019	0.409	3105.758	0.000
L20	94.83 - 93.5 (20)	TP30.413x30.119x0.738	23.189	1219.130	0.019	0.409	3168.358	0.000
L21	93.5 - 93.25 (21)	TP30.469x30.413x0.913	23.198	1502.340	0.015	0.409	3888.633	0.000
L22	93.25 - 88.25 (22)	TP31.576x30.469x0.888	23.568	1517.170	0.016	0.409	4077.533	0.000
L23	88.25 - 87.25 (23)	TP31.798x31.576x0.888	23.641	1528.130	0.015	0.409	4136.617	0.000
L24	87.25 - 87 (24)	TP31.853x31.798x0.938	23.654	1614.500	0.015	0.409	4371.192	0.000
L25	87 - 86.5 (25)	TP31.964x31.853x0.925	23.693	1599.320	0.015	0.409	4347.367	0.000
L26	86.5 - 86.25 (26)	TP32.02x31.964x0.763	23.709	1327.620	0.018	0.409	3634.133	0.000
L27	86.25 - 81.25 (27)	TP33.127x32.02x0.738	26.592	1330.620	0.020	0.353	3774.350	0.000
L28	81.25 - 76.25 (28)	TP34.235x33.127x0.725	26.915	1353.310	0.020	0.353	3971.458	0.000
L29	76.25 - 75.416 (29)	TP34.42x34.235x0.725	26.967	1360.770	0.020	0.353	4015.375	0.000
L30	75.416 - 75.166 (30)	TP34.475x34.42x0.813	26.977	1523.540	0.018	0.353	4491.417	0.000
L31	75.166 - 70.166 (31)	TP35.583x34.475x0.8	27.320	1550.020	0.018	0.353	4721.533	0.000
L32	70.166 - 65.166 (32)	TP36.69x35.583x0.788	27.650	1574.940	0.018	0.353	4951.950	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L33	65.166 - 60.166 (33)	TP37.798x36.69x0.763	27.971	1573.060	0.018	0.353	5102.050	0.000
L34	60.166 - 57 (34)	TP38.5x37.798x0.75	28.170	1577.090	0.018	0.353	5213.742	0.000
L35	57 - 56.75 (35)	TP38.555x38.5x0.75	28.175	1579.410	0.018	0.353	5229.050	0.000
L36	56.75 - 53 (36)	TP39.386x38.555x0.738	28.417	1587.730	0.018	0.353	5373.850	0.000
L37	53 - 47.203 (37)	TP40.67x39.386x0.738	28.417	1589.670	0.018	0.353	5387.042	0.000
L38	47.203 - 46.203 (38)	TP40.266x38.808x0.763	28.956	1677.890	0.017	0.353	5804.708	0.000
L39	46.203 - 41.203 (39)	TP41.374x40.266x0.75	29.232	1697.170	0.017	0.353	6037.883	0.000
L40	41.203 - 39.333 (40)	TP41.788x41.374x0.75	29.345	1714.470	0.017	0.353	6161.633	0.000
L41	39.333 - 39.083 (41)	TP41.843x41.788x0.825	29.335	1885.020	0.016	0.353	6771.317	0.000
L42	39.083 - 37.75 (42)	TP42.139x41.843x0.825	29.425	1898.590	0.015	0.353	6869.150	0.000
L43	37.75 - 37.5 (43)	TP42.194x42.139x0.75	29.423	1731.440	0.017	0.353	6284.158	0.000
L44	37.5 - 32.5 (44)	TP43.301x42.194x0.725	29.683	1719.460	0.017	0.353	6411.208	0.000
L45	32.5 - 27.5 (45)	TP44.409x43.301x0.725	29.916	1764.180	0.017	0.353	6749.075	0.000
L46	27.5 - 27.25 (46)	TP44.464x44.409x0.725	29.916	1766.420	0.017	0.353	6766.200	0.000
L47	27.25 - 27 (47)	TP44.52x44.464x0.725	29.927	1768.650	0.017	0.353	6783.341	0.000
L48	27 - 22 (48)	TP45.627x44.52x0.713	30.078	1765.030	0.017	0.353	6805.775	0.000
L49	22 - 21.25 (49)	TP45.793x45.627x0.713	30.201	1789.200	0.017	0.353	7011.708	0.000
L50	21.25 - 21 (50)	TP45.849x45.793x0.725	30.204	1822.320	0.017	0.353	7183.617	0.000
L51	21 - 17 (51)	TP46.735x45.849x0.713	30.264	1800.190	0.017	0.353	7081.041	0.000
L52	17 - 16.75 (52)	TP46.79x46.735x0.7	30.403	1797.170	0.017	0.353	7236.533	0.000
L53	16.75 - 16.25 (53)	TP46.901x46.79x0.7	30.430	1801.490	0.017	0.353	7253.950	0.000
L54	16.25 - 16 (54)	TP46.956x46.901x0.775	30.437	1993.650	0.015	0.353	8043.625	0.000
L55	16 - 11 (55)	TP48.064x46.956x0.75	30.498	1939.640	0.016	0.353	7811.300	0.000
L56	11 - 6 (56)	TP49.171x48.064x0.75	30.740	1985.910	0.015	0.353	8190.233	0.000
L57	6 - 1 (57)	TP50.279x49.171x0.738	30.982	1998.820	0.016	0.353	8439.500	0.000
L58	1 - 0 (58)	TP50.5x50.279x0.525	31.214	1461.490	0.021	0.353	6339.733	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	160 - 155 (1)	0.006	0.068	0.000	0.026	0.000	0.074 ✔	1.050	4.8.2 ✔
L2	155 - 150 (2)	0.006	0.140	0.000	0.026	0.000	0.146 ✔	1.050	4.8.2 ✔
L3	150 - 145 (3)	0.011	0.293	0.000	0.058	0.000	0.308 ✔	1.050	4.8.2 ✔
L4	145 - 140 (4)	0.011	0.427	0.000	0.056	0.000	0.441 ✔	1.050	4.8.2 ✔
L5	140 - 135 (5)	0.016	0.562	0.000	0.072	0.000	0.583 ✔	1.050	4.8.2 ✔

Section No.	Elevation ft	Ratio $P_u/\phi P_n$	Ratio $M_{ux}/\phi M_{nx}$	Ratio $M_{uy}/\phi M_{ny}$	Ratio $V_u/\phi V_n$	Ratio $T_u/\phi T_n$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L6	135 - 130 (6)	0.016	0.702	0.000	0.070	0.000	0.723 ✔	1.050	4.8.2 ✔
L7	130 - 125.75 (7)	0.016	0.805	0.000	0.068	0.000	0.826 ✔	1.050	4.8.2 ✔
L8	125.75 - 125.5 (8)	0.016	0.811	0.000	0.067	0.000	0.831 ✔	1.050	4.8.2 ✔
L9	125.5 - 119.12 (9)	0.020	0.894	0.000	0.082	0.000	0.920 ✔	1.050	4.8.2 ✔
L10	119.12 - 117.87 (10)	0.015	0.727	0.000	0.061	0.000	0.746 ✔	1.050	4.8.2 ✔
L11	117.87 - 117.75 (11)	0.015	0.729	0.000	0.061	0.000	0.748 ✔	1.050	4.8.2 ✔
L12	117.75 - 117.5 (12)	0.015	0.733	0.000	0.060	0.000	0.752 ✔	1.050	4.8.2 ✔
L13	117.5 - 112.5 (13)	0.008	0.426	0.000	0.031	0.000	0.435 ✔	1.050	4.8.2 ✔
L14	112.5 - 107.5 (14)	0.008	0.462	0.000	0.031	0.000	0.472 ✔	1.050	4.8.2 ✔
L15	107.5 - 103 (15)	0.009	0.492	0.000	0.031	0.000	0.502 ✔	1.050	4.8.2 ✔
L16	103 - 102.75 (16)	0.007	0.419	0.000	0.026	0.000	0.427 ✔	1.050	4.8.2 ✔
L17	102.75 - 100.21 (17)	0.008	0.438	0.000	0.026	0.000	0.446 ✔	1.050	4.8.2 ✔
L18	100.21 - 95.83 (18)	0.006	0.348	0.000	0.021	0.000	0.354 ✔	1.050	4.8.2 ✔
L19	95.83 - 94.83 (19)	0.006	0.351	0.000	0.019	0.000	0.357 ✔	1.050	4.8.2 ✔
L20	94.83 - 93.5 (20)	0.006	0.354	0.000	0.019	0.000	0.360 ✔	1.050	4.8.2 ✔
L21	93.5 - 93.25 (21)	0.005	0.292	0.000	0.015	0.000	0.297 ✔	1.050	4.8.2 ✔
L22	93.25 - 88.25 (22)	0.005	0.307	0.000	0.016	0.000	0.313 ✔	1.050	4.8.2 ✔
L23	88.25 - 87.25 (23)	0.005	0.308	0.000	0.015	0.000	0.314 ✔	1.050	4.8.2 ✔
L24	87.25 - 87 (24)	0.005	0.294	0.000	0.015	0.000	0.299 ✔	1.050	4.8.2 ✔
L25	87 - 86.5 (25)	0.005	0.298	0.000	0.015	0.000	0.303 ✔	1.050	4.8.2 ✔
L26	86.5 - 86.25 (26)	0.006	0.356	0.000	0.018	0.000	0.363 ✔	1.050	4.8.2 ✔
L27	86.25 - 81.25 (27)	0.007	0.376	0.000	0.020	0.000	0.384 ✔	1.050	4.8.2 ✔
L28	81.25 - 76.25 (28)	0.007	0.391	0.000	0.020	0.000	0.399 ✔	1.050	4.8.2 ✔
L29	76.25 - 75.416 (29)	0.007	0.393	0.000	0.020	0.000	0.401 ✔	1.050	4.8.2 ✔
L30	75.416 - 75.166 (30)	0.007	0.354	0.000	0.018	0.000	0.361 ✔	1.050	4.8.2 ✔
L31	75.166 - 70.166 (31)	0.007	0.365	0.000	0.018	0.000	0.373 ✔	1.050	4.8.2 ✔

Section No.	Elevation ft	Ratio $P_u/\phi P_n$	Ratio $M_{ux}/\phi M_{nx}$	Ratio $M_{uy}/\phi M_{ny}$	Ratio $V_u/\phi V_n$	Ratio $T_u/\phi T_n$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L32	70.166 - 65.166 (32)	0.007	0.376	0.000	0.018	0.000	0.384 ✔	1.050	4.8.2 ✔
L33	65.166 - 60.166 (33)	0.008	0.392	0.000	0.018	0.000	0.400 ✔	1.050	4.8.2 ✔
L34	60.166 - 57 (34)	0.008	0.401	0.000	0.018	0.000	0.409 ✔	1.050	4.8.2 ✔
L35	57 - 56.75 (35)	0.008	0.401	0.000	0.018	0.000	0.409 ✔	1.050	4.8.2 ✔
L36	56.75 - 53 (36)	0.008	0.410	0.000	0.018	0.000	0.419 ✔	1.050	4.8.2 ✔
L37	53 - 47.203 (37)	0.008	0.410	0.000	0.018	0.000	0.419 ✔	1.050	4.8.2 ✔
L38	47.203 - 46.203 (38)	0.008	0.414	0.000	0.017	0.000	0.423 ✔	1.050	4.8.2 ✔
L39	46.203 - 41.203 (39)	0.009	0.422	0.000	0.017	0.000	0.431 ✔	1.050	4.8.2 ✔
L40	41.203 - 39.333 (40)	0.009	0.423	0.000	0.017	0.000	0.432 ✔	1.050	4.8.2 ✔
L41	39.333 - 39.083 (41)	0.008	0.386	0.000	0.016	0.000	0.395 ✔	1.050	4.8.2 ✔
L42	39.083 - 37.75 (42)	0.008	0.387	0.000	0.015	0.000	0.395 ✔	1.050	4.8.2 ✔
L43	37.75 - 37.5 (43)	0.009	0.423	0.000	0.017	0.000	0.432 ✔	1.050	4.8.2 ✔
L44	37.5 - 32.5 (44)	0.009	0.438	0.000	0.017	0.000	0.447 ✔	1.050	4.8.2 ✔
L45	32.5 - 27.5 (45)	0.009	0.438	0.000	0.017	0.000	0.448 ✔	1.050	4.8.2 ✔
L46	27.5 - 27.25 (46)	0.009	0.438	0.000	0.017	0.000	0.448 ✔	1.050	4.8.2 ✔
L47	27.25 - 27 (47)	0.009	0.438	0.000	0.017	0.000	0.448 ✔	1.050	4.8.2 ✔
L48	27 - 22 (48)	0.010	0.445	0.000	0.017	0.000	0.455 ✔	1.050	4.8.2 ✔
L49	22 - 21.25 (49)	0.010	0.445	0.000	0.017	0.000	0.455 ✔	1.050	4.8.2 ✔
L50	21.25 - 21 (50)	0.010	0.438	0.000	0.017	0.000	0.448 ✔	1.050	4.8.2 ✔
L51	21 - 17 (51)	0.010	0.445	0.000	0.017	0.000	0.455 ✔	1.050	4.8.2 ✔
L52	17 - 16.75 (52)	0.010	0.452	0.000	0.017	0.000	0.463 ✔	1.050	4.8.2 ✔
L53	16.75 - 16.25 (53)	0.010	0.452	0.000	0.017	0.000	0.463 ✔	1.050	4.8.2 ✔
L54	16.25 - 16 (54)	0.009	0.410	0.000	0.015	0.000	0.420 ✔	1.050	4.8.2 ✔
L55	16 - 11 (55)	0.009	0.423	0.000	0.016	0.000	0.433 ✔	1.050	4.8.2 ✔
L56	11 - 6 (56)	0.010	0.422	0.000	0.015	0.000	0.432 ✔	1.050	4.8.2 ✔
L57	6 - 1 (57)	0.010	0.428	0.000	0.016	0.000	0.438 ✔	1.050	4.8.2 ✔

Section No.	Elevation ft	Ratio $P_u/\phi P_n$	Ratio $M_{ux}/\phi M_{nx}$	Ratio $M_{uy}/\phi M_{ny}$	Ratio $V_u/\phi V_n$	Ratio $T_u/\phi T_n$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L58	1 - 0 (58)	0.014	0.592	0.000	0.021	0.000	0.607 ✔	1.050	4.8.2 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	160 - 155	Pole	TP17.62x16.5x0.1875	1	-3.462	--	**	**
L2	155 - 150	Pole	TP18.741x17.62x0.1875	2	-3.686	--	**	**
L3	150 - 145	Pole	TP19.861x18.741x0.1875	3	-7.801	--	**	**
L4	145 - 140	Pole	TP20.981x19.861x0.1875	4	-8.152	--	**	**
L5	140 - 135	Pole	TP22.102x20.981x0.1875	5	-12.453	--	**	**
L6	135 - 130	Pole	TP23.222x22.102x0.1875	6	-12.916	--	**	**
L7	130 - 125.75	Pole	TP24.174x23.222x0.1875	7	-13.336	--	**	**
L8	125.75 - 125.5	Pole	TP24.23x24.174x0.1875	8	-13.375	--	**	**
L9	125.5 - 122.87	Pole	TP25.66x24.23x0.1875	9	-17.163	--	**	**
L10	122.87 - 117.87	Pole	TP25.544x24.445x0.25	10	-17.999	--	**	**
L11	117.87 - 117.75	Pole	TP25.57x25.544x0.25	11	-18.035	--	**	**
L12	117.75 - 117.5	Pole	TP25.625x25.57x0.25	12	-18.067	--	**	**
L13	117.5 - 112.5	Pole + Reinf.	TP26.725x25.625x0.475	13	-18.998	--	**	**
L14	112.5 - 107.5	Pole + Reinf.	TP27.824x26.725x0.4688	14	-20.153	--	**	**
L15	107.5 - 103	Pole + Reinf.	TP28.814x27.824x0.4625	15	-21.042	--	**	**
L16	103 - 102.75	Pole + Reinf.	TP28.869x28.814x0.55	16	-21.114	--	**	**
L17	102.75 - 100.21	Pole + Reinf.	TP29.427x28.869x0.5375	17	-21.732	--	**	**
L18	100.21 - 100.16	Pole + Reinf.	TP30.39x29.427x0.6875	18	-21.757	--	**	**
L19	100.16 - 94.83	Pole + Reinf.	TP30.119x28.937x0.7375	19	-24.298	--	**	**
L20	94.83 - 93.5	Pole + Reinf.	TP30.413x30.119x0.7375	20	-24.689	--	**	**
L21	93.5 - 93.25	Pole + Reinf.	TP30.469x30.413x0.9125	21	-24.785	--	**	**
L22	93.25 - 88.25	Pole + Reinf.	TP31.576x30.469x0.8875	22	-26.525	--	**	**
L23	88.25 - 87.25	Pole + Reinf.	TP31.798x31.576x0.8875	23	-26.880	--	**	**
L24	87.25 - 87	Pole + Reinf.	TP31.853x31.798x0.9375	24	-26.978	--	**	**
L25	87 - 86.5	Pole + Reinf.	TP31.964x31.853x0.925	25	-27.161	--	**	**
L26	86.5 - 86.25	Pole + Reinf.	TP32.02x31.964x0.7625	26	-27.242	--	**	**
L27	86.25 - 81.25	Pole + Reinf.	TP33.127x32.02x0.7375	27	-31.942	--	**	**
L28	81.25 - 76.25	Pole + Reinf.	TP34.235x33.127x0.725	28	-33.583	--	**	**
L29	76.25 - 75.42	Pole + Reinf.	TP34.42x34.235x0.725	29	-33.862	--	**	**
L30	75.42 - 75.17	Pole + Reinf.	TP34.475x34.42x0.8125	30	-33.959	--	**	**
L31	75.17 - 70.17	Pole + Reinf.	TP35.583x34.475x0.8	31	-35.791	--	**	**
L32	70.17 - 65.17	Pole + Reinf.	TP36.69x35.583x0.7875	32	-37.654	--	**	**
L33	65.17 - 60.17	Pole + Reinf.	TP37.798x36.69x0.7625	33	-39.544	--	**	**
L34	60.17 - 57	Pole + Reinf.	TP38.5x37.798x0.75	34	-40.756	--	**	**
L35	57 - 56.75	Pole + Reinf.	TP38.555x38.5x0.75	35	-40.860	--	**	**
L36	56.75 - 53	Pole + Reinf.	TP39.386x38.555x0.7375	36	-42.300	--	**	**
L37	53 - 52.79	Pole + Reinf.	TP40.67x39.386x0.7375	37	-42.398	--	**	**
L38	52.79 - 46.2	Pole + Reinf.	TP40.266x38.808x0.7625	38	-47.222	--	**	**
L39	46.2 - 41.2	Pole + Reinf.	TP41.374x40.266x0.75	39	-49.355	--	**	**
L40	41.2 - 39.33	Pole + Reinf.	TP41.788x41.374x0.75	40	-50.155	--	**	**
L41	39.33 - 39.08	Pole + Reinf.	TP41.843x41.788x0.825	41	-50.287	--	**	**
L42	39.08 - 37.75	Pole + Reinf.	TP42.139x41.843x0.825	42	-50.902	--	**	**
L43	37.75 - 37.5	Pole + Reinf.	TP42.194x42.139x0.75	43	-51.020	--	**	**
L44	37.5 - 32.5	Pole + Reinf.	TP43.301x42.194x0.725	44	-53.196	--	**	**
L45	32.5 - 27.5	Pole + Reinf.	TP44.409x43.301x0.725	45	-55.407	--	**	**
L46	27.5 - 27.25	Pole + Reinf.	TP44.464x44.409x0.725	46	-55.525	--	**	**

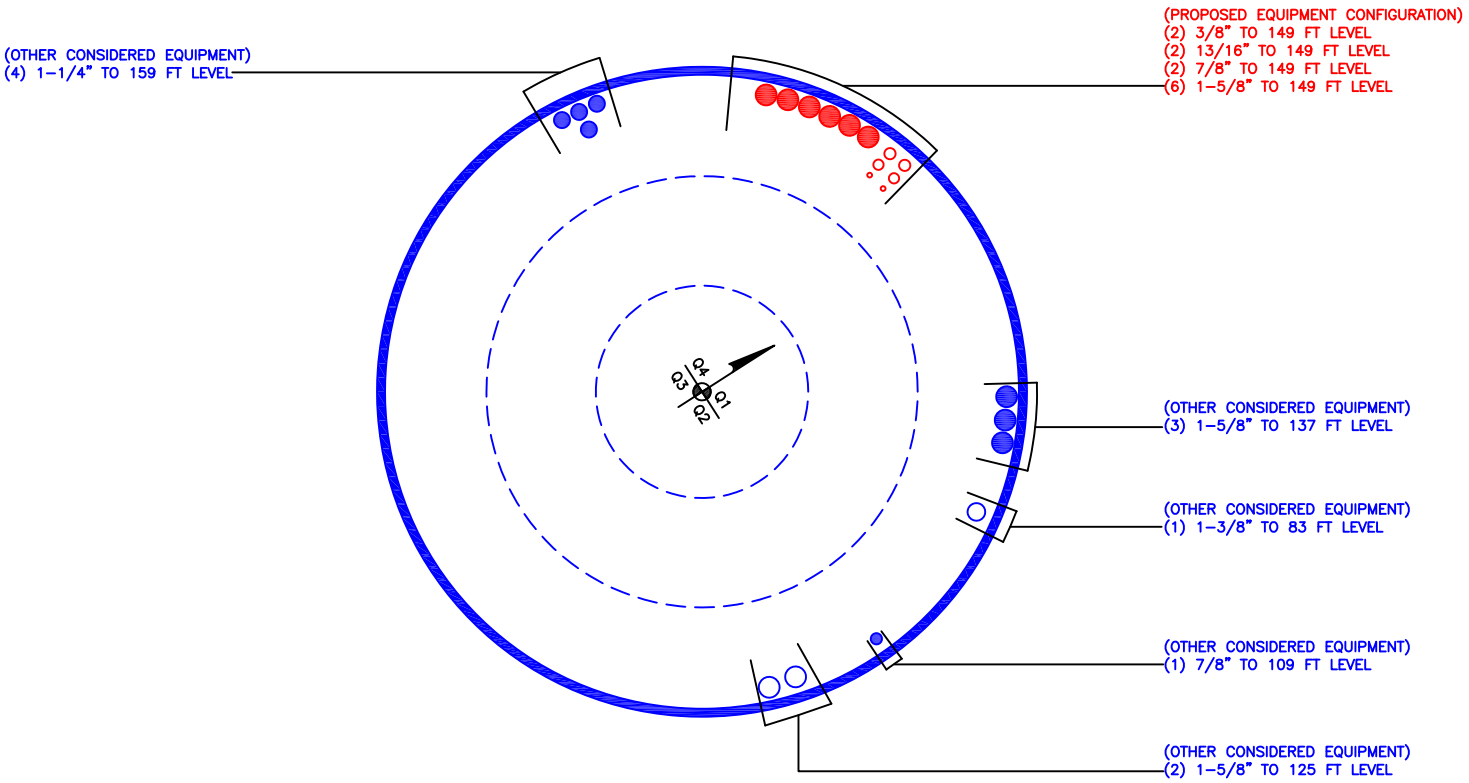
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L47	27.25 - 27	Pole + Reinf.	TP44.52x44.464x0.725	47	-55.637	--	**	**
L48	27 - 22	Pole + Reinf.	TP45.627x44.52x0.7125	48	-56.539	--	**	**
L49	22 - 21.25	Pole + Reinf.	TP45.793x45.627x0.7125	49	-57.888	--	**	**
L50	21.25 - 21	Pole + Reinf.	TP45.849x45.793x0.725	50	-58.223	--	**	**
L51	21 - 17	Pole + Reinf.	TP46.735x45.849x0.7125	51	-58.354	--	**	**
L52	17 - 16.75	Pole + Reinf.	TP46.79x46.735x0.7	52	-60.338	--	**	**
L53	16.75 - 16.25	Pole + Reinf.	TP46.901x46.79x0.7	53	-60.459	--	**	**
L54	16.25 - 16	Pole + Reinf.	TP46.956x46.901x0.775	54	-60.696	--	**	**
L55	16 - 11	Pole + Reinf.	TP48.064x46.956x0.75	55	-60.831	--	**	**
L56	11 - 6	Pole + Reinf.	TP49.171x48.064x0.75	56	-63.407	--	**	**
L57	6 - 1	Pole + Reinf.	TP50.279x49.171x0.7375	57	-66.010	--	**	**
L58	1 - 0	Pole + Reinf.	TP50.5x50.279x0.525	58	-68.644	--	**	**
							Summary	
						Pole (--)	**	**
						RATING =	**	**

** - Check Additional Calculations

Program Version 8.1.1.0

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 876401

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 876401

Work Order: 2219986

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	160	40.88	3.75	18	16.5	25.66	0.1875	Auto	A572-65
2	122.87	27.04	4.333	18	24.44	30.39	0.25	Auto	A572-65
3	100.163	52.96	5.583	18	28.94	40.67	0.3125	Auto	A572-65
4	52.786	52.786	0	18	38.81	50.5	0.375	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	27.25	plate	5"x1.25" Plate (Base W	3					E2						E2						E2	
2	27.25	57	plate	.375"x1.25" Plate (10b	3					E2						E2						E2	
3	57	87.25	plate	5.375"x1.25" Plate (8b	3					E2						E2						E2	
4	87.25	117.75	plate	4.375"x1.25" Plate	3					E2						E2						E2	
5	117.75	125.75	plate	3.125"x1.25" Plate	3					E2						E2						E2	
6	0	39.333	channel	MP3-03 (1.1875in)	3						E3						E3						E3
7	37.75	75.416	channel	MP3-03 (1.1875in)	3	E3						E3						E3					
8	0	16.25	plate	CCI-WSFP-085125	2										E4					E4			
9	0	21.25	plate	CCI-WSFP-085125	1		E4																
10	16.25	53	plate	CCI-SFP-060100	2										E4					E4			
11	53	103	plate	CCI-SFP-060100	1															E4			
12	49.21	100.21	plate	CCI-SFP-060100	1									E4									
13	17	103	plate	CCI-SFP-060100	1			E4															
14	86.5	93.5	plate	CCI-SFP-045100	3	E4						E4						E4					
15																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in2)	Bolt Hole Size (in)	Reinforcement Material
1	5.375	1.25	6.71875	0.625	Welded	n/a	PC 8.8 - M20 (100)	30.000	15.000	5.078	1.2500	A572-65
2	5.375	1.25	6.71875	0.625	None	n/a	PC 8.8 - M20 (100)	30.000	15.000	5.078	1.2500	A572-65
3	5.375	1.25	6.71875	0.625	None	n/a	PC 8.8 - M20 (100)	24.000	15.000	5.078	1.2500	A572-65
4	4.375	1.25	5.46875	0.625	None	n/a	PC 8.8 - M20 (100)	15.000	21.000	3.828	1.2500	A572-65
5	3.125	1.25	3.90625	0.625	None	n/a	PC 8.8 - M20 (100)	15.000	24.000	2.266	1.2500	A572-65
6	4.06	1.57	2.92	0.59	PC 8.8 - M20 (100)	14	PC 8.8 - M20 (100)	14.000	18.000	2.545	1.1875	A572-65
7	4.06	1.57	2.92	0.59	PC 8.8 - M20 (100)	14	PC 8.8 - M20 (100)	14.000	18.000	2.545	1.1875	A572-65
8	8.5	1.25	10.625	0.625	Welded	n/a	PC 8.8 - M20 (100)	45.000	17.000	9.063	1.1875	A572-65
9	8.5	1.25	10.625	0.625	Welded	n/a	PC 8.8 - M20 (100)	45.000	17.000	9.063	1.1875	A572-65
10	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
11	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
12	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
13	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
14	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65

Connection Details for Custom Reinforcements

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
5.375"x1.25" Plate (Base Weld)	Top	10	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	70	CJP Groove	5.375	0.5625	45	0.25	-	-	-
5.375"x1.25" Plate (10b)	Top	10	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
5.375"x1.25" Plate (8b)	Top	8	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
4.375"x1.25" Plate	Top	5	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
3.125"x1.25" Plate	Top	5	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-

TNX Geometry Input

Increment (ft): 5 Export to TNX

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	160 - 155	5		18	16.500	17.620	0.1875	A572-65	1.000
2	155 - 150	5		18	17.620	18.741	0.1875	A572-65	1.000
3	150 - 145	5		18	18.741	19.861	0.1875	A572-65	1.000
4	145 - 140	5		18	19.861	20.981	0.1875	A572-65	1.000
5	140 - 135	5		18	20.981	22.102	0.1875	A572-65	1.000
6	135 - 130	5		18	22.102	23.222	0.1875	A572-65	1.000
7	130 - 125.75	4.25		18	23.222	24.174	0.1875	A572-65	1.000
8	125.75 - 125.5	0.25		18	24.174	24.230	0.1875	A572-65	1.000
9	125.5 - 122.87	6.38	3.75	18	24.230	25.660	0.1875	A572-65	1.000
10	122.87 - 117.87	5		18	24.445	25.544	0.25	A572-65	1.000
11	117.87 - 117.75	0.12		18	25.544	25.570	0.25	A572-65	1.000
12	117.75 - 117.5	0.25		18	25.570	25.625	0.25	A572-65	1.000
13	117.5 - 112.5	5		18	25.625	26.725	0.475	A572-65	0.945
14	112.5 - 107.5	5		18	26.725	27.824	0.46875	A572-65	0.941
15	107.5 - 103	4.5		18	27.824	28.814	0.4625	A572-65	0.939
16	103 - 102.75	0.25		18	28.814	28.869	0.55	A572-65	1.034
17	102.75 - 100.21	2.54		18	28.869	29.427	0.5375	A572-65	1.046
18	100.21 - 100.163	4.38	4.333	18	29.427	30.390	0.6875	A572-65	0.918
19	100.163 - 94.83	5.333		18	28.937	30.119	0.7375	A572-65	0.930
20	94.83 - 93.5	1.33		18	30.119	30.413	0.7375	A572-65	0.925
21	93.5 - 93.25	0.25		18	30.413	30.469	0.9125	A572-65	0.909
22	93.25 - 88.25	5		18	30.469	31.576	0.8875	A572-65	0.913
23	88.25 - 87.25	1		18	31.576	31.798	0.8875	A572-65	0.909
24	87.25 - 87	0.25		18	31.798	31.853	0.9375	A572-65	0.902
25	87 - 86.5	0.5		18	31.853	31.964	0.925	A572-65	0.911
26	86.5 - 86.25	0.25		18	31.964	32.020	0.7625	A572-65	0.920
27	86.25 - 81.25	5		18	32.020	33.127	0.7375	A572-65	0.933
28	81.25 - 76.25	5		18	33.127	34.235	0.725	A572-65	0.931
29	76.25 - 75.416	0.834		18	34.235	34.420	0.725	A572-65	0.928
30	75.416 - 75.166	0.25		18	34.420	34.475	0.8125	A572-65	0.931
31	75.166 - 70.166	5		18	34.475	35.583	0.8	A572-65	0.927
32	70.166 - 65.166	5		18	35.583	36.690	0.7875	A572-65	0.925
33	65.166 - 60.166	5		18	36.690	37.798	0.7625	A572-65	0.938
34	60.166 - 57	3.166		18	37.798	38.500	0.75	A572-65	0.944
35	57 - 56.75	0.25		18	38.500	38.555	0.75	A572-65	0.943
36	56.75 - 53	3.75		18	38.555	39.386	0.7375	A572-65	0.947
37	53 - 52.786	5.797	5.583	18	39.386	40.670	0.7375	A572-65	1.013
38	52.786 - 46.203	6.583		18	38.808	40.266	0.7625	A572-65	0.987
39	46.203 - 41.203	5		18	40.266	41.374	0.75	A572-65	0.990
40	41.203 - 39.333	1.87		18	41.374	41.788	0.75	A572-65	0.985
41	39.333 - 39.083	0.25		18	41.788	41.843	0.825	A572-65	0.978
42	39.083 - 37.75	1.333		18	41.843	42.139	0.825	A572-65	0.974
43	37.75 - 37.5	0.25		18	42.139	42.194	0.75	A572-65	0.980
44	37.5 - 32.5	5		18	42.194	43.301	0.725	A572-65	1.000
45	32.5 - 27.5	5		18	43.301	44.409	0.725	A572-65	0.988
46	27.5 - 27.25	0.25		18	44.409	44.464	0.725	A572-65	0.988
47	27.25 - 27	0.25		18	44.464	44.520	0.725	A572-65	0.987
48	27 - 22	5		18	44.520	45.627	0.7125	A572-65	0.992
49	22 - 21.25	0.75		18	45.627	45.793	0.7125	A572-65	0.990
50	21.25 - 21	0.25		18	45.793	45.849	0.725	A572-65	1.075
51	21 - 17	4		18	45.849	46.735	0.7125	A572-65	1.083
52	17 - 16.75	0.25		18	46.735	46.790	0.7	A572-65	1.043
53	16.75 - 16.25	0.5		18	46.790	46.901	0.7	A572-65	1.042
54	16.25 - 16	0.25		18	46.901	46.956	0.775	A572-65	1.023
55	16 - 11	5		18	46.956	48.064	0.75	A572-65	1.044
56	11 - 6	5		18	48.064	49.171	0.75	A572-65	1.031
57	6 - 1	5		18	49.171	50.279	0.7375	A572-65	1.036
58	1 - 0	1		18	50.279	50.500	0.525	A572-65	1.099

TNX Section Forces

	Increment (ft): 5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	160 - 155	3.46	18.74	4.77
2	155 - 150	3.69	43.21	5.03
3	150 - 145	7.80	100.49	11.98
4	145 - 140	8.15	161.01	12.24
5	140 - 135	12.45	231.68	16.54
6	135 - 130	12.92	314.88	16.76
7	130 - 125.75	13.34	386.45	16.94
8	125.75 - 125.5	13.37	390.68	16.94
9	125.5 - 122.87	17.16	448.14	21.10
10	122.87 - 117.87	18.00	554.27	21.37
11	117.87 - 117.75	18.04	556.83	21.36
12	117.75 - 117.5	18.07	562.17	21.37
13	117.5 - 112.5	19.00	669.72	21.67
14	112.5 - 107.5	20.15	779.25	22.21
15	107.5 - 103	21.04	879.70	22.46
16	103 - 102.75	21.11	885.32	22.47
17	102.75 - 100.21	21.73	942.58	22.64
18	100.21 - 100.163	21.76	943.65	22.65
19	100.163 - 94.83	24.30	1065.60	23.10
20	94.83 - 93.5	24.69	1096.36	23.19
21	93.5 - 93.25	24.79	1102.16	23.20
22	93.25 - 88.25	26.53	1219.05	23.57
23	88.25 - 87.25	26.88	1242.65	23.64
24	87.25 - 87	26.98	1248.56	23.65
25	87 - 86.5	27.16	1260.39	23.69
26	86.5 - 86.25	27.24	1266.32	23.71
27	86.25 - 81.25	31.94	1390.31	26.59
28	81.25 - 76.25	33.58	1524.02	26.92
29	76.25 - 75.416	33.86	1546.48	26.97
30	75.416 - 75.166	33.96	1553.23	26.98
31	75.166 - 70.166	35.79	1688.93	27.32
32	70.166 - 65.166	37.65	1826.30	27.65
33	65.166 - 60.166	39.54	1965.29	27.97
34	60.166 - 57	40.76	2054.12	28.17
35	57 - 56.75	40.86	2061.16	28.18
36	56.75 - 53	42.30	2167.23	28.42
37	53 - 52.786	42.40	2173.31	28.42
38	52.786 - 46.203	47.22	2362.18	28.96
39	46.203 - 41.203	49.36	2507.57	29.23
40	41.203 - 39.333	50.16	2562.30	29.35
41	39.333 - 39.083	50.29	2569.63	29.33
42	39.083 - 37.75	50.90	2608.78	29.42
43	37.75 - 37.5	51.02	2616.13	29.42
44	37.5 - 32.5	53.20	2763.85	29.68
45	32.5 - 27.5	55.41	2912.76	29.92
46	27.5 - 27.25	55.53	2920.24	29.92
47	27.25 - 27	55.64	2927.72	29.93
48	27 - 22	57.87	3077.91	30.17
49	22 - 21.25	58.21	3100.54	30.20
50	21.25 - 21	58.34	3108.09	30.20
51	21 - 17	60.33	3229.26	30.40
52	17 - 16.75	60.45	3236.86	30.40
53	16.75 - 16.25	60.69	3252.07	30.43
54	16.25 - 16	60.82	3259.67	30.44
55	16 - 11	63.39	3412.44	30.69
56	11 - 6	65.99	3566.42	30.93
57	6 - 1	68.62	3721.60	31.17
58	1 - 0	69.04	3752.78	31.21

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
160 - 155	Pole	TP17.62x16.5x0.1875	Pole	7.1%	Pass
155 - 150	Pole	TP18.741x17.62x0.1875	Pole	13.9%	Pass
150 - 145	Pole	TP19.861x18.741x0.1875	Pole	29.3%	Pass
145 - 140	Pole	TP20.981x19.861x0.1875	Pole	42.0%	Pass
140 - 135	Pole	TP22.102x20.981x0.1875	Pole	55.6%	Pass
135 - 130	Pole	TP23.222x22.102x0.1875	Pole	68.8%	Pass
130 - 125.75	Pole	TP24.174x23.222x0.1875	Pole	78.6%	Pass
125.75 - 125.5	Pole	TP24.23x24.174x0.1875	Pole	79.2%	Pass
125.5 - 122.87	Pole	TP25.66x24.23x0.1875	Pole	87.7%	Pass
122.87 - 117.87	Pole	TP25.544x24.445x0.25	Pole	71.1%	Pass
117.87 - 117.75	Pole	TP25.57x25.544x0.25	Pole	71.3%	Pass
117.75 - 117.5	Pole	TP25.625x25.57x0.25	Pole	71.7%	Pass
117.5 - 112.5	Pole + Reinf.	TP26.725x25.625x0.475	Reinf. 4 Tension Rupture	74.2%	Pass
112.5 - 107.5	Pole + Reinf.	TP27.824x26.725x0.4688	Reinf. 4 Tension Rupture	81.1%	Pass
107.5 - 103	Pole + Reinf.	TP28.814x27.824x0.4625	Reinf. 4 Tension Rupture	86.6%	Pass
103 - 102.75	Pole + Reinf.	TP28.869x28.814x0.55	Reinf. 4 Tension Rupture	78.1%	Pass
102.75 - 100.21	Pole + Reinf.	TP29.427x28.869x0.5375	Reinf. 4 Tension Rupture	80.8%	Pass
100.21 - 100.16	Pole + Reinf.	TP30.39x29.427x0.6875	Reinf. 4 Tension Rupture	60.9%	Pass
100.16 - 94.83	Pole + Reinf.	TP30.119x28.937x0.7375	Reinf. 4 Tension Rupture	60.9%	Pass
94.83 - 93.5	Pole + Reinf.	TP30.413x30.119x0.7375	Reinf. 4 Tension Rupture	61.8%	Pass
93.5 - 93.25	Pole + Reinf.	TP30.469x30.413x0.9125	Reinf. 4 Tension Rupture	50.9%	Pass
93.25 - 88.25	Pole + Reinf.	TP31.576x30.469x0.8875	Reinf. 4 Tension Rupture	53.6%	Pass
88.25 - 87.25	Pole + Reinf.	TP31.798x31.576x0.8875	Reinf. 4 Tension Rupture	54.2%	Pass
87.25 - 87	Pole + Reinf.	TP31.853x31.798x0.9375	Reinf. 14 Tension Rupture	49.7%	Pass
87 - 86.5	Pole + Reinf.	TP31.964x31.853x0.925	Reinf. 14 Tension Rupture	50.0%	Pass
86.5 - 86.25	Pole + Reinf.	TP32.02x31.964x0.7625	Reinf. 3 Tension Rupture	57.9%	Pass
86.25 - 81.25	Pole + Reinf.	TP33.127x32.02x0.7375	Reinf. 3 Tension Rupture	60.6%	Pass
81.25 - 76.25	Pole + Reinf.	TP34.235x33.127x0.725	Reinf. 3 Tension Rupture	63.3%	Pass
76.25 - 75.42	Pole + Reinf.	TP34.42x34.235x0.725	Reinf. 3 Tension Rupture	63.7%	Pass
75.42 - 75.17	Pole + Reinf.	TP34.475x34.42x0.8125	Reinf. 3 Tension Rupture	56.7%	Pass
75.17 - 70.17	Pole + Reinf.	TP35.583x34.475x0.8	Reinf. 3 Tension Rupture	59.0%	Pass
70.17 - 65.17	Pole + Reinf.	TP36.69x35.583x0.7875	Reinf. 3 Tension Rupture	61.1%	Pass
65.17 - 60.17	Pole + Reinf.	TP37.798x36.69x0.7625	Reinf. 3 Tension Rupture	63.0%	Pass
60.17 - 57	Pole + Reinf.	TP38.5x37.798x0.75	Reinf. 3 Tension Rupture	64.2%	Pass
57 - 56.75	Pole + Reinf.	TP38.555x38.5x0.75	Reinf. 2 Tension Rupture	64.3%	Pass
56.75 - 53	Pole + Reinf.	TP39.386x38.555x0.7375	Reinf. 2 Tension Rupture	65.6%	Pass
53 - 52.79	Pole + Reinf.	TP40.67x39.386x0.7375	Reinf. 2 Tension Rupture	66.0%	Pass
52.79 - 46.2	Pole + Reinf.	TP40.266x38.808x0.7625	Reinf. 2 Tension Rupture	65.6%	Pass
46.2 - 41.2	Pole + Reinf.	TP41.374x40.266x0.75	Reinf. 2 Tension Rupture	66.8%	Pass
41.2 - 39.33	Pole + Reinf.	TP41.788x41.374x0.75	Reinf. 2 Tension Rupture	67.2%	Pass
39.33 - 39.08	Pole + Reinf.	TP41.843x41.788x0.825	Reinf. 2 Tension Rupture	61.4%	Pass
39.08 - 37.75	Pole + Reinf.	TP42.139x41.843x0.825	Reinf. 2 Tension Rupture	61.7%	Pass
37.75 - 37.5	Pole + Reinf.	TP42.194x42.139x0.75	Reinf. 2 Tension Rupture	67.7%	Pass
37.5 - 32.5	Pole + Reinf.	TP43.301x42.194x0.725	Reinf. 2 Tension Rupture	68.7%	Pass
32.5 - 27.5	Pole + Reinf.	TP44.409x43.301x0.725	Reinf. 2 Tension Rupture	69.7%	Pass
27.5 - 27.25	Pole + Reinf.	TP44.464x44.409x0.725	Reinf. 2 Tension Rupture	69.7%	Pass
27.25 - 27	Pole + Reinf.	TP44.52x44.464x0.725	Reinf. 1 Tension Rupture	69.8%	Pass
27 - 22	Pole + Reinf.	TP45.627x44.52x0.7125	Reinf. 1 Tension Rupture	70.6%	Pass
22 - 21.25	Pole + Reinf.	TP45.793x45.627x0.7125	Reinf. 1 Tension Rupture	70.8%	Pass
21.25 - 21	Pole + Reinf.	TP45.849x45.793x0.725	Reinf. 10 Tension Rupture	66.6%	Pass
21 - 17	Pole + Reinf.	TP46.735x45.849x0.7125	Reinf. 10 Tension Rupture	67.2%	Pass
17 - 16.75	Pole + Reinf.	TP46.79x46.735x0.7	Reinf. 1 Tension Rupture	72.7%	Pass
16.75 - 16.25	Pole + Reinf.	TP46.901x46.79x0.7	Reinf. 1 Tension Rupture	72.8%	Pass
16.25 - 16	Pole + Reinf.	TP46.956x46.901x0.775	Reinf. 1 Tension Rupture	69.5%	Pass
16 - 11	Pole + Reinf.	TP48.064x46.956x0.75	Reinf. 1 Tension Rupture	70.2%	Pass
11 - 6	Pole + Reinf.	TP49.171x48.064x0.75	Reinf. 1 Tension Rupture	70.9%	Pass
6 - 1	Pole + Reinf.	TP50.279x49.171x0.7375	Reinf. 1 Tension Rupture	71.5%	Pass
1 - 0	Pole + Reinf.	TP50.5x50.279x0.525	Reinf. 8 Compression	77.8%	Pass
				Summary	
			Pole	87.7%	Pass
			Reinforcement	86.6%	Pass
			Overall	87.7%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity* (100% Max. Allowable)													
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
160 - 155	398	n/a	398	10.37	n/a	10.37	7.1%														
155 - 150	480	n/a	480	11.04	n/a	11.04	13.9%														
150 - 145	572	n/a	572	11.71	n/a	11.71	29.3%														
145 - 140	676	n/a	676	12.37	n/a	12.37	42.0%														
140 - 135	791	n/a	791	13.04	n/a	13.04	55.6%														
135 - 130	919	n/a	919	13.71	n/a	13.71	68.8%														
130 - 125.75	1037	n/a	1037	14.27	n/a	14.27	78.6%														
125.75 - 125.5	1045	n/a	1045	14.31	n/a	14.31	79.2%														
125.5 - 122.87	1123	n/a	1123	14.66	n/a	14.66	87.7%														
122.87 - 117.87	1622	n/a	1622	20.07	n/a	20.07	71.1%														
117.87 - 117.75	1627	n/a	1627	20.09	n/a	20.09	71.3%														
117.75 - 117.5	1637	n/a	1637	20.13	n/a	20.13	71.7%														
117.5 - 112.5	1860	1619	3479	21.01	16.41	37.41	41.7%				74.2%										
112.5 - 107.5	2101	1748	3849	21.88	16.41	38.29	46.1%				81.1%										
107.5 - 103	2335	1868	4203	22.66	16.41	39.07	49.8%				86.6%										
103 - 102.75	2406	2620	5027	22.71	28.41	51.11	46.9%				78.1%							52.2%		52.2%	
102.75 - 100.21	2549	2718	5267	23.15	28.41	51.56	48.8%				80.8%							54.1%		54.1%	
100.21 - 100.16	2492	4058	6549	23.16	34.41	57.57	35.2%				60.9%							53.5%	53.5%	53.5%	
100.16 - 94.83	3317	4239	7556	29.56	34.41	63.97	33.4%				60.9%							53.5%	53.5%	53.5%	
94.83 - 93.5	3417	4318	7735	29.86	34.41	64.26	34.0%				61.8%							54.3%	54.3%	54.3%	
93.5 - 93.25	3435	6016	9452	29.91	47.91	77.82	28.0%				50.9%							44.7%	44.7%	44.7%	49.0%
93.25 - 88.25	3828	6442	10270	31.01	47.91	78.92	29.8%				53.6%							47.2%	47.2%	47.2%	51.6%
88.25 - 87.25	3910	6529	10439	31.23	47.91	79.13	30.2%				54.2%							47.6%	47.6%	47.6%	52.1%
87.25 - 87	3931	7076	11007	31.28	51.66	82.94	28.8%			47.9%								45.4%	45.4%	45.4%	49.7%
87 - 86.5	3972	7123	11096	31.39	51.66	83.05	29.0%			48.1%								45.7%	45.7%	45.7%	50.0%
86.5 - 86.25	3993	5295	9288	31.45	38.16	69.60	34.8%			57.9%								54.9%	54.9%	54.9%	
86.25 - 81.25	4426	5651	10078	32.55	38.16	70.70	36.9%			60.6%								57.5%	57.5%	57.5%	
81.25 - 76.25	4890	6019	10909	33.65	38.16	71.80	38.9%			63.3%								60.1%	60.1%	60.1%	
76.25 - 75.42	4970	6082	11052	33.83	38.16	71.99	39.3%			63.7%								60.5%	60.5%	60.5%	
75.42 - 75.17	4995	7495	12490	33.88	46.92	80.80	35.0%			56.7%				51.7%				53.8%	53.8%	53.8%	
75.17 - 70.17	5496	7965	13462	34.98	46.92	81.90	36.8%			59.0%				53.8%				56.0%	56.0%	56.0%	
70.17 - 65.17	6031	8450	14480	36.08	46.92	83.00	38.4%			61.1%				55.7%				58.0%	58.0%	58.0%	
65.17 - 60.17	6598	8948	15547	37.18	46.92	84.10	40.1%			63.0%				57.5%				59.8%	59.8%	59.8%	
60.17 - 57	6976	9272	16247	37.88	46.92	84.79	41.1%			64.2%				58.5%				60.9%	60.9%	60.9%	
57 - 56.75	7006	9297	16303	37.93	46.92	84.85	41.1%		64.3%					58.6%				61.0%	61.0%	61.0%	
56.75 - 53	7473	9688	17161	38.75	46.92	85.67	42.3%		65.6%					59.8%				62.2%	62.2%	62.2%	
53 - 52.79	7502	9795	17297	38.80	52.92	91.72	42.6%		66.0%					56.6%			62.6%		52.7%	60.8%	
52.79 - 46.2	9545	9352	18897	47.48	46.92	94.40	41.2%		65.6%					61.8%			61.2%			59.1%	
46.2 - 41.2	10362	9856	20218	48.80	46.92	95.71	42.3%		66.8%					62.9%			62.4%			60.2%	
41.2 - 39.33	10679	10048	20727	49.29	46.92	96.21	42.7%		67.2%					63.3%			62.8%			60.7%	
39.33 - 39.08	10722	12104	22826	49.36	55.68	105.03	39.0%		61.4%				57.1%	57.7%			57.4%			55.6%	
39.08 - 37.75	10952	12270	23222	49.71	55.68	105.38	39.2%		61.7%				57.4%	57.9%			57.7%			55.9%	
37.75 - 37.5	10996	10238	21234	49.77	46.92	96.69	43.1%		67.7%				63.1%				63.2%			61.0%	
37.5 - 32.5	11893	10764	22657	51.09	46.92	98.01	44.2%		68.7%				64.0%				64.2%			62.1%	
32.5 - 27.5	12838	11304	24142	52.41	46.92	99.33	45.1%		69.7%				64.9%				65.1%			63.0%	
27.5 - 27.25	12886	11332	24218	52.48	46.92	99.39	45.2%		69.7%				65.0%				65.2%			63.0%	
27.25 - 27	12935	11359	24294	52.54	46.92	99.46	45.2%	69.8%					65.0%				65.2%			63.1%	
27 - 22	13933	11914	25846	53.86	46.92	100.78	46.2%	70.6%					65.8%				66.1%			63.9%	
22 - 21.25	14087	11998	26085	54.06	46.92	100.97	46.3%	70.8%					65.9%				66.2%			64.0%	
21.25 - 21	14135	12525	26660	54.12	57.54	111.66	45.0%	66.4%					65.1%			47.3%	66.6%			50.8%	
21 - 17	14977	12997	27974	55.18	57.54	112.72	45.7%	67.0%					65.6%			46.1%	67.2%			51.4%	
17 - 16.75	15045	12437	27482	55.24	51.54	106.78	48.4%	72.7%					68.8%			52.5%	67.6%				
16.75 - 16.25	15153	12494	27647	55.38	51.54	106.92	48.5%	72.8%					68.8%			52.6%	67.7%				
16.25 - 16	15300	15120	30420	55.44	60.79	116.23	45.6%	69.5%					64.5%		58.1%	51.4%					
16 - 11	16415	15818	32233	56.76	60.79	117.55	46.5%	70.2%					65.2%		56.6%	52.0%					
11 - 6	17582	16532	34115	58.08	60.79	118.87	47.4%	70.9%					65.8%		57.1%	52.6%					
6 - 1	18804	17263	36067	59.40	60.79	120.19	48.2%	71.5%					66.3%		57.7%	53.2%					
1 - 0	19161	7087	26248	59.66	31.88	91.53	67.6%								77.8%	69.8%					

Note: Section capacity checked using 5 degree increments.

**Rating per TIA-222-H Section 15.5.*

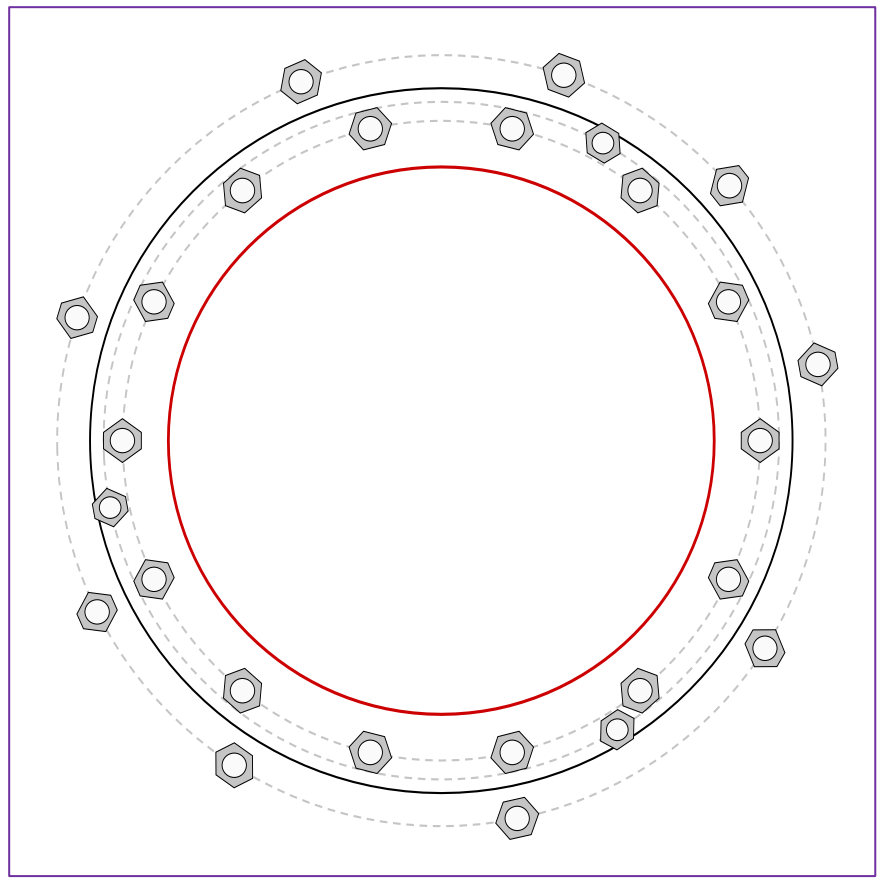
Monopole Base Plate Connection

Site Info	
BU #	876401
Site Name	N OF PLAINFIELD/SSUS
Order #	643225, Rev# 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	See Custom Sheet
l_{ar} (in)	See Custom Sheet

Applied Loads	
Moment (kip-ft)	3752.78
Axial Force (kips)	69.04
Shear Force (kips)	31.21

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (14) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 59" BC

GROUP 2: (3) 2" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 62.5" BC

pos. (deg): 61.4, 191.4, 301.4

GROUP 3: (9) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 71.1" BC

pos. (deg): 11.4, 41.4, 71.4, 111.4, 161.4, 206.4, 237.4, 281.4, 327.4

Base Plate Data

65" OD x 1.75" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Stiffener Data

N/A

Pole Data

50.5" x 0.375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

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

GROUP 1:		
Pu_t = 105.48	ϕPn_t = 243.75	**Stress Rating**
Vu = 2.23	ϕVn = 149.1	**41.2%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:		
Pu_t = 88.59	ϕPn_t = 234.38	**Stress Rating**
Vu = 0	ϕVn = 147.26	**36.0%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 3:		
Pu_t = 131.2	ϕPn_t = 243.75	**Stress Rating**
Vu = 0	ϕVn = 149.1	**51.3%**
Mu = 0	ϕMn = 128.14	**Pass**

Base Plate Summary

Max Stress (ksi):	33.89	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**59.8%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

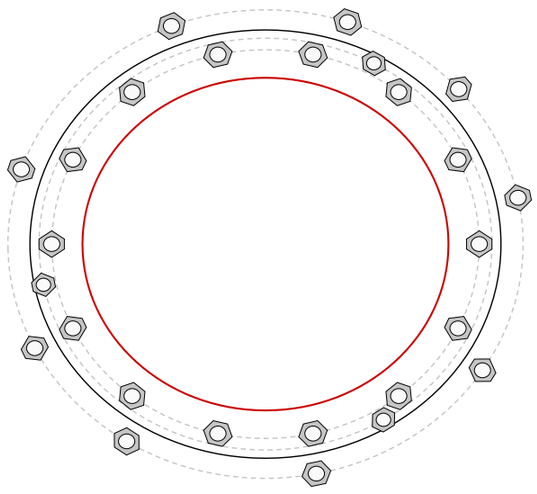
note: Bending interaction not considered when Grout Considered = "Yes"

Bolt Group	Resist Axial	Resist Shear	Induce Plate Bending	Grout Considered	Apply at BARB Elevation	BARB CL Elevation (ft)
1	Yes	Yes	Yes	Yes	No	
2	No	No	No	Yes	No	
3	No	No	No	No	No	

Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	I_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	0	2.25	A615-75	59	0.55	0	N-Included		No
2	1	25.714286	2.25	A615-75	59	0.55	0	N-Included		No
3	1	51.428571	2.25	A615-75	59	0.55	0	N-Included		No
4	1	77.142857	2.25	A615-75	59	0.55	0	N-Included		No
5	1	102.85714	2.25	A615-75	59	0.55	0	N-Included		No
6	1	128.57143	2.25	A615-75	59	0.55	0	N-Included		No
7	1	154.28571	2.25	A615-75	59	0.55	0	N-Included		No
8	1	180	2.25	A615-75	59	0.55	0	N-Included		No
9	1	205.71429	2.25	A615-75	59	0.55	0	N-Included		No
10	1	231.42857	2.25	A615-75	59	0.55	0	N-Included		No
11	1	257.14286	2.25	A615-75	59	0.55	0	N-Included		No
12	1	282.85714	2.25	A615-75	59	0.55	0	N-Included		No
13	1	308.57143	2.25	A615-75	59	0.55	0	N-Included		No
14	1	334.28571	2.25	A615-75	59	0.55	0	N-Included		No
15	2	61.4	2	A193 Gr. B7	62.5	0.55	0	N-Included		No
16	2	191.4	2	A193 Gr. B7	62.5	0.55	0	N-Included		No
17	2	301.4	2	A193 Gr. B7	62.5	0.55	0	N-Included		No
18	3	11.4	2.25	A615-75	71.1	0.5	3	N-Included		No
19	3	41.4	2.25	A615-75	71.1	0.5	3	N-Included		No
20	3	71.4	2.25	A615-75	71.1	0.5	3	N-Included		No
21	3	111.4	2.25	A615-75	71.1	0.5	3	N-Included		No
22	3	161.4	2.25	A615-75	71.1	0.5	3	N-Included		No
23	3	206.4	2.25	A615-75	71.1	0.5	3	N-Included		No
24	3	237.4	2.25	A615-75	71.1	0.5	3	N-Included		No
25	3	281.4	2.25	A615-75	71.1	0.5	3	N-Included		No
26	3	327.4	2.25	A615-75	71.1	0.5	3	N-Included		No

Plot Graphic



PROJECT	**136378.017.01.0001 - TOWN OF PLAINFIELD/SSUSA, CT**
SUBJECT	**Anchor Rod Bracket Analysis**
DATE	**04-18-23**
v4.6.1	

TIA-222 Rev.	H
Apply TIA-222-H Section 15.5?	Yes

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

Analysis Criteria		
Design/Analysis	Analysis	
Load Type	Current Load	
Current load	88.59	kips
AR Capacity	296.9	kips

Tower Type	Monopole	

Manufacturers Tower Prop.		
Pole Thickness	0.375	in
Pole Grade	A572-65	
Fy	65	ksi
Fu	80	ksi
Base Plate Gr.	A572-60	
Fy	60	ksi
Fu	75	ksi

Post-Installed Adhesive AR Mod.		
ARB Type	Welded	
Size	2	in
Grade	A193 Gr B7	
Fy	105	ksi
Fu	125	ksi

Anchor Rod Bracket Analysis Checks		
Tube Bearing	22.6%	-
Tube Compression	33.9%	-
Gusset Shear	15.6%	-
Gusset Flexure	N/A	-
Welds: Gusset to Tower and BP	30.9%	-
Welds: Gusset to Tube	15.8%	-
Welds: Geometry	N/A	
Tower Punching	12.5%	-
Tube Punching	26.9%	-
Utilization	**33.9%**	

Bracket Properties

Gusset		
Thickness	1.25	in
Width at Tube	4	in
Height at Pole	30	in
Height at Tube	12	in
Grade	A572-65	
Fy	65	ksi
Fu	80	ksi

Pipe/Tube		
Size	HSS4x4x1/2	
Total Length	12	in
Length above Gusset	0	in
Length below Gusset	0	in
Grade	A500 Grade B (Square)	
Fy	46	ksi
Fu	58	ksi

Weld - Gusset to Pipe/Tube		
FEXX	70	ksi
Weld Type	CJP - Double Bevel	
Fillet Size	1/2	in
Bevel Depth	5/8	in

Weld - Gusset to Tower		
FEXX	70	ksi
Weld Type	Double Fillet	
Fillet Size	3/8	in

Weld - Gusset to Base Plate		
FEXX	70	ksi
Weld Type	CJP - Double Bevel	
Fillet Size	1/2	in
Bevel Depth	5/8	in
Gap	0	in
Notch (horiz)	0.75	in
Notch (vert)	0.75	in
Pipe/Tube Welded to Base/Footpad?	Yes	
Fillet Size	3/8	in

PROJECT	**136378.017.01.0001 - TOWN OF PLAINFIELD/SSUSA, CT**
SUBJECT	**Anchor Rod Bracket Analysis**
DATE	**04-18-23**
v4.6.1	

TIA-222 Rev.	H
Apply TIA-222-H Section 15.5?	Yes

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

Analysis Criteria		
Design/Analysis	Analysis	
Load Type	Current Load	
Current load	131.2	kips
AR Capacity	268.4	kips

Tower Type	Monopole	

Manufacturers Tower Prop.		
Pole Thickness	0.375	in
Pole Grade	A572-65	
Fy	65	ksi
Fu	80	ksi
Base Plate Gr.	A572-60	
Fy	60	ksi
Fu	75	ksi

Post-Installed Adhesive AR Mod.		
ARB Type	Welded	
Size	2.25	in
Grade	A615-75	
Fy	75	ksi
Fu	100	ksi

Anchor Rod Bracket Analysis Checks		
Tube Bearing	25.5%	-
Tube Compression	38.3%	-
Gusset Shear	7.7%	-
Gusset Flexure	5.7%	-
Welds: Gusset to Tower and BP	23.6%	-
Welds: Gusset to Tube	24.9%	-
Welds: Geometry	N/A	
Tower Punching	15.4%	-
Tube Punching	5.5%	-
Utilization	**38.3%**	

Bracket Properties

Gusset			Pipe/Tube			Weld - Gusset to Pipe/Tube		
Thickness	1.25	in	Size	HSS5x5x1/2		FEXX	70	ksi
Width at Tube	8.25	in	Total Length	45	in	Weld Type	Double Fillet	
Height at Pole	44	in	Length above Gusset	3	in	Fillet Size	5/16	in
Height at Tube	36	in	Length below Gusset	6	in			
Grade	A572-65		Grade	A500 Grade B (Square)				
Fy	65	ksi	Fy	46	ksi			
Fu	80	ksi	Fu	58	ksi			

Weld - Gusset to Tower			Weld - Gusset to Base Plate	
FEXX	70	ksi		
Weld Type	Double Fillet		Weld Type	Floating
Fillet Size	5/16	in		

PROJECT	**136378.017.01.0001 - TOWN OF PLAINFIELD/SSUSA, CT**
SUBJECT	**Effective Embedment of Pier Reinforcement**
DATE	**04-18-23**

v2.0.1

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

Foundation Modification Properties		
Modification Type	Deep Anchor Rod	
Deep Anchor Rod size	2	
OD of Deep Anchor Rod	2	in
Embedment Length of Deep Anchor Rod	17.5	ft
Deep Anchor Rod Grade	105	ksi
f'c	3.00	ksi
Foundation Extension above grade	1.00	ft

Post Installed Rebar		
Capacity of single Rebar (Φ*A*Fy)	169.6	kips
Epoxy Manufacturer	Hilti RE 500 V3	
Uncracked Bond Strength	1.15	ksi
Development length	3.003	ft
Effective Embedment length	13.5	ft

Use this depth to define Pier Section in the Drilled Pier tool.
Model using an eq. rebar size.

PROJECT	**136378.017.01.0001 - TOWN OF PLAINFIELD/SSUSA, CT**
SUBJECT	**Effective Embedment of Pier Reinforcement**
DATE	**04-18-23**

v2.0.1

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

Foundation Modification Properties		
Modification Type	Deep Anchor Rod	
Deep Anchor Rod size	2.25	
OD of Deep Anchor Rod	2.25	in
Embedment Length of Deep Anchor Rod	18	ft
Deep Anchor Rod Grade	75	ksi
f'c	3.00	ksi
Foundation Extension above grade	1.00	ft

Post Installed Rebar		
Capacity of single Rebar (Φ*A*Fy)	214.7	kips
Epoxy Manufacturer	Hilti RE 500 V3	
Uncracked Bond Strength	1.12	ksi
Development length	3.468	ft
Effective Embedment length	13.5	ft

Use this depth to define Pier Section in the Drilled Pier tool.
Model using an eq. rebar size.

Drilled Pier Foundation

BU # :	876401
Site Name:	TOWN OF PLAINFIELD/SSU
Order Number:	643225, Rev# 0
TIA-222 Revison:	H
Tower Type:	Monopole

Applied Loads	Comp.	Uplift
Moment (kip-ft)	3753	
Axial Force (kips)	69	
Shear Force (kips)	31	

Material Properties			Rebar 2, Fy Override (ksi)	Rebar 3, Fy Override (ksi)
Concrete Strength, f'c:	4	ksi		
Rebar Strength, Fy:	60	ksi	75	80
Tie Yield Strength, Fyt:	60	ksi		

Pier Design Data		
Depth	26	ft
Ext. Above Grade	1	ft
Pier Section 1		
From 1' above grade to 13.5' below grade		
Pier Diameter	7	ft
Rebar Quantity	18	
Rebar Size	11	
Rebar Cage Diameter	73	in
Tie Size	5	
Tie Spacing	12	in
Rebar Quantity	9	
Rebar Size	18	
Rebar Cage Diameter	71.1	in
Rebar Quantity	3	
Rebar Size	16	
Rebar Cage Diameter	62.5	in
Pier Section 2		
From 13.5' below grade to 26' below grade		
Pier Diameter	7	ft
Rebar Quantity	18	
Rebar Size	11	
Rebar Cage Diameter	73	in
Tie Size	5	
Tie Spacing	12	in

Rebar & Pier Options
Embedded Pole Inputs
Belled Pier Inputs

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	7.67	-
Soil Safety Factor	4.40	-
Max Moment (kip-ft)	4037.61	-
Rating*	*28.8%*	-
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	395.64	-
End Bearing (kips)	461.81	-
Weight of Concrete (kips)	187.03	-
Total Capacity (kips)	857.45	-
Axial (kips)	256.03	-
Rating*	*28.4%*	-
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	14.51	-
Critical Moment (kip-ft)	3504.74	-
Critical Moment Capacity	4708.66	-
Rating*	*70.9%*	-
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	20.21	-
Critical Shear (kip)	470.21	-
Critical Shear Capacity	682.05	-
Rating*	*65.7%*	-

Structural Foundation Rating*	**70.9%**
Soil Interaction Rating*	**28.8%**

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	☑
Shear Design Options	
Check Shear along Depth of Pier:	☑
Utilize Shear-Friction Methodology:	☐
Override Critical Depth:	☐

Go to Soil Calculations

Soil Profile

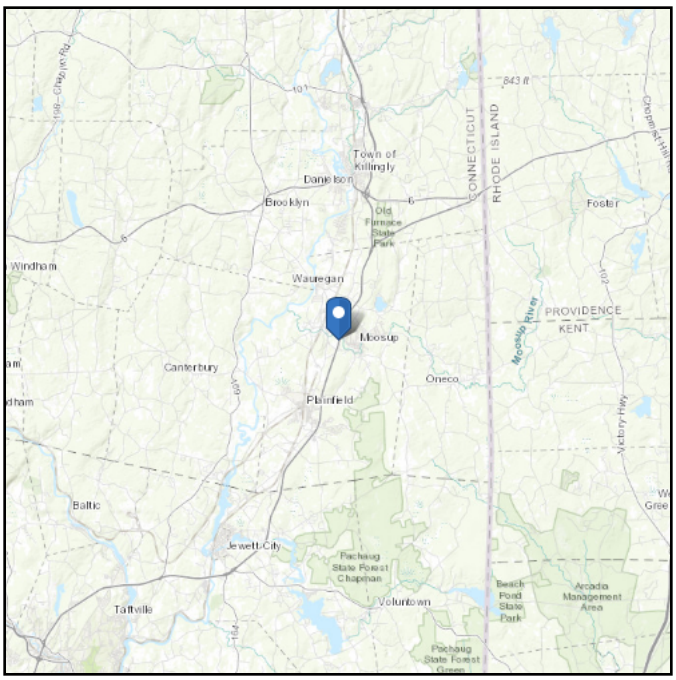
Groundwater Depth	N/A	# of Layers	4

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.5	3.5	115	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.5	6	2.5	115	150	0	32	0.000	0.000	1.07	1.07			Cohesionless
3	6	10	4	120	150	0	38	0.000	0.000	1.07	1.07			Cohesionless
4	10	26	16	125	150	0	43	0.000	0.000	1.07	1.07	16		Cohesionless

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.715136
Risk Category:	II	**Longitude:**	-71.896314
Soil Class:	D - Stiff Soil	**Elevation:**	229.80643179278195 ft (NAVD 88)



Wind

Results:

Wind Speed	123 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	96 Vmph
100-year MRI	101 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 Apr 18 2023

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

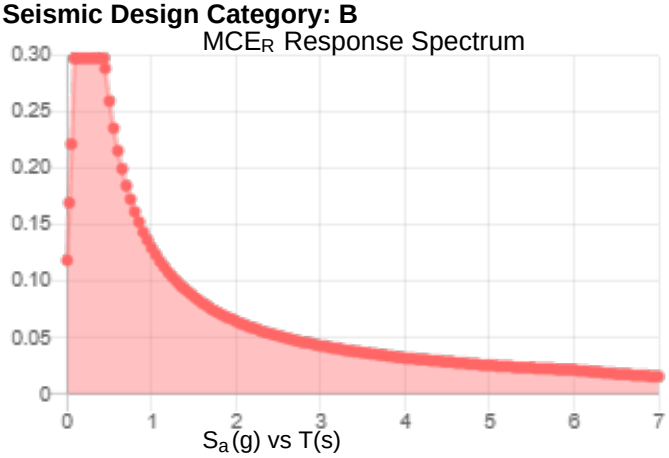
D - Stiff Soil

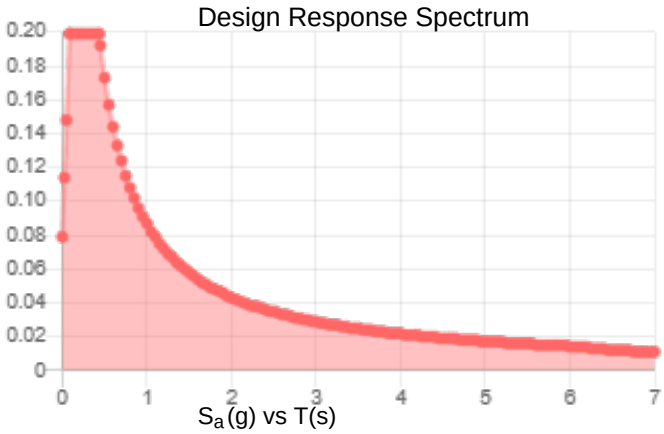
Site Soil Class:

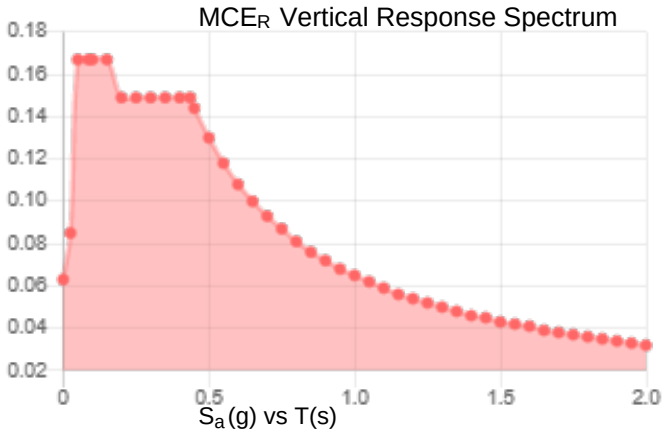
Results:

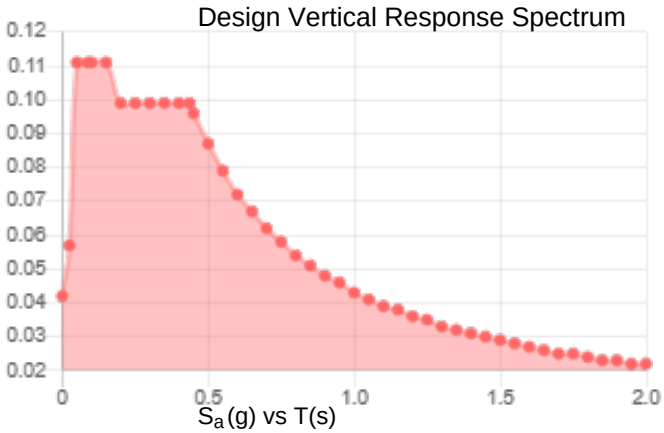
S_S :	0.186	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.101
F_v :	2.4	PGA_M :	0.161
S_{MS} :	0.298	F_{PGA} :	1.598
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.199	C_v :	0.7

Seismic Design Category: B









Data Accessed: **Tue Apr 18 2023**

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 Apr 18 2023

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.

AT&T

AT&T SITE NUMBER: CTL05461
AT&T SITE NAME: PLAINFIELD N CENTRAL
AT&T FA CODE: 10092030
AT&T PACE NUMBER: MRCTB062248, MRCTB062199, MRCTB062238, MRCTB062150, MRCTB068962
AT&T PROJECT: 4TX4RX SOFTWARE RETROFIT, LTE 4C, 5G NR 1DR-1, LTE 3C

BUSINESS UNIT #: 876401
SITE ADDRESS: 47-51 UNITY STREET PLAINFIELD, CT 06374
COUNTY: WINDHAM
SITE TYPE: MONOPOLE
TOWER HEIGHT: 160'-0"

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	TOWN OF PLAINFIELD/SSUSA
SITE ADDRESS:	47-51 UNITY STREET PLAINFIELD, CT 06374
COUNTY:	WINDHAM
MAP/PARCEL #:	015-0071-0009
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 42' 54.49"
LONGITUDE:	-71° 53' 46.73"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	230'
CURRENT ZONING:	IND
JURISDICTION:	CONNECTICUT SITING COUNCIL
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	TOWN OF PLAINFIELD 651 NORWICH RD PLAINFIELD, CT 06374
TOWER OWNER:	CROWN CASTLE USA INC 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	AT&T TOWER ASSET GROUP 575 MOROSGO DRIVE ATLANTA, GA 30324-3300
ELECTRIC PROVIDER:	NORTHEAST UTILITIES 800-286-2000
TELCO PROVIDER:	LIGHTTOWER 888-583-4237

PROJECT TEAM

A&E FIRM:	B+T GROUP 1717 S. BOULDER AVE. TULSA, OK 74119 MARVIN PHILLIPS MARVIN.PHILLIPS@BTGRP.COM
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065 VERONICA CHAMPMAN - PROJECT MANAGER VERONICA.CHAPMAN@CROWNCASTLE.COM JASON D'AMICO - CONSTRUCTION MANAGER JASON.DAMICO@CROWNCASTLE.COM HEATHER SIMEONE - AES HEATHER.SIMEONE@CROWNCASTLE.COM

NOTE:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

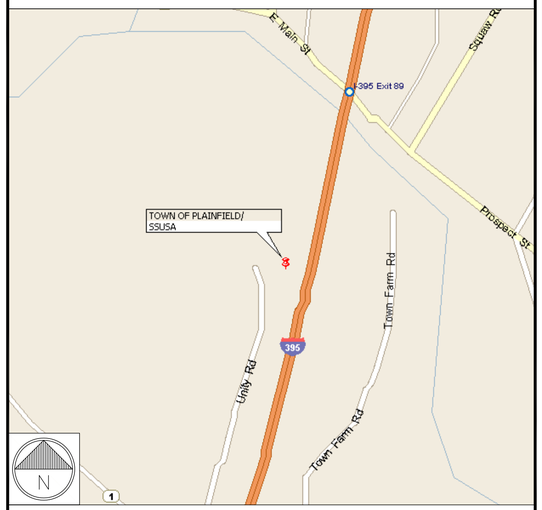
DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	SITE PLAN
C-1.2	EQUIPMENT PLANS
C-2	TOWER ELEVATION & ANTENNA PLANS
C-3	ANTENNA SCHEDULE
C-4	EQUIPMENT DETAILS
C-5	EQUIPMENT SPECS.
G-1	GROUNDING DETAILS
G-2	GROUNDING DETAILS
ATTACHED	PLUMBING DIAGRAM
ATTACHED	MOUNT SPECIFICATIONS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR FULL SIZE. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL CONNECTICUT ONE CALL
(800) 922-4455 CBYD.COM
CALL 2 WORKING DAYS
BEFORE YOU DIG!

LOCATION MAP



NO SCALE

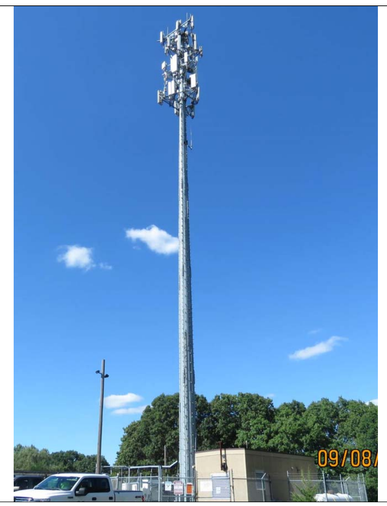
PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:
- REMOVE (6) POWERWAVE - 7770 ANTENNAS
- REMOVE (6) POWERWAVE - LGP21401 TMAs
- REMOVE (3) ERICSSON - RRUS-11 B12 RRHs
- REMOVE (3) ERICSSON - RRUS-32 B2 RRHs
- REMOVE (6) POWERWAVE - LGP 21901 DIPLEXERS
- REMOVE (6) COAX CABLES (1-5/8")
- REMOVE EXISTING PLATFORM MOUNT @ 149'-0" MCL
- REMOVE EXISTING RRH MOUNT @ 152'-0" MCL
- RELOCATE (3) CCI - HPA-65R-BUU-H8 ANTENNAS TO (N) SECTOR FRAMES
- INSTALL (1) SABRE - C10857802 3-SECTOR MOUNT ASSEMBLY PER MOUNT REPLACEMENT ANALYSIS BY B+T GROUP DATED APRIL 13, 2023
- INSTALL (12) 2" STD X 10'-0" LONG MOUNT PIPES W/ CROSSOVER HARDWARE
- INSTALL (3) 2" STD X 6'-0" LONGMOUNT PIPES W/ CROSSOVER HARDWARE
- INSTALL (3) CCI - TPA65R-BU8DA-K ANTENNAS
- INSTALL (3) CCI - OPA65R-BU8DA ANTENNAS
- INSTALL (1) RAYCAP - DC6-48-60-18-8C-EV SQUID
- INSTALL (3) VALMONT - RRUDSM DUAL RRH MOUNTS
- INSTALL (3) ERICSSON - RRUS 4478 B14 RRHs
- INSTALL (3) ERICSSON - RRUS 4890 B25/B66 RRHs
- INSTALL (3) ERICSSON - RRUS 4490 B5/B12 RRHs
- INSTALL (2) 6AWG DC CABLES (7/8")
- INSTALL (1) 18-PAIR FIBER CABLE (3/8")

GROUND SCOPE OF WORK:
- REMOVE (1) OUTDOOR DC6
- REMOVE (3) STRINGS OF 180AH BATTERIES
- REMOVE (12) POWERWAVE - LGP 21901 DIPLEXERS
- INSTALL (3) RECTIFIERS
- INSTALL (3) STRINGS OF BATTERIES
- INSTALL (1) OUTDOOR DC12
- INSTALL (1) 6651 W/ XCEDE IDLE

SITE PHOTO



APPLICABLE CODES & REFERENCE DOCUMENTS

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

CODE TYPE	CODE
BUILDING	2022 CONNECTICUT SBC/2021 IBC
MECHANICAL	2022 CONNECTICUT SBC/2021 IMC
ELECTRICAL	2022 CONNECTICUT SBC/2020 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	B+T GROUP
DATED:	4/18/23
MOUNT ANALYSIS:	B+T GROUP
DATED:	4/13/23
RFDS REVISION:	PRELIMINARY
DATED:	5/24/23
ORDER ID:	643225
REVISION:	0

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT SWAP IS COMPLETE. CONTRACTOR TO INSTALL MOUNT PER MANUFACTURER'S SPECIFICATIONS.

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

B+T GRP
MTS ENGINEERING, P.L.L.C.
1717 S. BOULDER,
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
btwo@btgrp.com

AT&T SITE NUMBER:
CTL05461

BU #: **876401**
TOWN OF PLAINFIELD/SSUSA

47-51 UNITY STREET
PLAINFIELD, CT 06374

EXISTING
160'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/26/23	TDG	PRELIMINARY REVIEW	LR
B	5/10/23	LR	PRELIMINARY REVIEW	LR
0	5/30/23	LR	CONSTRUCTION	LR

STATE OF CONNECTICUT
No. 23924
LICENSED PROFESSIONAL ENGINEER
5/30/23

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/24

SHEET NUMBER: T-1
REVISION: 0

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED– NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800–788–7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
2. "LOOK UP" – CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
   THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED–STD–10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH QAS–STD–10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED–STD–10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
   CARRIER: AT&T
   TOWER OWNER: CROWN CASTLE USA INC.
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE–THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER–TO–CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
   #4 BARS AND SMALLER........................40 ksi
   #5 BARS AND LARGER........................60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH........3"
   CONCRETE EXPOSED TO EARTH OR WEATHER:
      #6 BARS AND LARGER........................2"
      #5 BARS AND SMALLER........................1–1/2"
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
      SLAB AND WALLS........................3/4"
      BEAMS AND COLUMNS........................1–1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

GREENFIELD GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON–METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON–METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD–WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
   - 4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
   - 4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI–CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON–PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER–ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "AT&T".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE		
SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
120/208V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
277/480V, 3Ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (–)	BLACK**

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION

APWA UNIFORM COLOR CODE:

WHITE	PROPOSED EXCAVATION
PINK	TEMPORARY SURVEY MARKINGS
RED	ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
YELLOW	GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
BLUE	POTABLE WATER
PURPLE	RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
GREEN	SEWERS AND DRAIN LINES

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE
LTE	LONG TERM EVOLUTION
MGB	MASTER GROUND BAR
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDS	RADIO FREQUENCY DATA SHEET
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
SIAD	SMART INTEGRATED DEVICE
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P.	WORK POINT

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

B+T GRP
MTS ENGINEERING, P.L.L.C.
1717 S. BOULDER,
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
btwo@btgrp.com

AT&T SITE NUMBER:
CTL05461

BU #: **876401**
TOWN OF PLAINFIELD/SSUSA

47-51 UNITY STREET
PLAINFIELD, CT 06374

EXISTING
160'-0" MONOPOLE

ISSUED FOR:

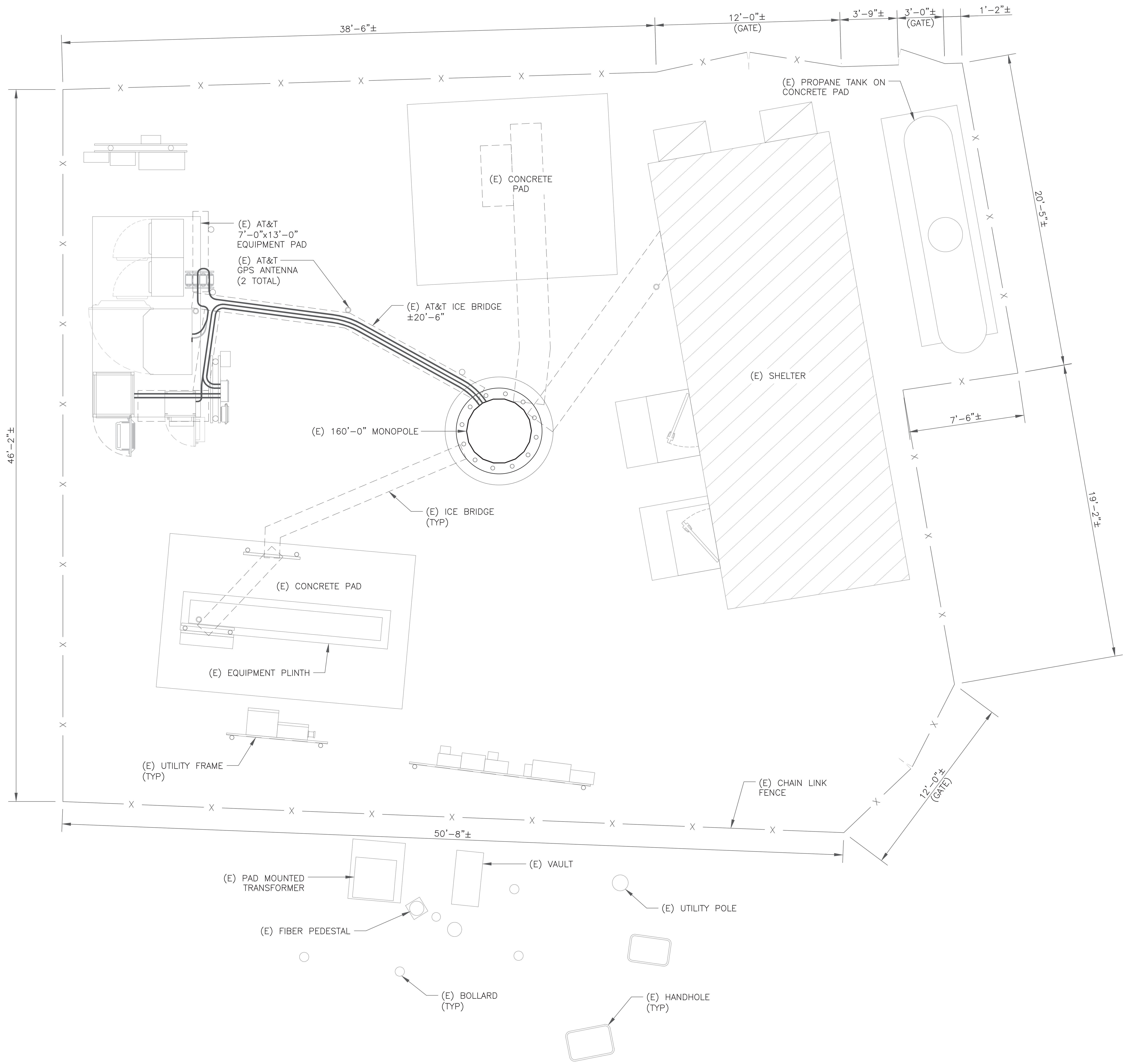
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/26/23	TDG	PRELIMINARY REVIEW	LR
B	5/10/23	LR	PRELIMINARY REVIEW	LR
0	5/30/23	LR	CONSTRUCTION	LR

No. 23924
5/30/23

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/24

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: T-2
REVISION: 0



1 SITE PLAN
SCALE: 4' 3' 2' 1' 0 4' 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

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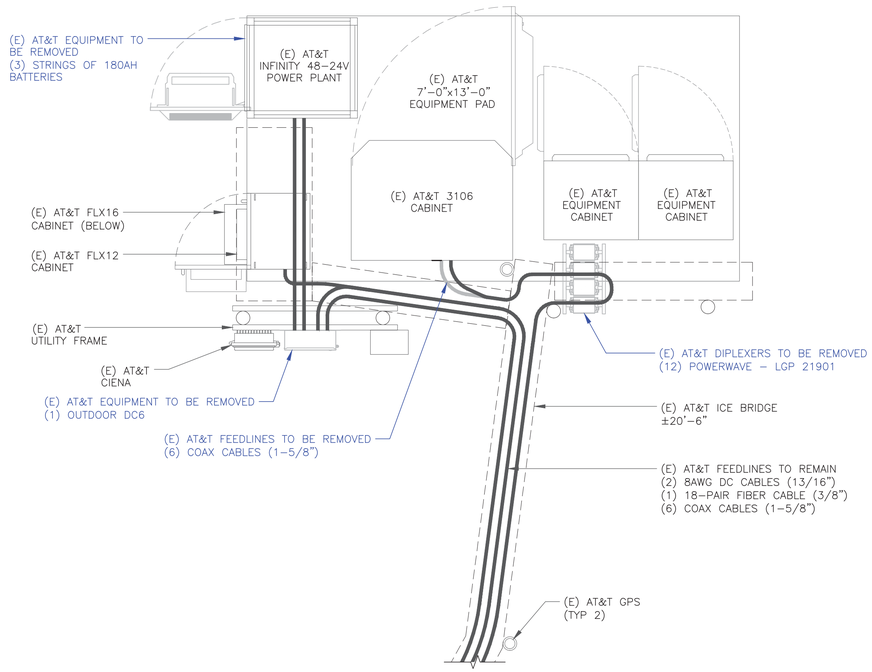
STATE OF CONNECTICUT LICENSED PROFESSIONAL ENGINEER No. 23024
5/30/23

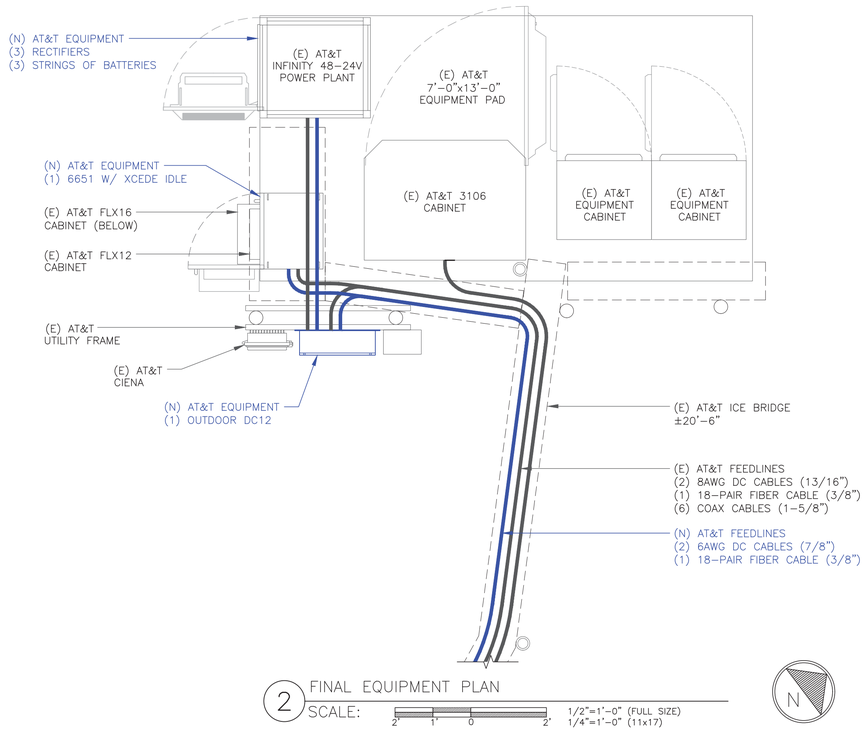
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/24

SHEET NUMBER: C-1.1
REVISION: 0



1 EXISTING EQUIPMENT PLAN

SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)



2 FINAL EQUIPMENT PLAN

SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

GROUND SCOPE OF WORK:

- REMOVE (1) OUTDOOR DC6
- REMOVE (3) STRINGS OF 180AH BATTERIES
- REMOVE (12) DIPLEXERS
- INSTALL (3) STRINGS OF BATTERIES
- INSTALL (3) RECTIFIERS
- INSTALL (1) OUTDOOR DC12
- INSTALL (1) 6651 W/ XCEDE IDLE

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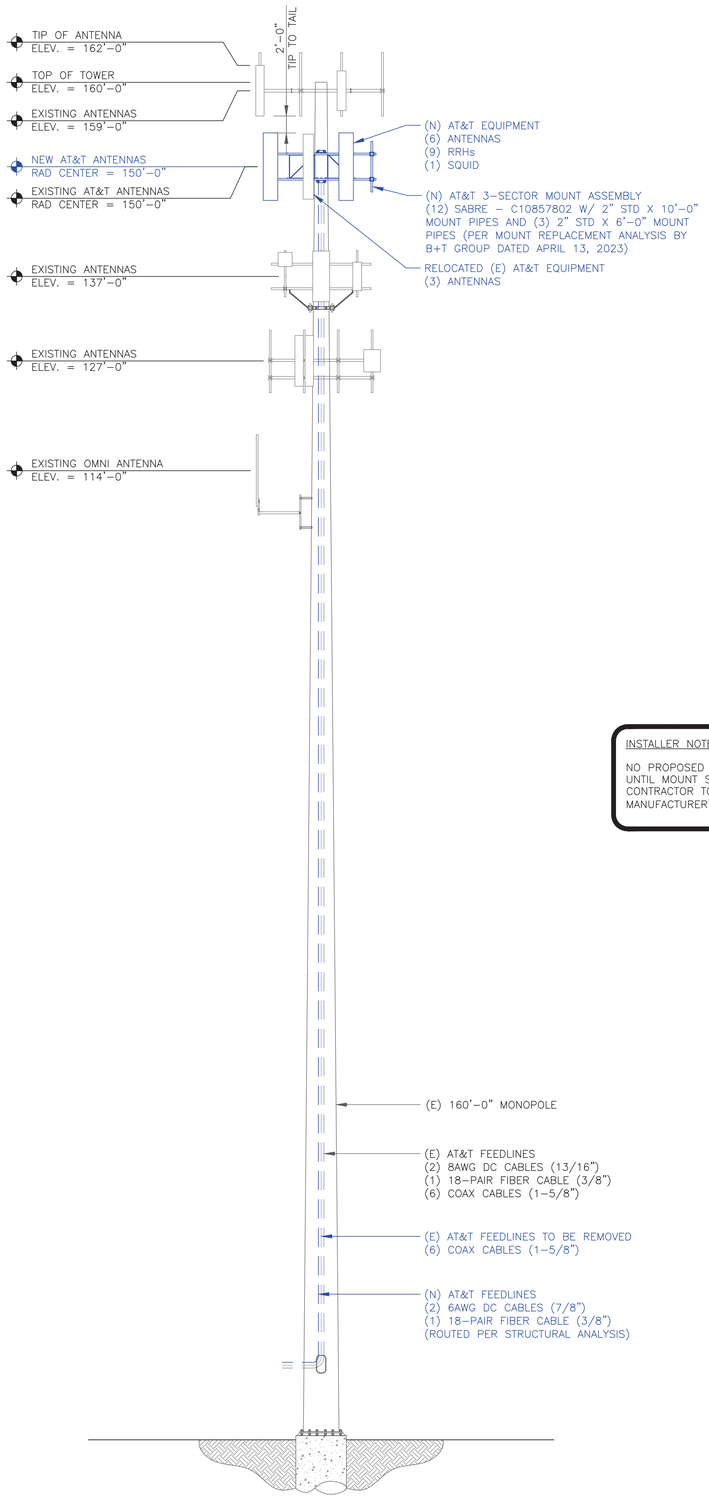
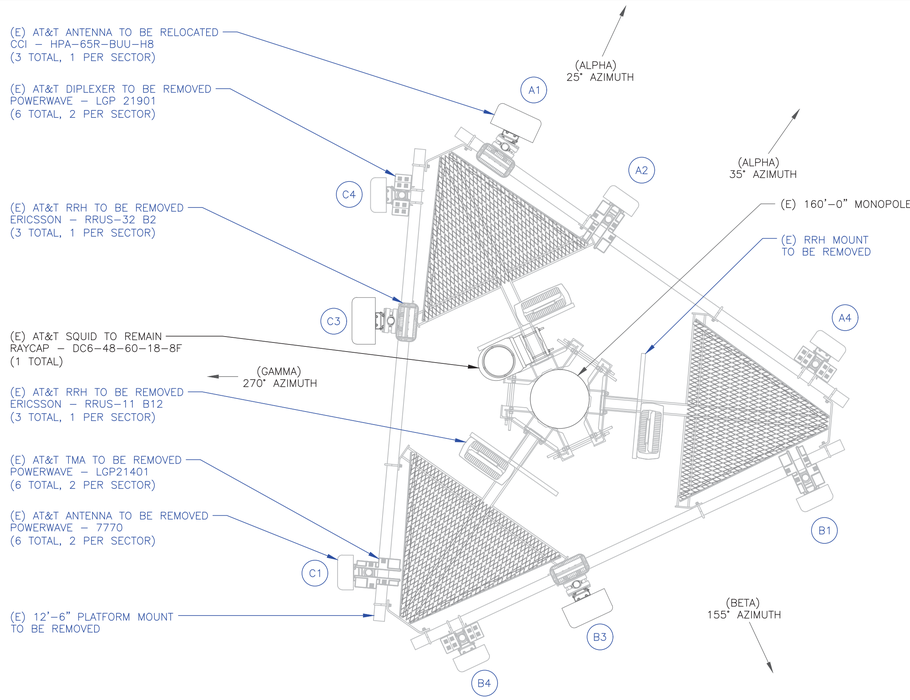
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/24

SHEET NUMBER: C-1.2

REVISION: 0



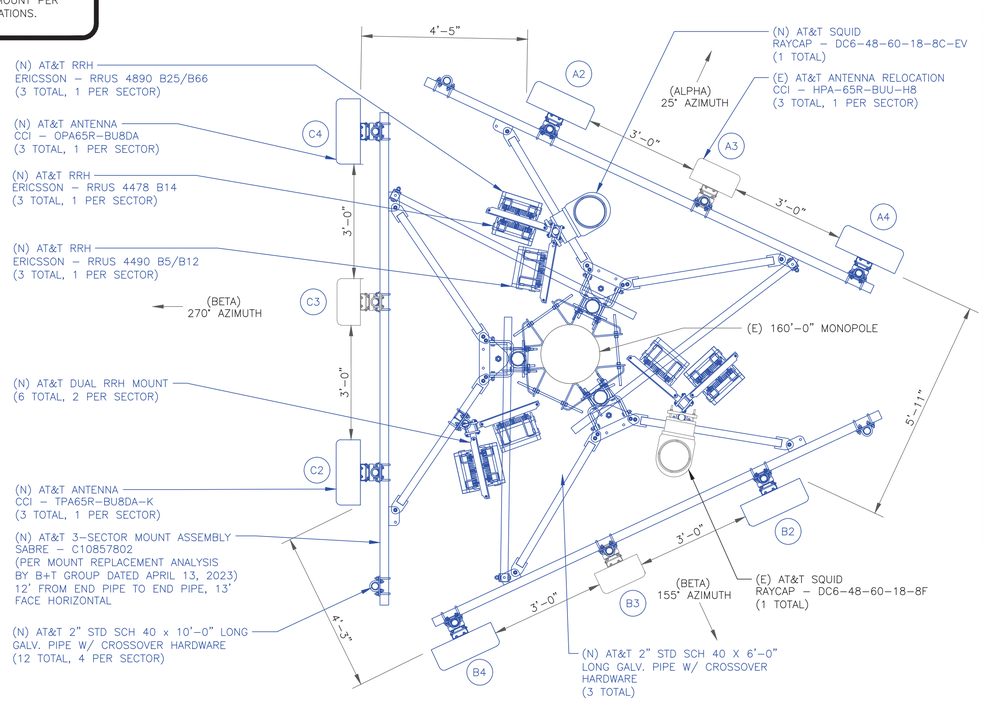
1 FINAL ELEVATION
SCALE: NOT TO SCALE



2 EXISTING ANTENNA PLAN
SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT SWAP IS COMPLETE. CONTRACTOR TO INSTALL MOUNT PER MANUFACTURER'S SPECIFICATIONS.



3 FINAL ANTENNA PLAN
SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

"LOOK UP" - CROWN CASTLE USA INC.
SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

INSTALLER NOTES:

1. REFERENCE C-3 FOR FINAL EQUIPMENT SCHEDULE.
2. REFERENCE C-4 FOR NEW EQUIPMENT SPECIFICATIONS.
3. CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.
4. 3'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE ANTENNAS ON SAME SECTOR.
5. 6'-0" MINIMUM DISTANCE REQUIRED BETWEEN 700BC & 700DE ANTENNAS ON SAME SECTOR.
6. 4'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE 700 ANTENNAS ON OPPOSING SECTORS.
7. ALL ANTENNA MEASUREMENT DISTANCES MUST BE EDGE TO EDGE (RELOCATE ANTENNAS AS NEEDED).
8. 8" MINIMUM DISTANCE REQUIRED BETWEEN ANTENNA & RADIO. SEE GENERIC EXAMPLE DETAIL ON SHEET C-4.

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STATE OF CONNECTICUT
LICENSED PROFESSIONAL ENGINEER
No. 23924
5/30/23

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/24

SHEET NUMBER: C-2
REVISION: 0

FINAL EQUIPMENT SCHEDULE
(VERIFY WITH CURRENT RFDS)

POSITION	ANTENNA				RADIO			DIPLEXER			TMA			SURGE PROTECTION		CABLES			
	TECH.	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS/MANUFACTURER MODEL	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
ALPHA																		
A1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
A2	LTE/5G	(N) CCI – TPA65R–BU8DA–K	25°	150'–0"	1	(N) RRUS 4478 B14	TOWER	–	–	–	–	–	–	–	–	–	–	–
					1	(N) RRUS 4890 B25/B66	TOWER											
A3	LTE	(E) CCI – HPA–65R–BUU–H8	25°	150'–0"		–	–	–	–	–	–	–	–	–	–	–	–	–
A4	5G/LTE	(N) CCI – OPA65R–BU8DA	25°	150'–0"	1	(N) RRUS 4490 B5/B12	TOWER	–	–	–	–	–	1	(N) DC6–48–60–18–8C–EV	1	(N) FIBER	3/8"	200'–0"
															2	(N) DC	7/8"	200'–0"
BETA																		
B1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B2	LTE/5G	(N) CCI – TPA65R–BU8DA–K	155°	150'–0"	1	(N) RRUS 4478 B14	TOWER	–	–	–	–	–	–	–	–	–	–	–
					1	(N) RRUS 4890 B25/B66	TOWER											
B3	LTE	(E) CCI – HPA–65R–BUU–H8	155°	150'–0"		–	–	–	–	–	–	–	–	–	–	–	–	–
B4	5G/LTE	(N) CCI – OPA65R–BU8DA	155°	150'–0"	1	(N) RRUS 4490 B5/B12	TOWER	–	–	–	–	–	1	(E) DC6–48–60–18–8F	1	(E) FIBER	3/8"	200'–0"
															2	(E) DC	13/16"	200'–0"
GAMMA																		
C1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
C2	LTE/5G	(N) CCI – TPA65R–BU8DA–K	270°	150'–0"	1	(N) RRUS 4478 B14	TOWER	–	–	–	–	–	–	–	–	–	–	–
					1	(N) RRUS 4890 B25/B66	TOWER											
C3	LTE	(E) CCI – HPA–65R–BUU–H8	270°	150'–0"		–	–	–	–	–	–	–	–	–	–	–	–	–
C4	5G/LTE	(N) CCI – OPA65R–BU8DA	270°	150'–0"	1	(N) RRUS 4490 B5/B12	TOWER	–	–	–	–	–	–	–	–	–	–	–
														UNUSED FEEDLINES:	6	(E) COAX	1–5/8"	200'–0"

NOTE:
(E) – EXISTING
(N) – NEW

1 FINAL ANTENNA AND FEEDLINE SCHEDULE
SCALE: NOT TO SCALE

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

B+T GRP
MTS ENGINEERING, P.L.L.C.
1717 S. BOULDER,
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
btwo@btgrp.com

AT&T SITE NUMBER:
CTL05461

BU #: **876401**
TOWN OF PLAINFIELD/SSUSA

47-51 UNITY STREET
PLAINFIELD, CT 06374

EXISTING
160'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/26/23	TDG	PRELIMINARY REVIEW	LR
B	5/10/23	LR	PRELIMINARY REVIEW	LR
0	5/30/23	LR	CONSTRUCTION	LR

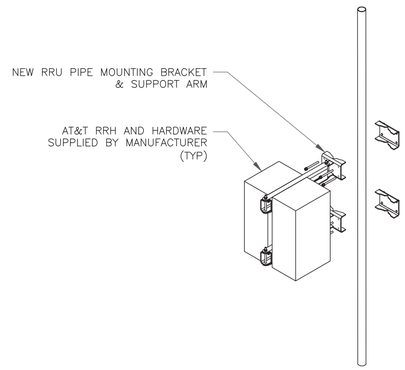
STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
5/30/23

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/24

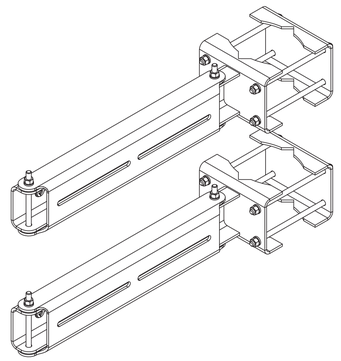
SHEET NUMBER: C-3
REVISION: 0

INSTALLER NOTES:

1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.
4. RRHs SHALL NOT BE INSTALLED CLOSER THAN 8" TO ANTENNAS.



1 DUAL RRH MOUNTING DETAIL
SCALE: NOT TO SCALE



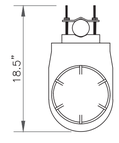
2 DUAL RADIO MOUNT
SCALE: NOT TO SCALE

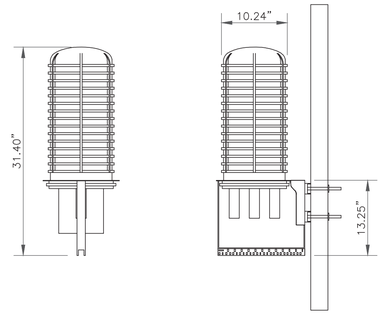
3 NOT USED
SCALE: NOT TO SCALE

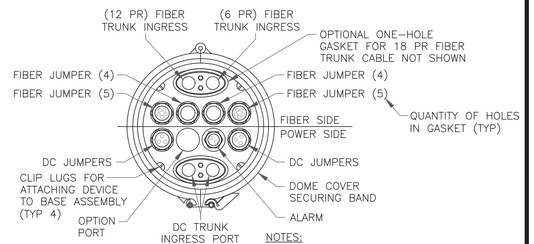
RAYCAP
DC6-48-60-18-8C-EV

RAYCAP - DC6-48-60-18-8C-EV
SIZE: 10.24x31.40 IN.
WEIGHT: 26.20 LBS
NOMINAL OPERATING VOLTAGE: 48 VDC
VOLTAGE PROTECTION RATING: 400 V
WIND LOADING: 150 MPH SUSTAINED (105.7 LBS)
WIND LOADING: 195 MPH GUST (213.6 LBS)

CONTRACTOR TO USE "THREAD LUBRICANT" ON MOUNTING BOLTS DURING INSTALLATION







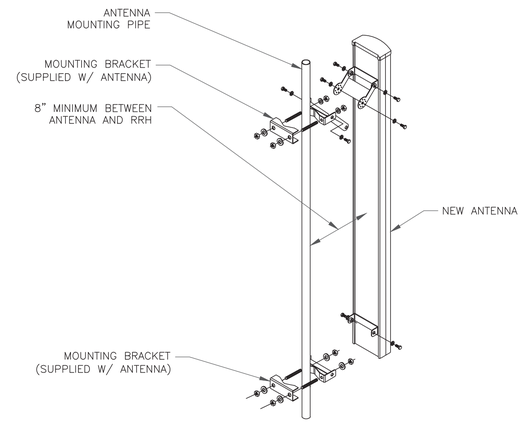
NOTES:

1. REMOVE CABLE SEALING GLAND AND INSTALL M32x1.5 METRIC-TO-1" NPT ADAPTER (COOPER CROUSE-HINES P/N CAP 740 994 OR EQUIVALENT MFR) WHEN CONNECTING CONDUIT TO OVP.

6 SQUID MOUNTING DETAIL
SCALE: NOT TO SCALE

INSTALLER NOTE:

1. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.
2. 8" MINIMUM DISTANCE REQUIRED BETWEEN ANTENNA & RADIO. SEE GENERIC EXAMPLE DETAIL ON SHEET C-4.



5 ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

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MTS ENGINEERING P.L.L.C.
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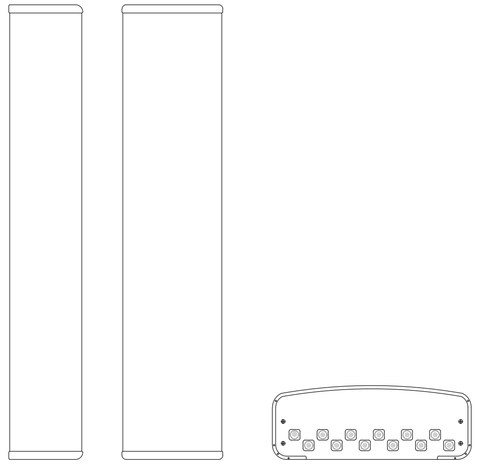
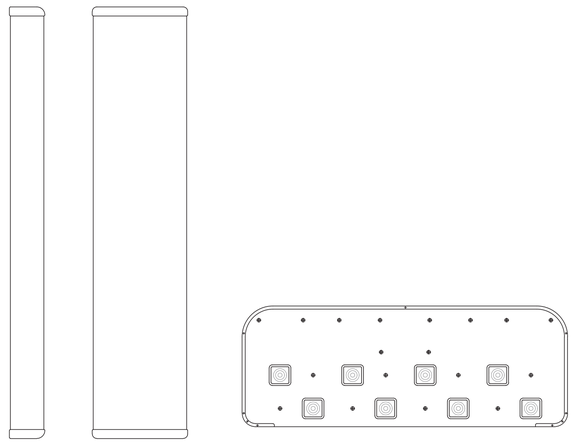
SHEET NUMBER: C-4
REVISION: 0



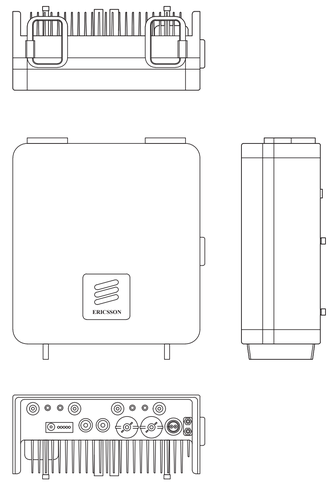
CCI ANTENNAS – TPA65R–BU8DA–K
WEIGHT: 102.1 LBS
SIZE (HXWXD): 96X20.7X7.7 IN.
MOUNTING HARDWARE P/N: MBK–01
RATED WIND VELOCITY: 150.0 MPH

1 CCI ANTENNAS – TPA65R–BU8DA–K
SCALE: NOT TO SCALE



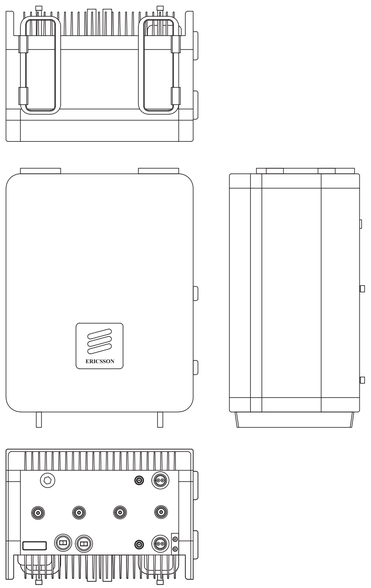
CCI ANTENNAS – OPA65R–BU8DA
WEIGHT: 78.4 LBS
SIZE (HxWxD): 96.0x20.7x7.7 IN.
MOUNTING HARDWARE P/N: MBK–01
RATED WIND VELOCITY: 150.0 MPH

2 CCI ANTENNAS – OPA65R–BU8DA
SCALE: NOT TO SCALE



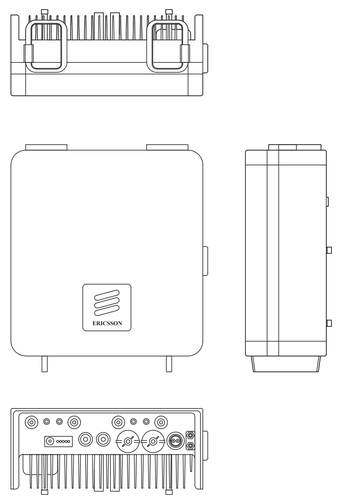
ERICSSON – RRUS 4478 B14
WEIGHT: 59.40 LBS
SIZE (HxWxD): 18.10x13.40x8.26 IN.

3 ERICSSON – RRUS 4478 B14
SCALE: NOT TO SCALE



ERICSSON – RADIO 4449 B5/B12
WEIGHT: 71.0 LBS
SIZE (HxWxD): 17.9x13.19x9.4 IN.

4 ERICSSON – RADIO 4449 B5/B12
SCALE: NOT TO SCALE



ERICSSON – RRUS 4890 B25/B66
WEIGHT: 68.0 LBS
SIZE (HxWxD): 17.5x15.1x6.9 IN.

5 ERICSSON – RRUS 4890 B25/B66
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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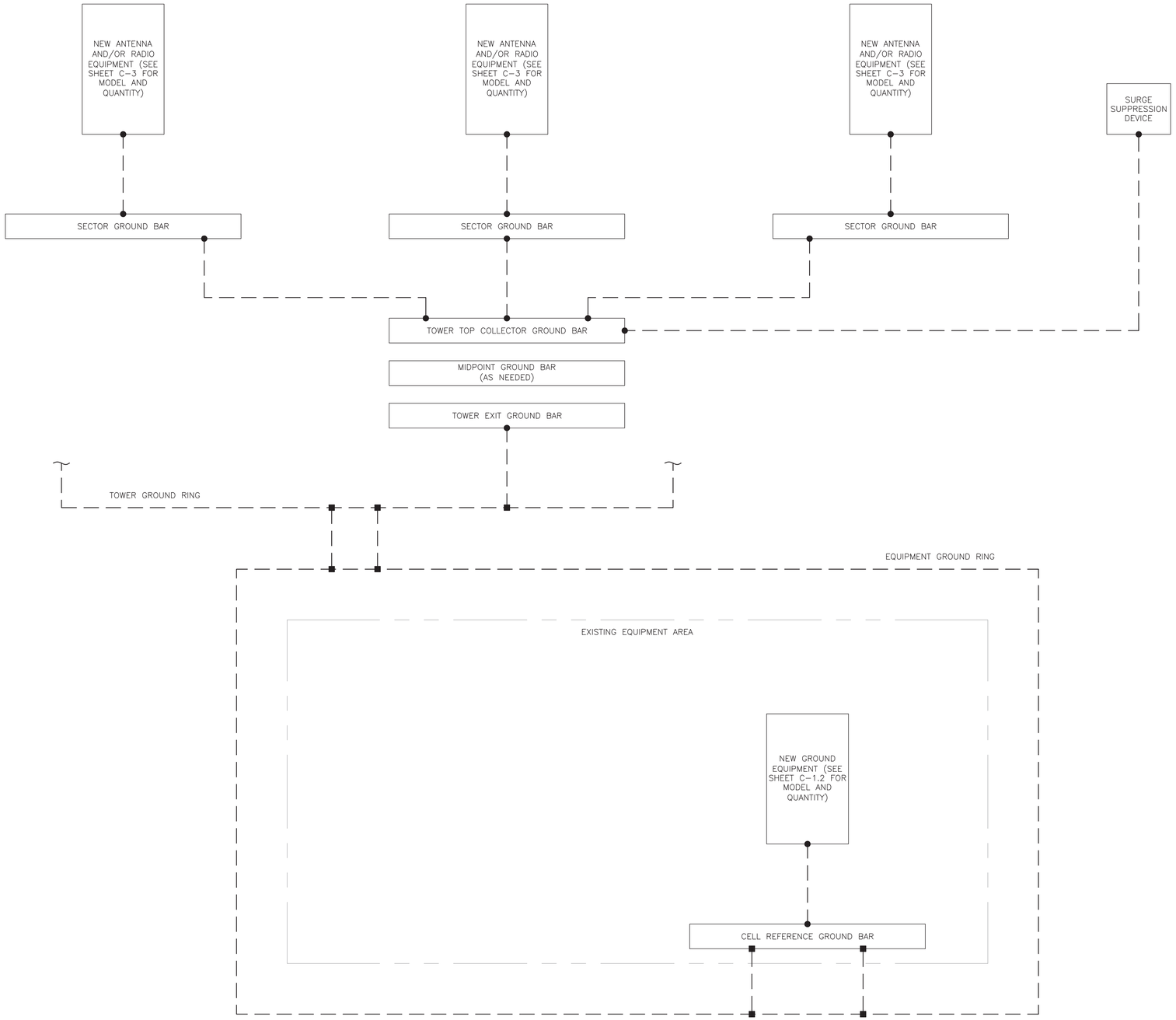
REVISION: 0



1 GROUNDING SCHEMATIC
SCALE: NOT TO SCALE

GROUNDING PLAN LEGEND:

--- GROUND WIRE
■ EXOTHERMIC WELD
● MECHANICAL CONNECTION
COPPER GROUND ROD
GROUND ROD W/ TEST WELL

CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUITS (ATT-TP-76416 7.6.7).

HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CELL SITE REFERENCE GROUND BAR MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS.

EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE (ATT-TP-76416 7.6.7.2).

DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICES CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR PER TP76300 SECTION H 6 AND TP76416 FIGURE 7-11 REQUIREMENTS.

AT&T
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ATLANTA, GA 30324-3300

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TOWN OF PLAINFIELD/SSUSA

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STATE OF CONNECTICUT
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LICENSED
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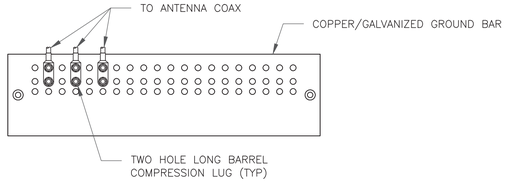
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/24

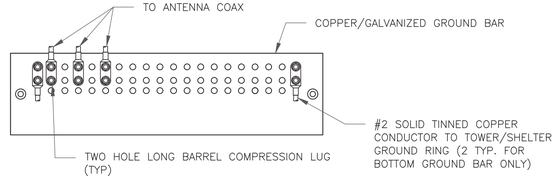
SHEET NUMBER: G-1
REVISION: 0



NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE

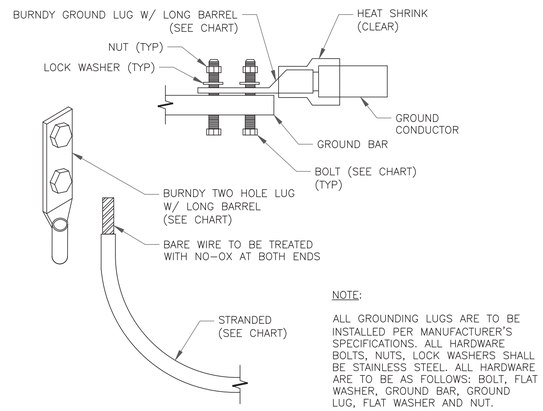


NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE

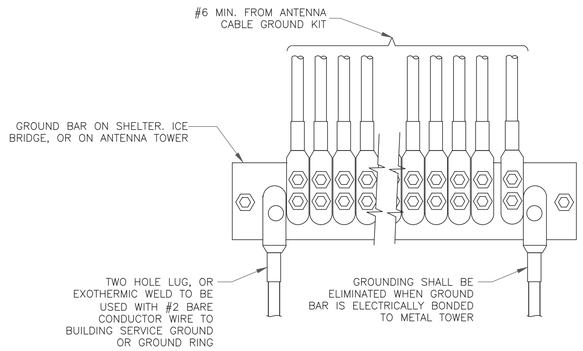
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



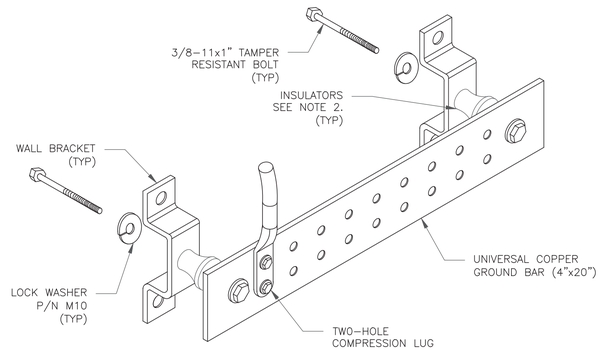
NOTE:

ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE

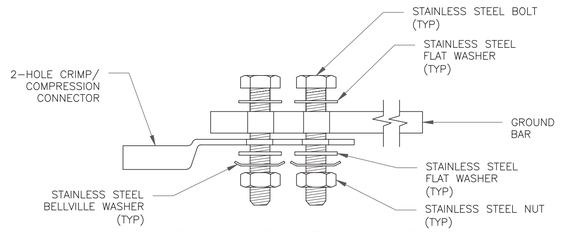


NOTES:

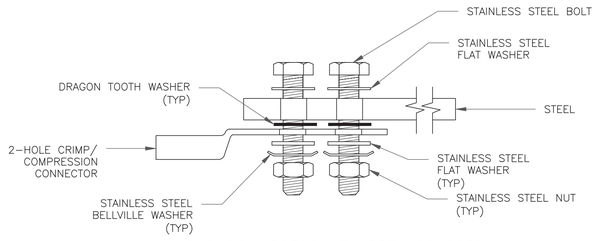
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.

2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

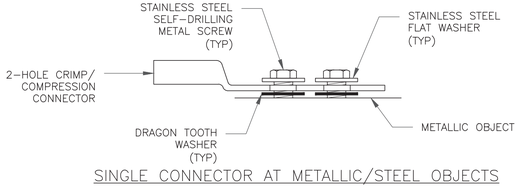
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

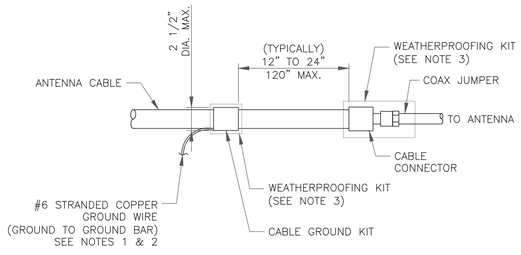


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

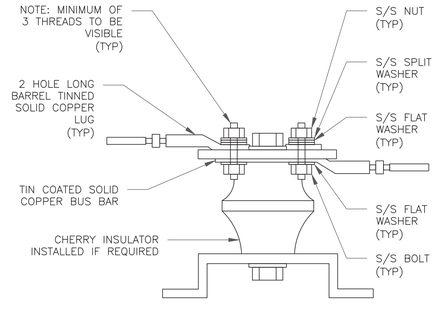
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

AT&T
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PLAINFIELD, CT 06374

EXISTING
160'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/26/23	TDG	PRELIMINARY REVIEW	LR
B	5/10/23	LR	PRELIMINARY REVIEW	LR
0	5/30/23	LR	CONSTRUCTION	LR

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/24

SHEET NUMBER: G-2
REVISION: 0

ANTENNA POSITION 1

EMPTY

Antenna 2
LTE B14 / PCS /AWS

BA 12PORT

Low 700/850 +45/-45	Low 700/850 +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

LTE RRUS-4890

Antenna 3
spare

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

Antenna 4
LTE 700 BC / 850

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

Fiber/DC
Demarcation Box (Squid)

Fiber/DC
Demarcation Box (Squid)

DC Plant

DC Plant

- 3 Feet Minimum Separation between ALL Antennas
- 6 Feet Minimum Separation between 700BC & 700 DE

5216 XMU

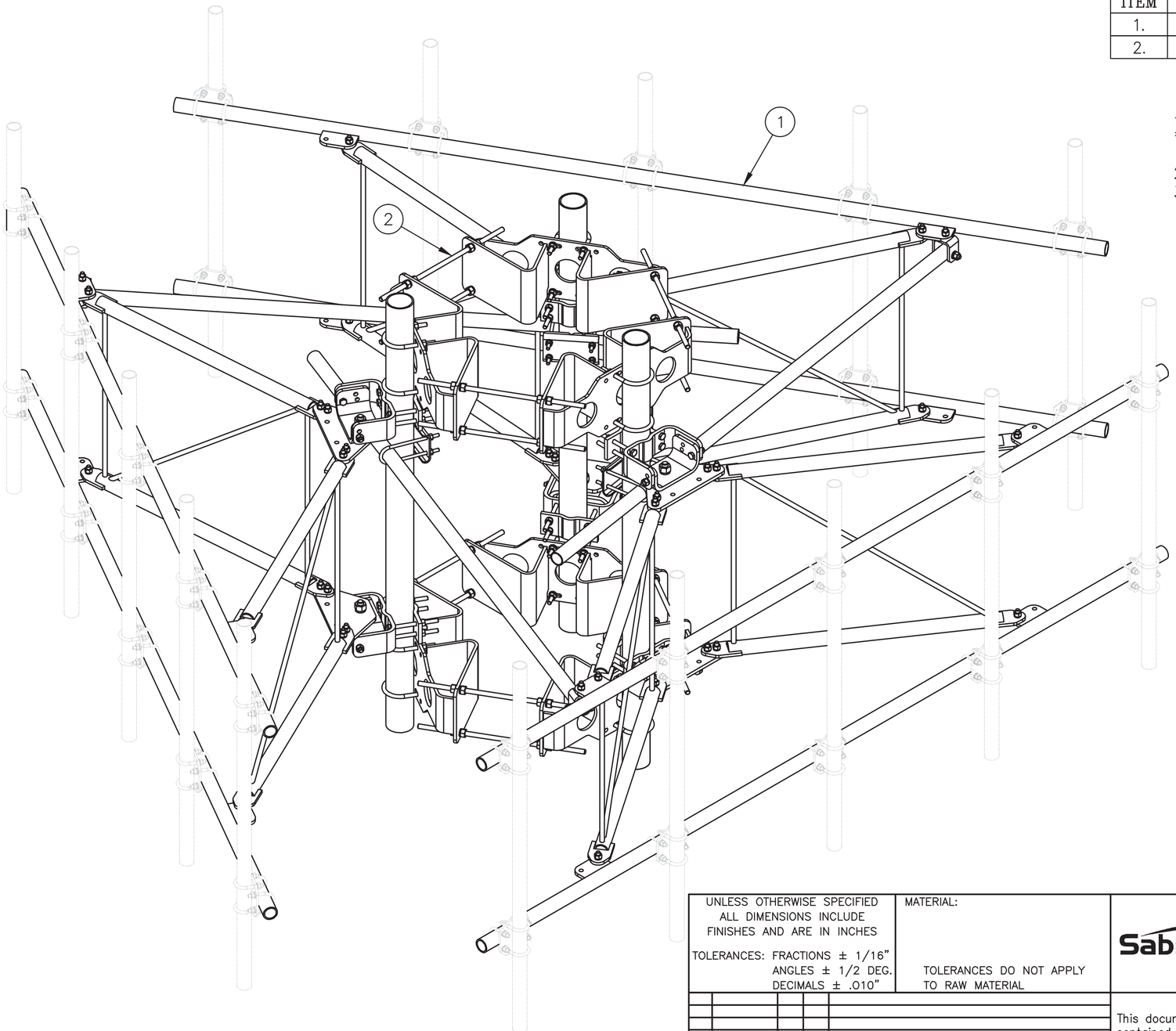
6651

IDLe Xcede

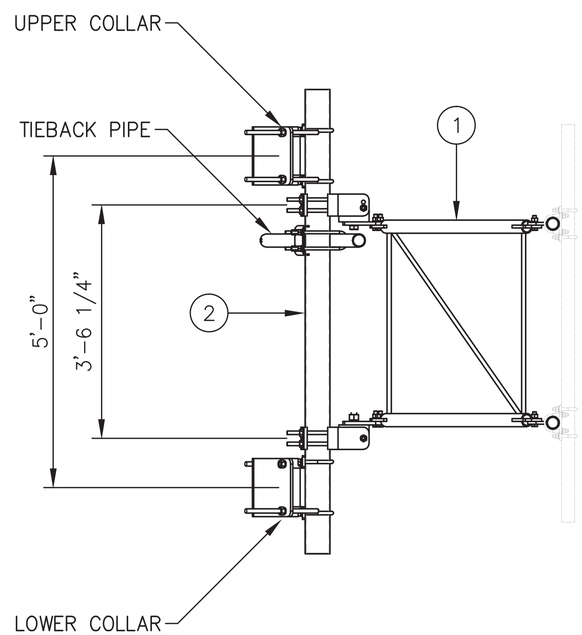
C10857802 12' HD V-BOOM ASSEMBLIES W/TIEBACK				
ITEM	QTY.	PART NO.	DESCRIPTION	WEIGHT
1.	3	C10857001C	12' HD V-BOOM ASSEMBLY W/TIE BACK	1386
2.	1	C10899055	4 1/2" O.D. MONOPOLE PIPE MOUNT ASSEMBLY	994
			TOTAL WEIGHT	2380

NOTES:

1. MOUNTING PIPES & CROSSOVER PLATE KITS MUST BE PURCHASED SEPARATELY.
2. SEE DRAWING C10857001C FOR 12' V-BOOM ASSEMBLY.
3. SEE DRAWING C10899055 FOR 4 1/2" O.D. MONOPOLE PIPE MOUNT ASSEMBLY.



ISOMETRIC VIEW



VIEW A-A
FROM PAGE 2

REV	DATE	DRW	CHK	DESCRIPTION

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS INCLUDE
FINISHES AND ARE IN INCHES

TOLERANCES: FRACTIONS ± 1/16"
ANGLES ± 1/2 DEG.
DECIMALS ± .010"

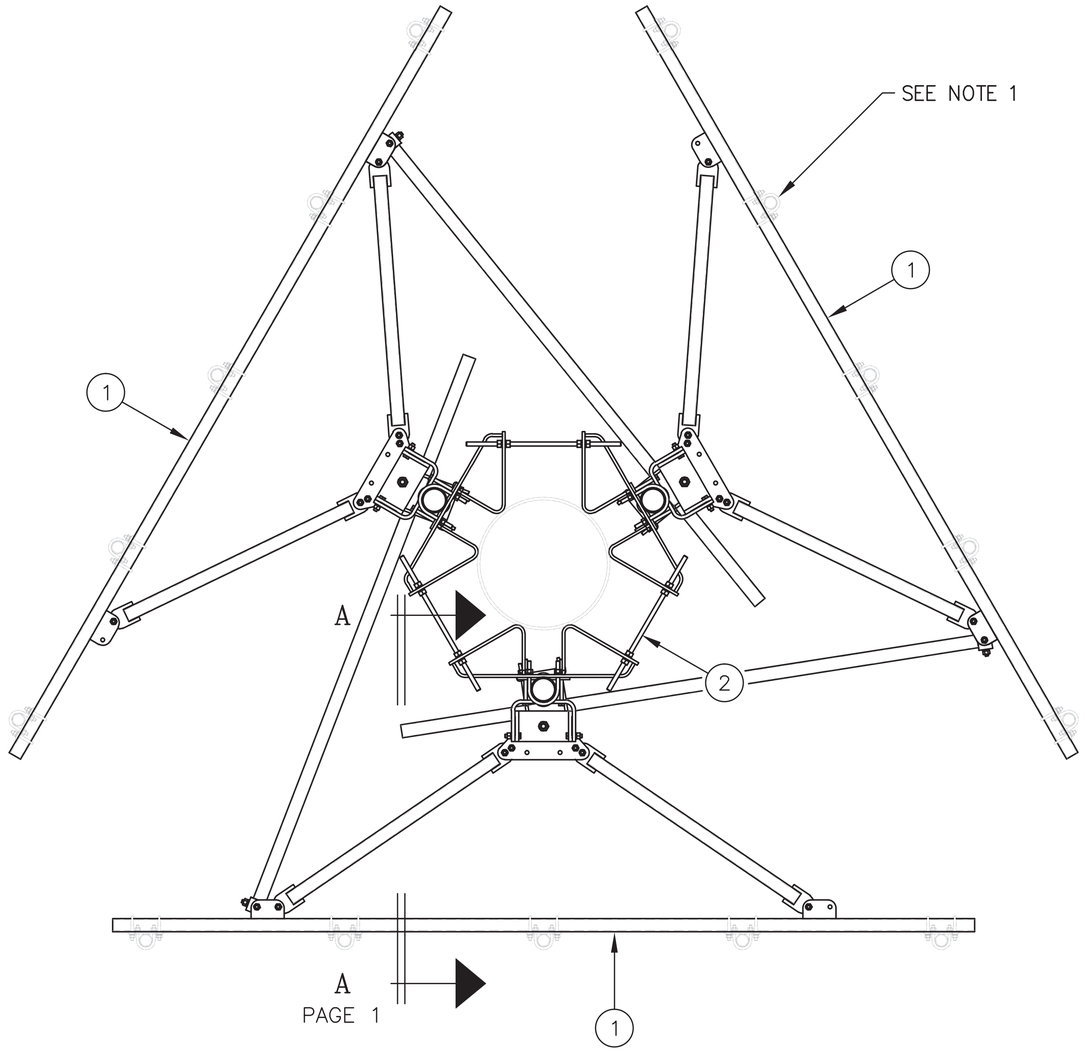
MATERIAL:

TOLERANCES DO NOT APPLY
TO RAW MATERIAL

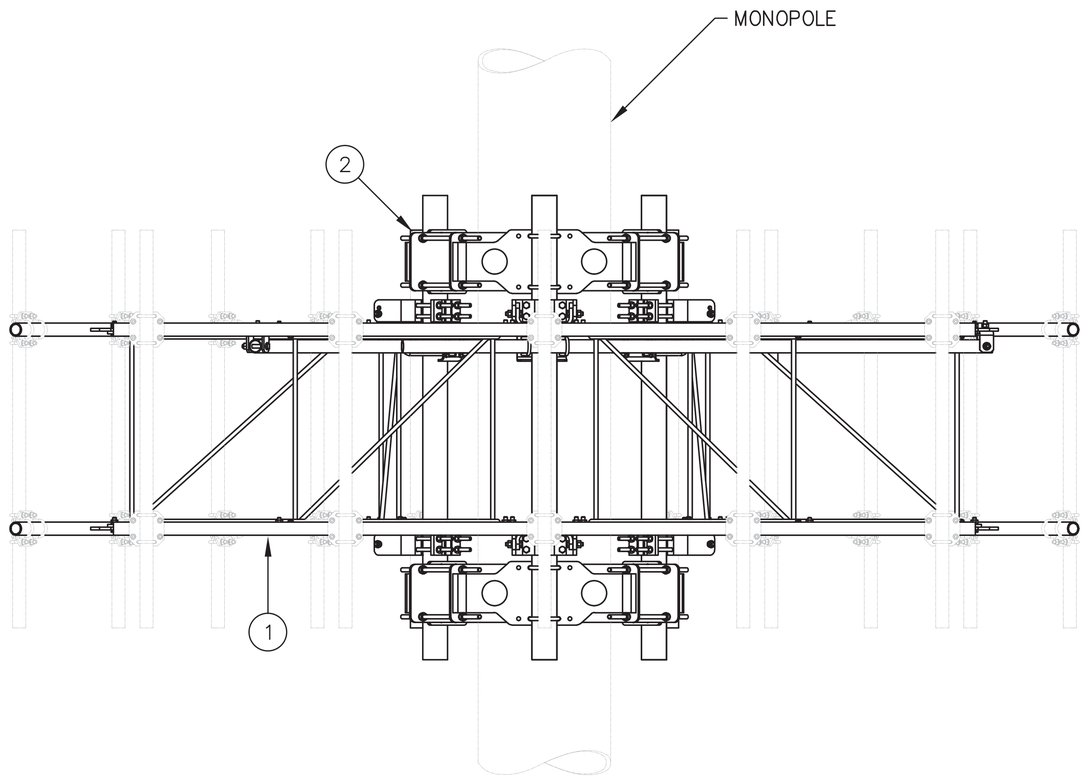
Sabre Industries™
Towers and Poles

12' HD V-BOOM ASSEMBLIES W/TIEBACK (3' STANDOFF) ON MONOPOLE PIPE MOUNT ASSEMBLY W/NO ANTENNA MOUNTING PIPES

		SIZE	DRAWING NO.	REV
DATE	9/24/18	B	C10857802	0
DRAWN BY	WRF			
CHECKED BY	WMN		SCALE None	PAGE 1 OF 2



PLAN VIEW



ELEVATION VIEW

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS INCLUDE FINISHES AND ARE IN INCHES TOLERANCES: FRACTIONS ± 1/16" ANGLES ± 1/2 DEG. DECIMALS ± .010"	MATERIAL: TOLERANCES DO NOT APPLY TO RAW MATERIAL

REV	DATE	DRW	CHK	DESCRIPTION

Sabre Industries™
Towers and Poles

12' HD V-BOOM ASSEMBLIES W/TIEBACK (3' STANDOFF) ON MONOPOLE PIPE MOUNT ASSEMBLY W/NO ANTENNA MOUNTING PIPES

DATE	09/24/18
DRAWN BY	WRF
CHECKED BY	WMN

SIZE	DRAWING NO.	REV
B	C10857802	0

SCALE	PAGE
None	2 OF 2