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

April 3, 2023

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

RE: **Notice of Exempt Modification for ATT**
Crown #806939; ATT Site ID CTL05458
954 Norwich, CT 06062
Latitude: 41° 39′ 31.46″ / Longitude: -71° 55′ 29.75″

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 115-foot level of the existing 130-foot monopole tower at 954 Norwich, CT. The tower is owned by Crown Castle USA Inc. and the property is owned by Caya Enterprises LLC. AT&T now intends to replace six (6) antennas with the installation of six (6) new antennas and ancillary equipment at the 115-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) SITE PRO1-RMQLP-4126-HK 14'-6" Platform Mount
(6) CCI-OPA65R-BU8DA Antennas
(3) Ericsson-4449 B5/B12 RRHs
(3) Ericsson-8843 B14/B66A RRHs
(1) Ericsson-4478 B14 RRH
(6) Dual Radio Mounts
(6) Y CABLES for Dual Band Radios

Remove:

(1) 12' Platform Mount
(3) CCI-HPA-65R-BUU-H8 Antennas
(3) POWERWAVE-7770 Antennas
(3) POWERWAVE-LGP21401TMAs
(3) ERICSSON-RRUS-11 B12 RRHs
(3) ERICSSON-RRUS-12 B2 + RRUS-A2 B25 RRHs
(6) 1-1/4" COAX CABLES

Ground:

Install New:

(2) Rectifiers
(1) 6648 W/XCEDE Cable

Remove:

(6) POWERWAVE-LGP 21903 Diplexers
(6) KAELUS-DBC0061F1V51-2 Diplexers

The facility was approved by the Town of Plainfield Planning and Zoning Commission by way of a Special Permit, SP-99-08, on June 8, 1999.

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 the municipality, Town Planner Mary Ann Chinatti, property owner Caya Enterprises LLC 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
Site Acquisition Specialist
1800 W. Park Drive
Westborough, MA 01581
(508) 621-9161/ Domenica.Tatasciore@crowncastle.com

Attachments
cc:

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

Mary Ann Chinatti, Town Planner
Town of Plainfield
8 Community Avenue
Plainfield, CT 06374
860-230-3028

Caya Enterprises LLC
306 Kenyon Road
Hampton, CT 06247
413-536-5542

Crown Castle, Tower Owner

From: TrackingUpdates@fedex.com
To: Tatasciore, Domenica
Subject: FedEx Shipment 771695012068: Your package has been delivered
Date: Tuesday, April 4, 2023 10:07:43 AM

FedEx

Hi. Your package was delivered Tue, 04/04/2023 at 9:54am.

Delivered to 8 COMMUNITY AVE, PLAINFIELD, CT 06374
Received by D.TALBOT

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 771695012068

FROM Domenica Tatasciore
1800 West Park Drive

	Suite 200 WESTBOROUGH, MA, US, 01581
TO	Town of Plainfield Kevin Cunningham, First Selectman 8 Community Avenue PLAINFIELD, CT, US, 06374
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Mon 4/03/2023 05:37 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	PLAINFIELD, CT, US, 06374
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

From: TrackingUpdates@fedex.com
To: Tatasciore, Domenica
Subject: FedEx Shipment 771695042185: Your package has been delivered
Date: Tuesday, April 4, 2023 10:07:27 AM

FedEx

Hi. Your package was delivered Tue, 04/04/2023 at 9:54am.

Delivered to 8 COMMUNITY AVE, PLAINFIELD, CT 06374
Received by D.TALBOT

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 771695042185

FROM Domenica Tatasciore
1800 West Park Drive

	Suite 200 WESTBOROUGH, MA, US, 01581
TO	Town of Plainfield Mary Ann Chinatti, Town Planner 8 Community Avenue PLAINFIELD, CT, US, 06374
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Mon 4/03/2023 05:37 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	PLAINFIELD, CT, US, 06374
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

From: TrackingUpdates@fedex.com
To: Tatasciore, Domenica
Subject: FedEx Shipment 771695065094: Your package has been delivered
Date: Tuesday, April 4, 2023 2:21:21 PM

FedEx

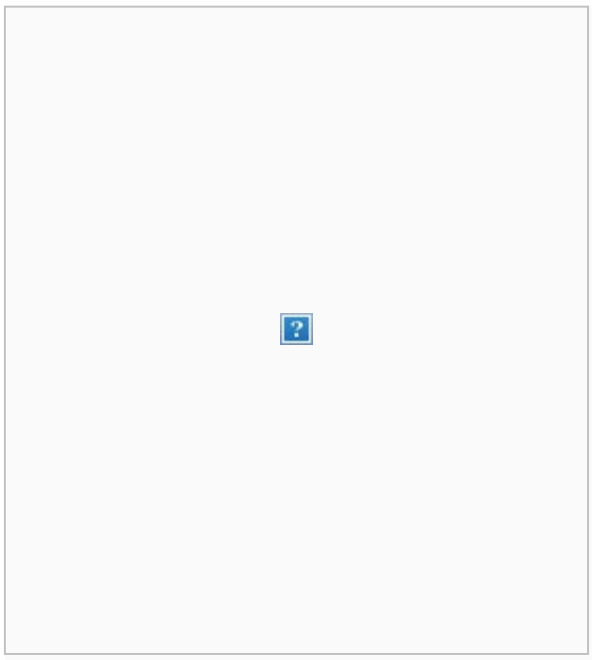
Hi. Your package was delivered Tue, 04/04/2023 at 2:15pm.

Delivered to 306 KENYON RD, HAMPTON, CT 06247

OBTAIN PROOF OF DELIVERY

Delivery picture not showing? View in browser.

TRACKING NUMBER	771695065094
FROM	Domenica Tatasciore 1800 West Park Drive Suite 200 WESTBOROUGH, MA, US, 01581
TO	Caya Enterprises LLC 306 Kenyon Road HAMPTON, CT, US, 06247
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Mon 4/03/2023 05:37 PM
DELIVERED TO	Residence
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	HAMPTON, CT, US, 06247
SPECIAL HANDLING	Deliver Weekday Residential Delivery
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight



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Thank you for your business.

THE PLAINFIELD TOWN HALL
PLAINFIELD • CENTRAL VILLAGE • MOOSUP • WAUREGAN

Town Hall
8 Community Avenue
Plainfield, CT 06374

Telephone (860) 564-4071
Fax (860) 564-0612

PLANNING AND ZONING COMMISSION

COPY

June 14, 1999

Sprint Spectrum L.P.
C/O Thomas J. Regan
Brown, Rudnick, Freed & Gesmer
185 Asylum St., 38th Fl.
Hartford, CT 06103-3402

Dear Applicant:

At its meeting on Tuesday, June 8, 1999, the Planning & Zoning Commission approved your request SP-99-08 for a Special Permit for property located at 954 Norwich Rd., Plainfield. Map 10, Block 133, Lot 15.

The Conditions are:

- A Zoning Permit, Building Permit and NDDH approval will need to be obtained prior to construction.
- Please file the enclosed notice on the Land Records of the town.

A copy of the Legal Notice is enclosed for your records and will appear in the Norwich Bulletin on Wednesday, June 16, 1999.

Yours Truly,

PLANNING & ZONING COMMISSION

Dennis Jolley, Chairman

Gloria Rizer, Secretary

CC: Stanley Chuddy, Owner

TOWN OF PLAINFIELD
SPECIAL PERMIT RECORD

CORRECTED

In accordance with Section 8-3d of the Connecticut General Statutes and the Plainfield Zoning Regulations, this Record must be filed in the Town Land Records. The Town Clerk shall index this record in the Grantor Index under the name of the owner of Record of such property at the time the Special Permit is granted. The Special Permit is not effective until the Record is filed.

1. *Grantor(s): ***Chudy*** (Last) ***Stanley*** (First) (Middle)

2. Assessor's Information **10** (Map) **133** (Block) **15** (Parcel)

3. Location of Property: **954 Norwich Rd., Plainfield**

4. Zoning District in which property is located: **C-1**

5. Description of Project/Activity:
   Construction of 130 ft. telecommunications tower and related equipment for the provision of wireless telecommunications service.

6. Special Permit granted under the following Sections of the Plainfield Zoning Regulations: Section 6.35 Wireless Telecommunication Facilities

7. Date Special Permit Granted: **June 8, 1999**

8. Approval is granted subject to the following conditions:
   None

9 Reasons for granting Special Permit: None Stated.

The Planning and Zoning Commission finds that the proposed use or development satisfies all criteria identified within the Planning Zoning Regulations for the approval of a Special Permit.

I certify that this is a true Record of the Special Permit granted for the subject Property.

Dated at Plainfield, CT
this 27h day of July 1999

PLANNING AND ZONING COMMISSION

Jane A. Bissette
Secretary or Acting Clerk

* Correction made for the spelling of the Grantor.

Received For Record at Plainfield, CT
on 7/27/99 1:08 PM
Attest Helen Francis Coombs
Helen Francis Coombs, Town Clerk

954 NORWICH RD

Location	954 NORWICH RD	**Mblu**	010/ 013B/ 0015/ /
Acct#	00081500	**Owner**	CAYA ENTERPRISES LLC
Assessment	$250,730	**Appraisal**	$358,180
PID	893	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2022	$183,280	$174,900	$358,180
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2022	$128,300	$122,430	$250,730

Owner of Record

Owner	CAYA ENTERPRISES LLC	**Sale Price**	$300,000
Co-Owner		**Certificate**	
Address	306 KENYON RD HAMPTON, CT 06247	**Book & Page**	0483/0730
		Sale Date	12/29/2014
		Instrument	08

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
CAYA ENTERPRISES LLC	$300,000		0483/0730	08	12/29/2014
CHUDY CARL L	$0		0409/0144	29	04/02/2009
CHUDY GLADYS L	$0		0397/0022	10	05/21/2008
CHUDY STANLEY V + GLADYS L	$0		0189/0716		06/27/1989

Building Information

Building 1 : Section 1

Year Built:	1973
Living Area:	5,625
Replacement Cost:	$249,489

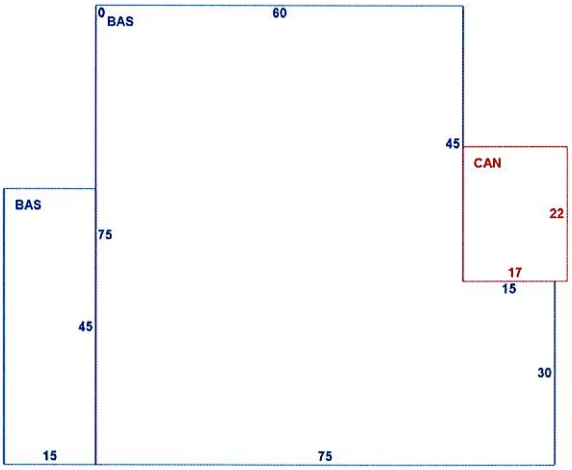
Building Percent Good: 71
Replacement Cost
Less Depreciation: $177,140

Building Attributes	
Field	**Description**
Style:	Light Indust
Model	Comm/Ind
Grade	D
Stories:	1
Occupancy	1.00
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	Forced Air-Duc
AC Type	Other / Partial
Struct Class	
Bldg Use	AUTO REPR
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	3030
Heat/AC	HEAT/AC SPLIT
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	18.00
% Comn Wall	

Building Photo

(https://images.vgsi.com/photos/PlainfieldCTPhotos/\00\00\63\91.jpg)

Building Layout



(ParcelSketch.ashx?pid=893&bid=893)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	5,625	5,625
CAN	Canopy	374	0
		5,999	5,625

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
OD1	Overhead Dr-Wood/Mtl	4.00 UNITS	$1,040	1
A/C	Air Conditioning	675.00 S.F.	$1,200	1

Land

Land Use

Use Code	4022
Description	IND BLDG
Zone	C
Neighborhood	1010
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	4.5
Frontage	
Depth	
Assessed Value	$122,430
Appraised Value	$174,900

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FN1	Fence 4' Chain			600.00 L.F.	$3,900	1
NV1	Oby under 100 sf	SH	Shed	64.00 UNITS	$0	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2022	$183,280	$174,900	$358,180
2021	$123,500	$218,750	$342,250

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2022	$128,300	$122,430	$250,730
2021	$86,440	$153,130	$239,570

954 Norwich Road

3/21/2023 9:01:58 AM

Scale: 1"=250'

Scale is approximate

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

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

Site Name:	PLAINFIELD SOUTH
Crown Castle Site#:	876359
Site ID:	CTL05458
Project Name:	LTE
Address:	954 NORWICH ROAD, PLAINFIELD, CT 06062
County:	WINDHAM
Latitude:	41.658739
Longitude:	-71.924931
Structure Type:	MONOPOLE
Property Owner:	CAYA ENTERPRISES L.L.C
Property Contact:	VERONICA CHAPMAN

AT&T Existing Facility

Report Information

Report Writer: Dheeraj Bisht **Report Generated Date:** 03-24-2023

Site Compliance Statement

Compliance Status	Compliant
Cumulative General Population % MPE (Ground Level)	0.2429%

March 24, 2023

Emissions Analysis for Site: **CTL05458– PLAINFIELD SOUTH**

MobileComm Professionals, Inc was directed to analyze the proposed AT&T facility located at **954 NORWICH ROAD, PLAINFIELD, CT 06062**, 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})	HBW (^{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	OPA65R-BU8D	Panel	700	LTE	15	75	13.55	8	4	40.00	3229.39	5298.10	115.00	0.000027	466.67	0.000006
A	1	AT&T	CCI	OPA65R-BU8D	Panel	850	5G	15	63	14.45	8	4	40.00	3973.01	6518.08	115.00	0.000100	566.67	0.000018
A	1	AT&T	CCI	OPA65R-BU8D	Panel	1900	LTE/5G	15	67	15.75	8	4	40.00	5359.45	8792.65	115.00	0.000033	1000.00	0.000003
A	2	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE	15	75	13.55	8	4	40.00	3229.39	5298.10	115.00	0.000037	466.67	0.000008
A	2	AT&T	CCI	OPA65R-BU8D	Panel	2100	LTE/5G	15	69	16.05	8	4	40.00	5742.75	9421.50	115.00	0.000080	1000.00	0.000008
A	3	AT&T	CCI	TPA-65R-LCUUUU-H8	Panel	2300	LTE	15	59	14.45	8	4	40.00	2483.13	4073.80	115.00	0.000002	1000.00	0.000000
B	4	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE	145	75	13.55	8	4	40.00	3229.39	5298.10	115.00	0.000003	466.67	0.000001
B	4	AT&T	CCI	OPA65R-BU8D	Panel	850	5G	145	63	14.45	8	4	40.00	3973.01	6518.08	115.00	0.000018	566.67	0.000003
B	4	AT&T	CCI	OPA65R-BU8D	Panel	1900	LTE/5G	145	67	15.75	8	4	40.00	5359.45	8792.65	115.00	0.000061	1000.00	0.000006
B	5	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE	145	75	13.55	8	4	40.00	3229.39	5298.10	115.00	0.000028	466.67	0.000006
B	5	AT&T	CCI	OPA65R-BU8D	Panel	2100	LTE/5G	145	69	16.05	8	4	40.00	5742.75	9421.50	115.00	0.000006	1000.00	0.000001
B	6	AT&T	CCI	TPA-65R-LCUUUU-H8	Panel	2300	LTE	145	59	14.45	8	4	40.00	2483.13	4073.80	115.00	0.000012	1000.00	0.000001
C	7	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE	255	75	13.55	8	4	40.00	3229.39	5298.10	115.00	0.000079	466.67	0.000017
C	7	AT&T	CCI	OPA65R-BU8D	Panel	850	5G	255	63	14.45	8	4	40.00	3973.01	6518.08	115.00	0.000002	566.67	0.000000
C	7	AT&T	CCI	OPA65R-BU8D	Panel	1900	LTE/5G	255	67	15.75	8	4	40.00	5359.45	8792.65	115.00	0.000005	1000.00	0.000001
C	8	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE	255	75	13.55	8	4	40.00	3229.39	5298.10	115.00	0.079425	466.67	0.017020
C	8	AT&T	CCI	OPA65R-BU8D	Panel	2100	LTE/5G	255	69	16.05	8	4	40.00	5742.75	9421.50	115.00	0.073683	1000.00	0.007368
C	9	AT&T	CCI	TPA-65R-LCUUUU-H8	Panel	2300	LTE	255	59	14.45	8	4	40.00	2483.13	4073.80	115.00	0.046150	1000.00	0.004615

Table 2.1: Antenna Inventory & Power Data

**NOTE: 75% Duty Cycle and adjusted power reduction factor of 0.32 was applied to the AIR6449 & AIR6419 antennas per guidance from AT&T. Specifications were not available for the Ericsson AIR 6419 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6419 due to its similarity.*

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (^{0})	HBW (^{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	10	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	LTE	30	64.3	12.95	8	2	30.00	1054.75	1730.42	130.00	0.016241	400.00	0.004060
A	10	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	5G	30	64.3	12.95	8	1	80.00	1406.34	2307.23	130.00	0.021655	400.00	0.005414
A	10	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	LTE	30	63.3	14.05	8	2	30.00	1358.79	2229.21	130.00	0.022146	466.67	0.004746
A	10	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	GSM	30	64.8	15.25	8	4	30.00	3582.46	5877.35	130.00	0.040045	1000.00	0.004004
A	10	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	LTE	30	64.8	15.25	8	2	60.00	3582.46	5877.35	130.00	0.040045	1000.00	0.004004
A	10	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	2100	LTE	30	59.4	16.45	8	2	60.00	4722.60	7747.85	130.00	0.036887	1000.00	0.003689
A	11	T-Mobile	Ericsson	AIR6449_LTE_B41	Panel	2500	LTE	30	12.5	22.65	2.75	1	40.67	7485.61	12280.81	130.00	0.152397	1000.00	0.015240
A	11	T-Mobile	Ericsson	AIR6449_NR_B41	Panel	2500	5G	30	12.5	22.65	2.75	1	67.78	12476.02	20468.02	130.00	0.253994	1000.00	0.025399
B	12	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	LTE	150	64.3	12.95	8	2	30.00	1054.75	1730.42	130.00	0.000027	400.00	0.000007
B	12	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	5G	150	64.3	12.95	8	1	80.00	1406.34	2307.23	130.00	0.000036	400.00	0.000009
B	12	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	LTE	150	63.3	14.05	8	2	30.00	1358.79	2229.21	130.00	0.000161	466.67	0.000034
B	12	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	GSM	150	64.8	15.25	8	4	30.00	3582.46	5877.35	130.00	0.000003	1000.00	0.000000
B	12	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	LTE	150	64.8	15.25	8	2	60.00	3582.46	5877.35	130.00	0.000003	1000.00	0.000000
B	12	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	2100	LTE	150	59.4	16.45	8	2	60.00	4722.60	7747.85	130.00	0.000050	1000.00	0.000005
B	13	T-Mobile	Ericsson	AIR6449_LTE_B41	Panel	2500	LTE	150	12.5	22.65	2.75	1	40.67	7485.61	12280.81	130.00	0.169580	1000.00	0.016958
B	13	T-Mobile	Ericsson	AIR6449_NR_B41	Panel	2500	5G	150	12.5	22.65	2.75	1	67.78	12476.02	20468.02	130.00	0.282633	1000.00	0.028263
C	14	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	LTE	280	64.3	12.95	8	2	30.00	1054.75	1730.42	130.00	0.016485	400.00	0.004121
C	14	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	5G	280	64.3	12.95	8	1	80.00	1406.34	2307.23	130.00	0.021980	400.00	0.005495
C	14	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	LTE	280	63.3	14.05	8	2	30.00	1358.79	2229.21	130.00	0.020834	466.67	0.004464
C	14	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	GSM	280	64.8	15.25	8	4	30.00	3582.46	5877.35	130.00	0.034675	1000.00	0.003468
C	14	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	LTE	280	64.8	15.25	8	2	60.00	3582.46	5877.35	130.00	0.034675	1000.00	0.003468
C	14	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	2100	LTE	280	59.4	16.45	8	2	60.00	4722.60	7747.85	130.00	0.036589	1000.00	0.003659
C	15	T-Mobile	Ericsson	AIR6449_LTE_B41	Panel	2500	LTE	280	12.5	22.65	2.75	1	40.67	7485.61	12280.81	130.00	0.289996	1000.00	0.029000
C	15	T-Mobile	Ericsson	AIR6449_NR_B41	Panel	2500	5G	280	12.5	22.65	2.75	1	67.78	12476.02	20468.02	130.00	0.483326	1000.00	0.048333
																Calculated Power Density ($\mu W/cm^2$)	2.174214	Calculated MPE%	0.2429

Table 2.2: Antenna Inventory & Power Data

**NOTE: 75% Duty Cycle and adjusted power reduction factor of 0.32 was applied to the AIR6449 & AIR6419 antennas per guidance from AT&T. Specifications were not available for the Ericsson AIR 6419 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6419 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 0.2429% 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: February 9, 2023

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Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject:	**Mount Replacement Analysis Report**	
Carrier Designation:	**AT&T Mobility Equipment Change-Out**	
	Carrier Site Number:	CT5458
	Carrier Site Name:	PLAINFIELD SOUTH
	Carrier Site FA:	10092031
Crown Castle Designation:	**BU Number:**	876359
	Site Name:	NORWICH
	JDE Job Number:	726267
	Order Number:	627245, Rev.1
Engineering Firm Designation:	**B+T Group Report Designation:**	79791.006.01.0001
Site Data:	**954 Norwich Road, Plainfield, CT, Windham County, 06062** **Latitude 41° 39' 31.46" Longitude -71° 55' 29.75"**	
Structure Information:	**Tower Height & Type:**	**130 ft. Monopole**
	Mount Elevation:	**114 ft.**
	Mount Type:	**14.5 ft. Platform Mount**

B+T Group is 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 above mentioned 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.

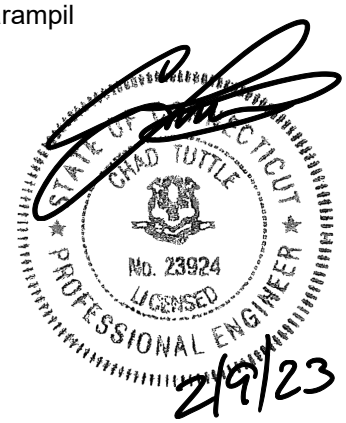
The purpose of the analysis is to determine acceptability of the mount's stress level. Based on our analysis we have determined the stress level to be:

Platform Mount **Sufficient**
***Results are valid upon the completion of changes listed in Recommendations section of the report**

This analysis utilizes an ultimate 3-second gust wind speed of 124 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: Joseph Variamparampil

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/01/2024



Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

This is a proposed 3 - sector 14.5 ft. Platform Mount, designed by **SitePro1 Part# RMQLP-4126-HK**.

2) ANALYSIS CRITERIA

Building Code:	2022 CBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	124 mph
Exposure Category:	B
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.187
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
114	115	3	CCI Antennas	TPA-65R-LCUUUUH8	14.5 ft. Platform Mount
		6	CCI Antennas	OPA65R-BU8D	
		3	Ericsson	RRUS-32 B30	
		1	Raycap	DC6-48-60-18-8F	
		1	Raycap	DC6-48-60-18-8F_CCIV2	
		3	Ericsson	RADIO 8843 B2/B66A_CCIV3	
		3	Ericsson	RRUS 4449 B5/B12	
		3	Ericsson	RRUS 4478 B14_CCIV2	

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 02/02/2023	Crown Castle
RFDS		Date: 01/23/2023	
Mount Manufacturer Drawing	SitePro1 (Part# RMQLP-4126-HK)	Date: 05/26/2021	SitePro1

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 20.0.6), 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 B+T Group, 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. 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.
6. Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
7. 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.
8. 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. B+T Group 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 (Platform Mount)

Notes	Component	Centerline (ft.)	Critical Member	% Capacity	Pass / Fail
1,2	Main Horizontals	114	11	16.3	Pass
	Support Tubes		49	22.7	Pass
	Mount Pipes		83	79.1	Pass
	Connection Plates		1	24.5	Pass
	Support Angles		18	28.2	Pass
	Support Rails		67	59.9	Pass
	Connection Angles		42	59.3	Pass
	Kickers		23	10.4	Pass
	Kicker Plates		24	7.3	Pass
3	Mount to Tower Connection		-	35.3	Pass

Structure Rating (max from all components) =	**79.1%**

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

4.1) Recommendations

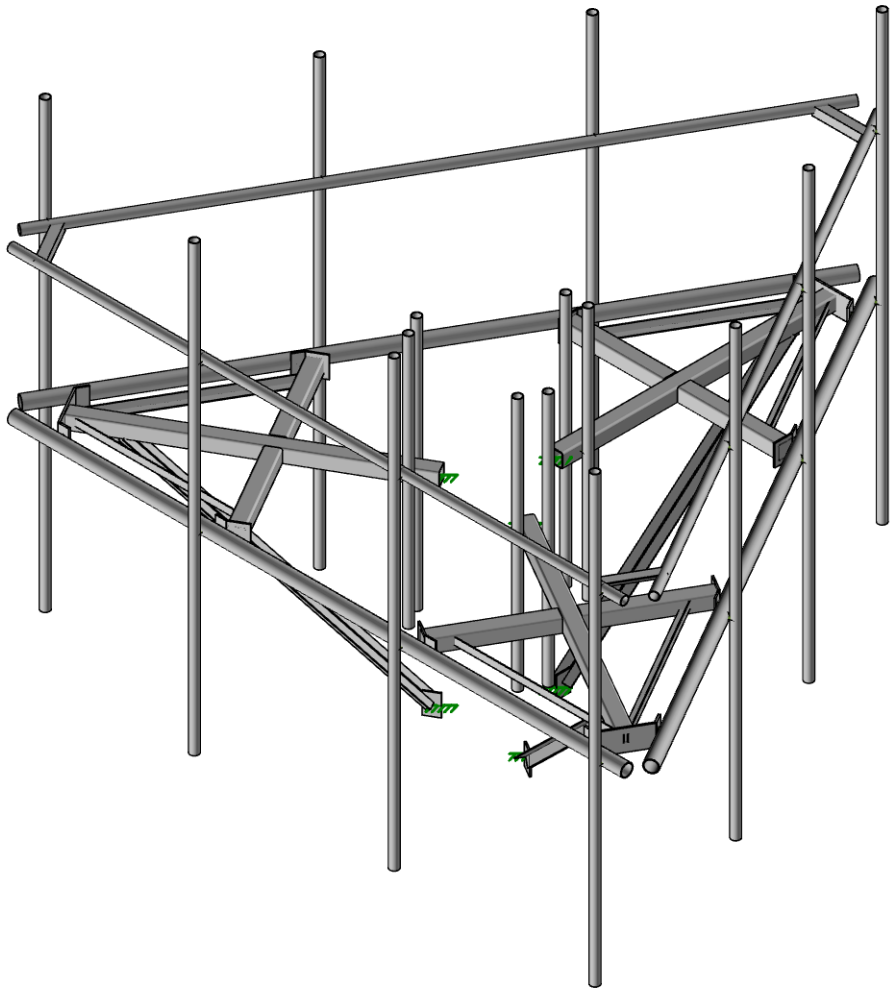
The proposed mount has sufficient capacity to support the proposed loading configuration. In order for the results of this analysis to be considered valid, the mount listed below shall be installed.

1. Mount replacement, **SitePro1 Part# RMQLP-4126-HK**, P/N: ANT.55229.
2. Install (6) 2” STD x 6ft. RRU pipe or equivalent approved Conmat item attached to the support tube using (3) Sitepro1 Part# BBPM-K1crossover plates or equivalent approved Conmat item.

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

APPENDIX A

WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

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AK		Feb 09, 2023
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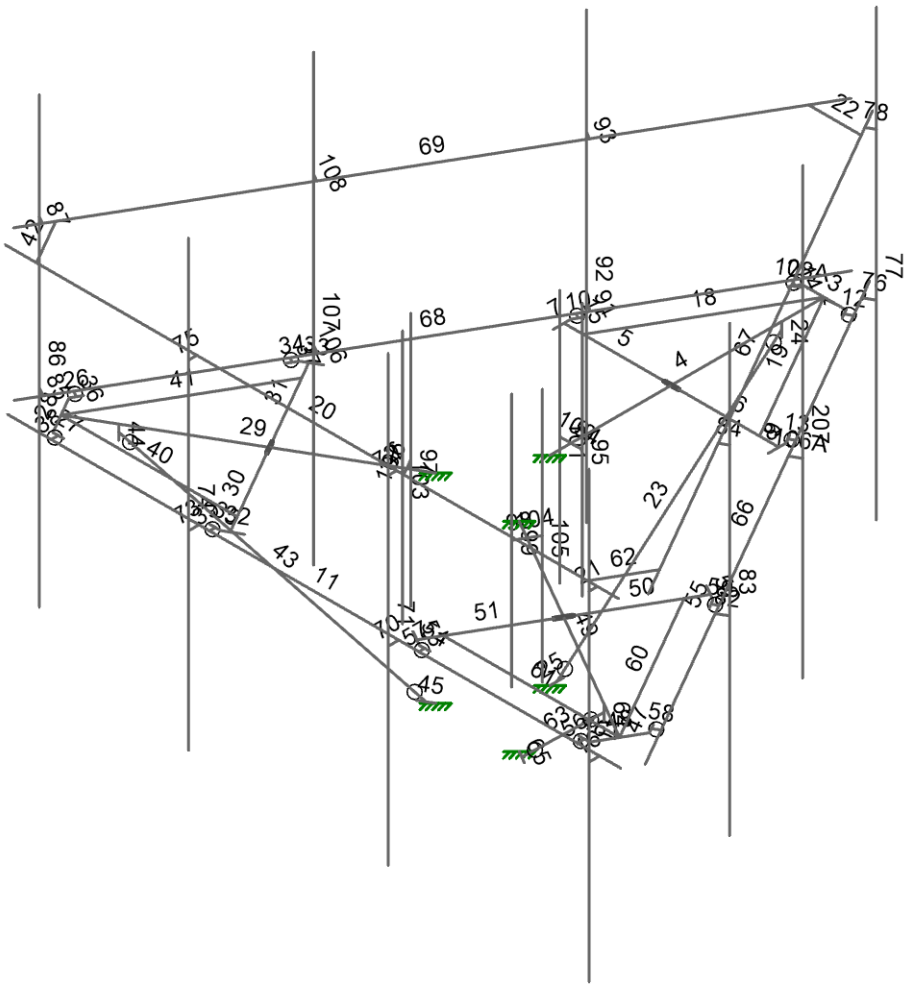

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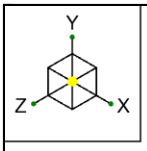

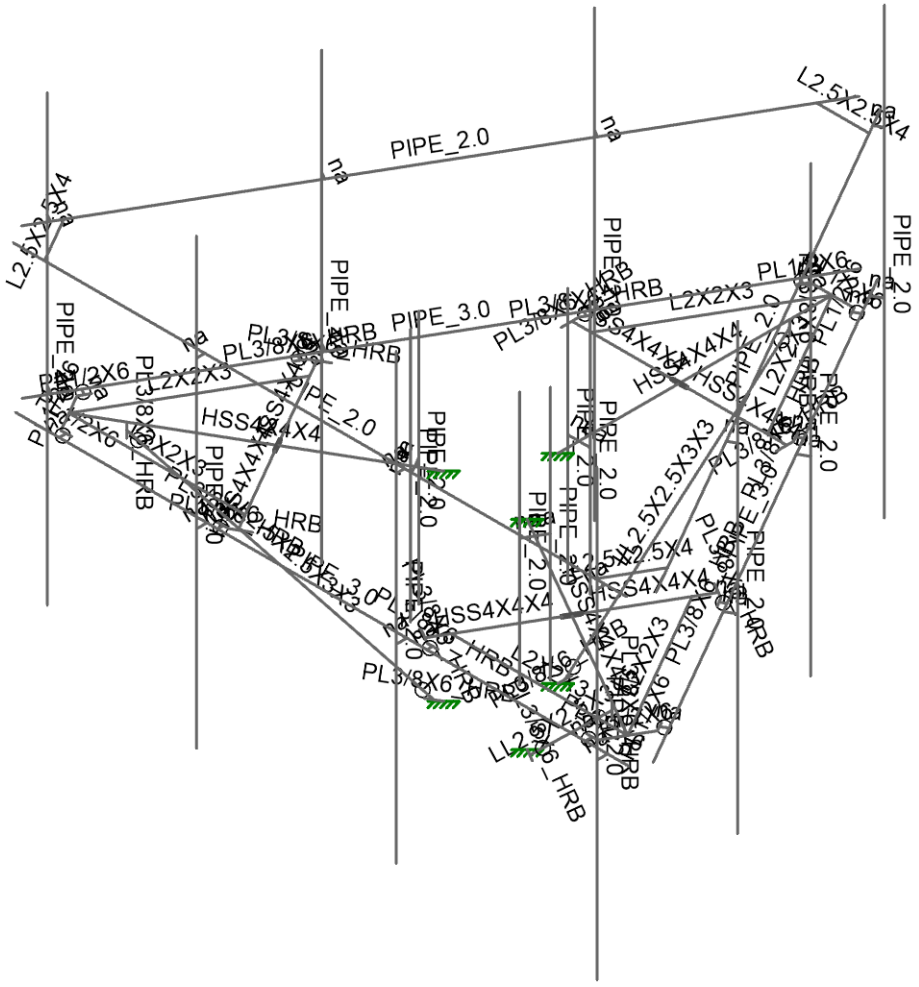

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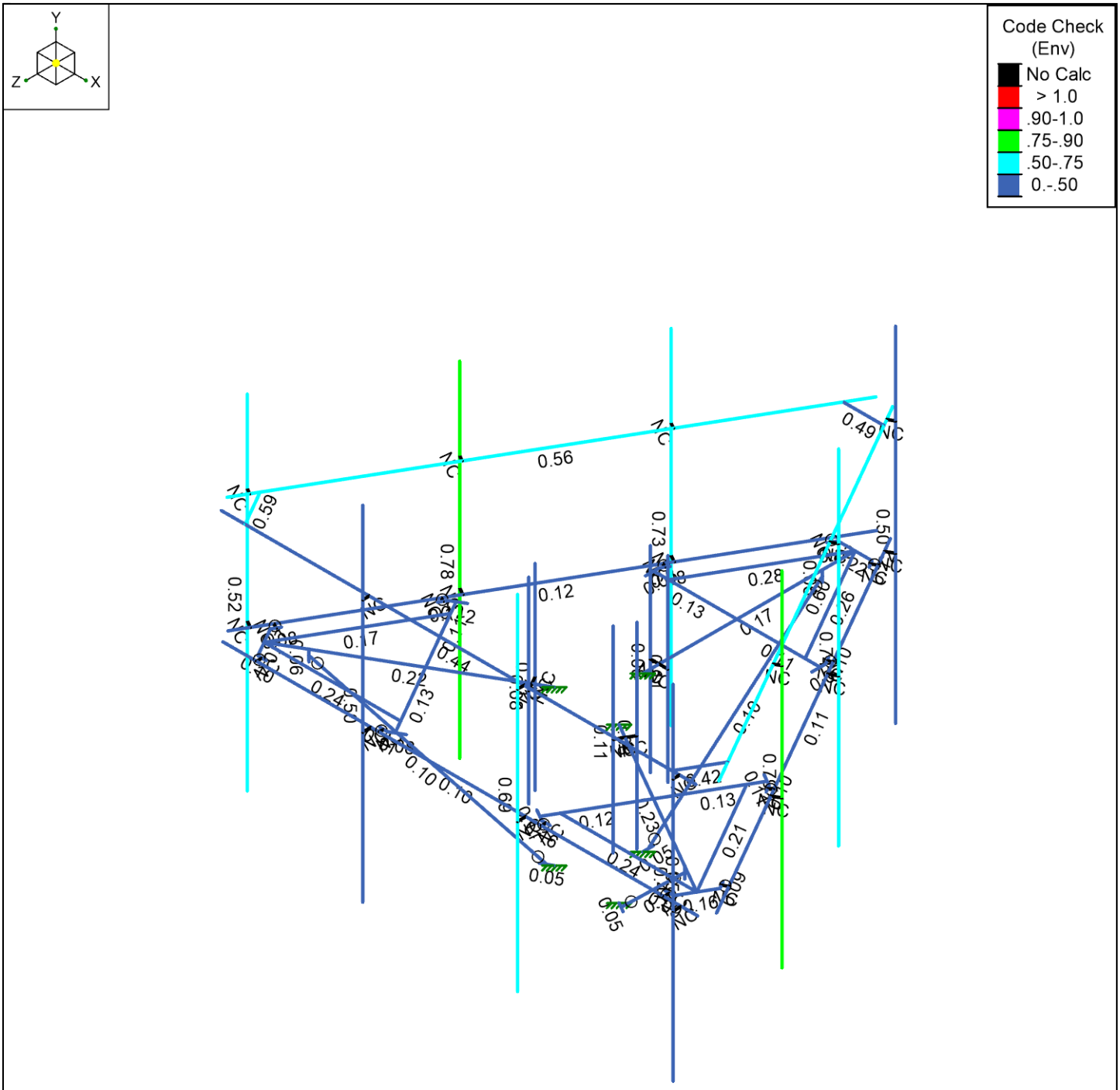

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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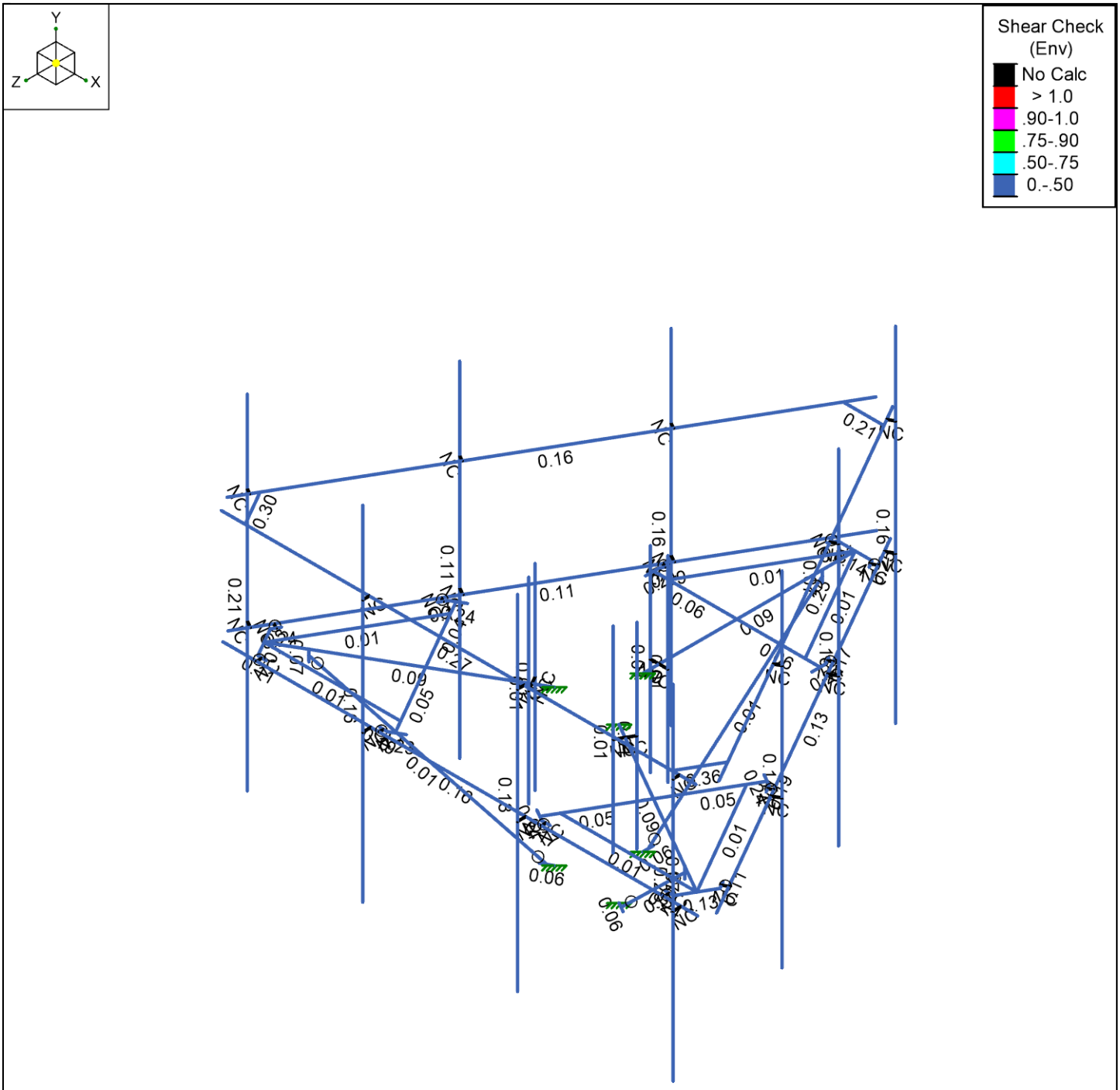

Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

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AK		Feb 09, 2023
79791.006.01.0001		79791_006_01_0001_NORWICH...

APPENDIX B

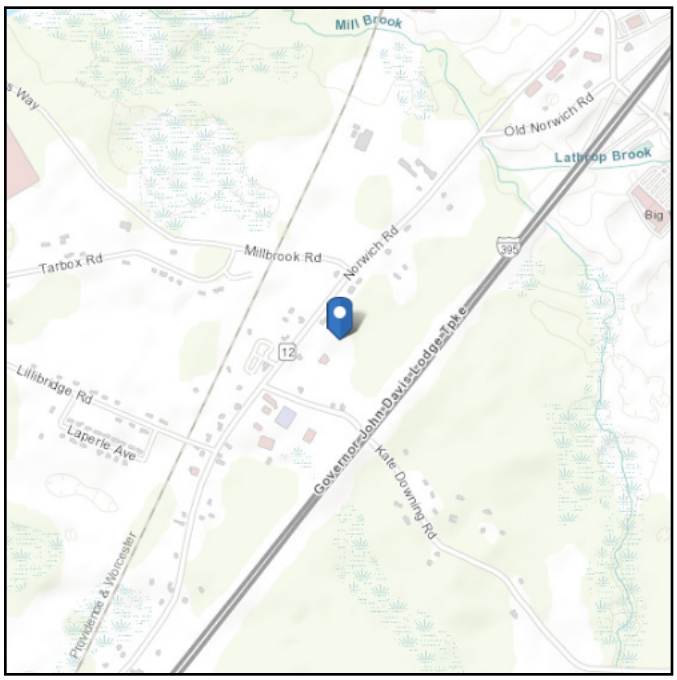
SOFTWARE INPUT CALCULATIONS

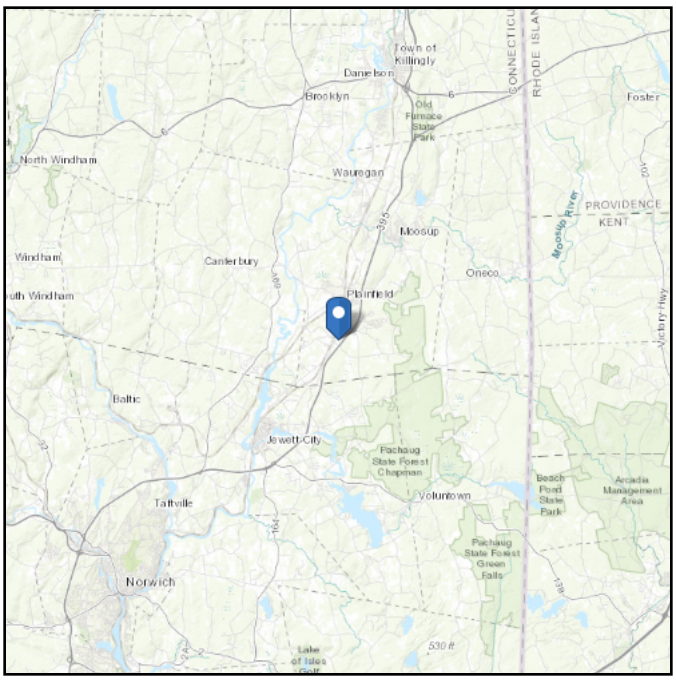
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Latitude: 41.658739
Longitude: -71.924931
Elevation: 181.69 ft (NAVD 88)





Wind

Results:

Wind Speed	124 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: Sat Feb 04 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

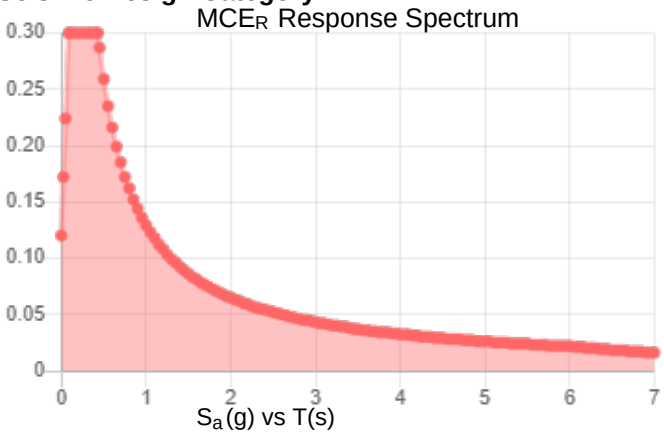
D - Default (see Section 11.4.3)

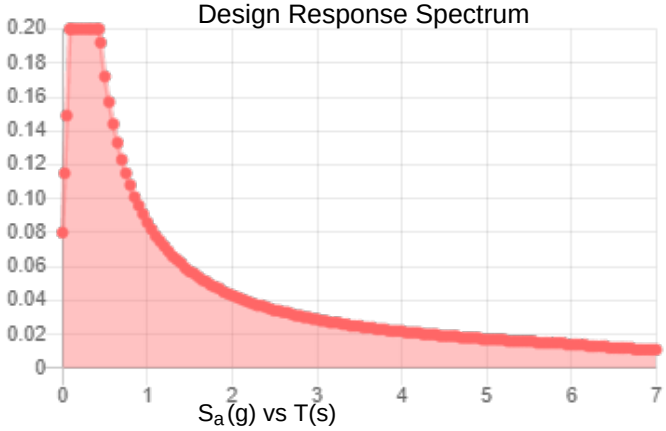
Site Soil Class:

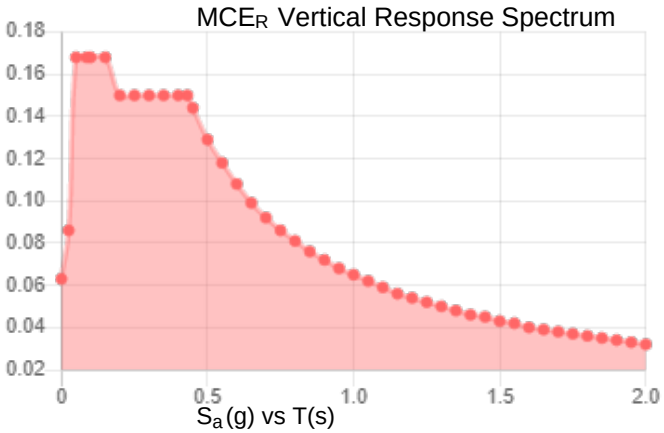
Results:

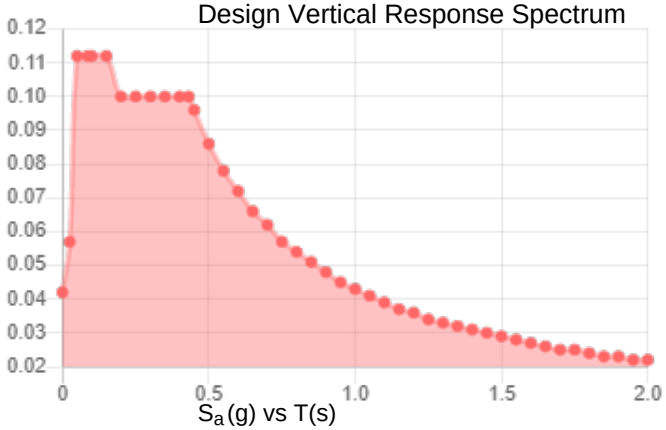
S_S :	0.187	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.102
F_v :	2.4	PGA_M :	0.163
S_{MS} :	0.3	F_{PGA} :	1.596
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.2	C_v :	0.7

Seismic Design Category: B









Data Accessed: **Sat Feb 04 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:	Sat Feb 04 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.

PROJECT	**79791.006.01.0001 - NORWICH, CT**	**KSC**
SUBJECT	**Platform Mount Analysis**	
DATE	**02/09/23**	

B+T Group
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Tulsa, OK 74119
(918) 587-4630

Tower Type		:	Monopole		
Ground Elevation	z_s	:	182	ft	[ASCE7 Hazard Tool]
Tower Height		:	130.00	ft	
Mount Elevation		:	114.00	ft	
Antenna Elevation		:	115.00	ft	
Crest Height		:	0	ft	
Risk Category		:	II		[Table 2-1]
Exposure Category		:	B		[Sec. 2.6.5.1.2]
Topography Category		:	1.00		[Sec. 2.6.6.2]
Wind Velocity	V	:	124	mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i	:	50	mph	[ASCE7 Hazard Tool]
Service Velocity	V_s	:	30	mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i	:	1.00	in	[ASCE7 Hazard Tool]
Seismic Design Cat.		:	B		[ASCE7 Hazard Tool]
	S_S	:	0.19		
	S_1	:	0.05		
	S_{DS}	:	0.20		
	S_{D1}	:	0.09		

Gust Factor	G_h	:	1.00		[Sec. 16.6]
Pressure Coefficient	K_z	:	1.03		[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}	:	1.13	in	[Sec. 2.6.10]

Importance Factor	I_e	:	1		[Table 2-3]
Response Coefficient	C_s	:	0.100		[Sec. 2.7.7.1]
Amplification	A_s	:	2.507692		[Sec. 16.7]

	q_z	:	38.11	psf

PROJECT	**79791.006.01.0001 - NORWICH, CT**	**KSC**
SUBJECT	**Platform Mount Analysis**	
DATE	**02/09/23**	

B+T Group
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Tulsa, OK 74119
(918) 587-4630

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-BU8D	0.5	96.0	21.0	7.8	76.5	8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	OPA65R-BU8D	0.5					8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	OPA65R-BU8D	0.5	96.0	21.0	7.8	76.5	8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	OPA65R-BU8D	0.5					8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	TPA-65R-LCUUUU-H8	0.5	96.0	14.4	8.6	81.6	5.94	3.51	6.89	4.41	0.23	0.13	0.04	0.03
CCI ANTENNAS	TPA-65R-LCUUUU-H8	0.5					5.94	3.51	6.89	4.41	0.23	0.13	0.04	0.03
ERICSSON	RRUS 4449 B5/ B12	1	17.9	13.2	9.4	71.0	1.97	1.41	2.60	1.97	0.07	0.05	0.01	0.01
ERICSSON	ADIO 8843 B2/B66A_CCIV	1	15.0	13.2	10.9	71.9	1.64	1.36	2.22	1.89	0.06	0.05	0.01	0.01
ERICSSON	RRUS 4478 B14_CCIV2	1	18.1	13.4	8.3	59.4	2.02	1.25	2.66	1.79	0.07	0.04	0.01	0.01
ERICSSON	TME-RRUS-32 B30	1	29.9	13.3	9.5	77.0	3.31	2.42	4.17	3.23	0.11	0.08	0.02	0.01
CCI ANTENNAS	OPA65R-BU8D	0.5	96.0	21.0	7.8	76.5	8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	OPA65R-BU8D	0.5					8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	OPA65R-BU8D	0.5	96.0	21.0	7.8	76.5	8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	OPA65R-BU8D	0.5					8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	TPA-65R-LCUUUU-H8	0.5	96.0	14.4	8.6	81.6	5.94	3.51	6.89	4.41	0.23	0.13	0.04	0.03
CCI ANTENNAS	TPA-65R-LCUUUU-H8	0.5					5.94	3.51	6.89	4.41	0.23	0.13	0.04	0.03

PROJECT	**79791.006.01.0001 - NORWICH, CT**	**KSC**
SUBJECT	**Platform Mount Analysis**	
DATE	**02/09/23**	

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

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)
ERICSSON	RRUS 4449 B5/ B12	1	17.9	13.2	9.4	71.0	1.97	1.41	2.60	1.97	0.07	0.05	0.01	0.01
ERICSSON	ADIO 8843 B2/B66A_CCIV	1	15.0	13.2	10.9	71.9	1.64	1.36	2.22	1.89	0.06	0.05	0.01	0.01
ERICSSON	RRUS 4478 B14_CCIV2	1	18.1	13.4	8.3	59.4	2.02	1.25	2.66	1.79	0.07	0.04	0.01	0.01
ERICSSON	TME-RRUS-32 B30	1	29.9	13.3	9.5	77.0	3.31	2.42	4.17	3.23	0.11	0.08	0.02	0.01
CCI ANTENNAS	OPA65R-BU8D	0.5	96.0	21.0	7.8	76.5	8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	OPA65R-BU8D	0.5					8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	OPA65R-BU8D	0.5	96.0	21.0	7.8	76.5	8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	OPA65R-BU8D	0.5					8.71	3.24	9.74	4.15	0.33	0.12	0.06	0.03
CCI ANTENNAS	TPA-65R-LCUUUU-H8	0.5	96.0	14.4	8.6	81.6	5.94	3.51	6.89	4.41	0.23	0.13	0.04	0.03
CCI ANTENNAS	TPA-65R-LCUUUU-H8	0.5					5.94	3.51	6.89	4.41	0.23	0.13	0.04	0.03
ERICSSON	RRUS 4449 B5/ B12	1		13.2	9.4	71.0	1.97	1.41	2.60	1.97	0.07	0.05	0.01	0.01
ERICSSON	ADIO 8843 B2/B66A_CCIV	1	15.0	13.2	10.9	71.9	1.64	1.36	2.22	1.89	0.06	0.05	0.01	0.01
ERICSSON	RRUS 4478 B14_CCIV2	1	18.1	13.4	8.3	59.4	2.02	1.25	2.66	1.79	0.07	0.04	0.01	0.01
ERICSSON	TME-RRUS-32 B30	1	29.9	13.3	9.5	77.0	3.31	2.42	4.17	3.23	0.11	0.08	0.02	0.01

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	0.581858	0	-7.518853	
2	2	0.644358	0	-7.4106	
3	3	0.519358	0	-7.627106	
4	4	-0.581858	0	-7.518853	
5	5	-0.644358	0	-7.4106	
6	6	-0.519358	0	-7.627106	
7	7	0	0	-7.627106	
8	8	0	0	-1.142695	
9	9	0	0	-4.017698	
10	10	-2.54129	0	-4.017698	
11	11	2.54129	0	-4.017698	
12	12	-2.54129	0	-3.765665	
13	13	2.54129	0	-3.765665	
14	14	2.54129	0	-4.182308	
15	15	-2.54129	0	-4.182308	
16	16	2.41629	0	-4.398814	
17	17	2.47879	0	-4.290561	
18	18	-2.41629	0	-4.398814	
19	19	-2.47879	0	-4.290561	
20	20	7.25	0	4.429989	
21	21	-7.25	0	4.429989	
22	22	0.726189	0	-7.602183	
23	23	2.598314	0	-4.359567	
24	24	-0.726189	0	-7.602183	
25	25	-2.598314	0	-4.359567	
26	26	6.75	0	4.429989	
27	27	6.75	0	4.67999	
28	28	6.75	-4.5	4.67999	
29	29	6.75	6	4.67999	
30	30	-2.083893	0	-4.017698	
31	31	2.083893	0	-4.017698	
32	32	0	0	0	
33	33	-7.25	3.5	4.481655	
34	34	7.25	3.5	4.481655	
35	35	6.75	3.5	4.67999	
36	36	6.75	3.5	4.481655	
37	37	-0.6225	3.5	-7.885107	
38	38	0.6225	3.5	-7.885107	
39	39	0	-4.718763	-1.309362	
40	40	0	-0.166667	-6.627105	
41	41	0	0	-6.627105	
42	42	0	-0.333333	-6.627105	
43	43	0	-4.718763	-1.142695	
44	44	0	-4.718763	-1.476028	
45	45	-6.802447	0	3.255523	
46	46	-6.739947	0	3.14727	
47	47	-6.864947	0	3.363776	
48	48	-6.220589	0	4.26333	
49	49	-6.095589	0	4.26333	
50	50	-6.345589	0	4.26333	
51	51	-6.605268	0	3.813553	
52	52	-0.989603	0	0.571348	
53	53	-3.479429	0	2.008849	
54	54	-2.208783	0	4.209671	
55	55	-4.750074	0	-0.191973	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	-1.990516	0	4.083654	
57	57	-4.531807	0	-0.31799	
58	58	-4.89263	0	-0.109668	
59	59	-2.351339	0	4.291976	
60	60	-5.01763	0	0.106838	
61	61	-4.95513	0	-0.001415	
62	62	-2.601339	0	4.291976	
63	63	-2.476339	0	4.291976	
64	64	-6.946778	0	3.172194	
65	65	-5.074653	0	-0.070422	
66	66	-6.220589	0	4.429989	
67	67	-2.476339	0	4.429989	
68	68	-2.437482	0	3.813553	
69	69	-4.521375	0	0.204145	
70	70	-6.517453	3.5	4.481655	
71	71	-7.139953	3.5	3.403453	
72	72	-1.13394	-4.718763	0.654681	
73	73	-5.739241	-0.166667	3.313553	
74	74	-5.739241	0	3.313553	
75	75	-5.739241	-0.333333	3.313553	
76	76	-0.989603	-4.718763	0.571348	
77	77	-1.278278	-4.718763	0.738014	
78	78	6.220589	0	4.26333	
79	79	6.095589	0	4.26333	
80	80	6.345589	0	4.26333	
81	81	6.802447	0	3.255523	
82	82	6.739947	0	3.14727	
83	83	6.864947	0	3.363776	
84	84	6.605268	0	3.813553	
85	85	0.989603	0	0.571348	
86	86	3.479429	0	2.008849	
87	87	4.750074	0	-0.191973	
88	88	2.208783	0	4.209671	
89	89	4.531807	0	-0.31799	
90	90	1.990516	0	4.083654	
91	91	2.351339	0	4.291976	
92	92	4.89263	0	-0.109668	
93	93	2.601339	0	4.291976	
94	94	2.476339	0	4.291976	
95	95	5.01763	0	0.106838	
96	96	4.95513	0	-0.001415	
97	97	6.220589	0	4.429989	
98	98	2.476339	0	4.429989	
99	99	6.946778	0	3.172194	
100	100	5.074653	0	-0.070422	
101	101	4.521375	0	0.204145	
102	102	2.437482	0	3.813553	
103	103	7.139953	3.5	3.403453	
104	104	6.517453	3.5	4.481655	
105	105	1.13394	-4.718763	0.654681	
106	106	5.739241	-0.166667	3.313553	
107	107	5.739241	0	3.313553	
108	108	5.739241	-0.333333	3.313553	
109	109	0.989603	-4.718763	0.571348	
110	110	1.278278	-4.718763	0.738014	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	111	0.211483	0	-8.493679	
112	112	7.461483	0	4.06369	
113	113	7.506227	3.5	4.037857	
114	114	0.256227	3.5	-8.519511	
115	115	-7.461483	0	4.06369	
116	116	-0.211483	0	-8.493679	
117	117	-0.256227	3.5	-8.519511	
118	118	-7.506227	3.5	4.037857	
119	119	2	0	4.429989	
120	120	2	0	4.67999	
121	121	2	-4.5	4.67999	
122	122	2	6	4.67999	
123	123	2	3.5	4.67999	
124	124	2	3.5	4.481655	
125	125	-2.726339	0	4.429989	
126	126	-2.725	0	4.67999	
127	127	-2.725	-4.5	4.67999	
128	128	-2.725	6	4.67999	
129	129	-2.725	3.5	4.67999	
130	130	-2.725	3.5	4.481655	
131	134	0.461483	0	-8.060666	
132	135	0.67799	0	-8.185666	
133	136	0.67799	-4.5	-8.185666	
134	137	0.67799	6	-8.185666	
135	138	0.67799	3.5	-8.185666	
136	139	0.506227	3.5	-8.086499	
137	146	5.199653	0	0.146084	
138	147	5.41549	0	0.019924	
139	148	5.41549	-4.5	0.019924	
140	149	5.41549	6	0.019924	
141	150	5.41549	3.5	0.019924	
142	151	5.243727	3.5	0.119092	
143	152	-7.211483	0	3.630677	
144	153	-7.42799	0	3.505677	
145	154	-7.42799	-4.5	3.505677	
146	155	-7.42799	6	3.505677	
147	156	-7.42799	3.5	3.505677	
148	157	-7.256227	3.5	3.604844	
149	164	-2.473314	0	-4.576074	
150	165	-2.69049	0	-4.699914	
151	166	-2.69049	-4.5	-4.699914	
152	167	-2.69049	6	-4.699914	
153	168	-2.69049	3.5	-4.699914	
154	169	-2.518727	3.5	-4.600746	
155	172	0	0	-1.642695	
156	173	0.265833	0	-1.642695	
157	174	0.265833	3	-1.642695	
158	175	0.265833	-3	-1.642695	
159	176	-1.422616	0	0.821348	
160	177	-1.555532	0	0.591129	
161	178	-1.555532	3	0.591129	
162	179	-1.555532	-3	0.591129	
163	180	1.422616	0	0.821348	
164	181	1.289699	0	1.051566	
165	182	1.289699	3	1.051566	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
166	183	1.289699	-3	1.051566	
167	184	-0.265833	0	-1.642695	
168	185	-0.265833	3	-1.642695	
169	186	-0.265833	-3	-1.642695	
170	187	-1.289699	0	1.051566	
171	188	-1.289699	3	1.051566	
172	189	-1.289699	-3	1.051566	
173	190	1.555532	0	0.591129	
174	191	1.555532	3	0.591129	
175	192	1.555532	-3	0.591129	
176	288	-4.836483	0	-0.482944	
177	289	2.836483	0	-3.947045	
178	291	-5.052989	0	-0.607944	
179	293	-5.052989	-4.5	-0.607944	
180	193	-5.052989	6	-0.607944	
181	194	-5.052989	3.5	-0.607944	
182	195	-4.881226	3.5	-0.508777	
183	290	3.052989	0	-4.072045	
184	292	3.052989	-4.5	-4.072045	
185	192B	3.052989	6	-4.072045	
186	283	3.052989	3.5	-4.072045	
187	294	2.881226	3.5	-3.972878	
188	199	-4.91549	6	-0.369787	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	8	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	43	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	52	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	76	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	85	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	109	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
7	172						
8	173						
9	174						
10	175						
11	176						
12	177						
13	178						
14	179						
15	180						
16	181						
17	182						
18	183						
19	184						
20	185						
21	186						
22	187						
23	188						
24	189						
25	190						
26	191						
27	192						

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	MF-H1	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	SF-H1	HSS4X4X4	Beam	Tube	A53 Gr.B	Typical	3.37	7.8	7.8	12.8
3	MF-P1	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
4	MF-CP1	PL3/8X6_HRB	Beam	RECT	A36 Gr.36	Typical	2.28	0.027	6.84	0.105
5	MF-CP2	PL1/2X6	Beam	RECT	A36 Gr.36	Typical	3	0.063	9	0.237
6	SF-H2	L2X2X3	Beam	Single Angle	A36 Gr.36	Typical	0.722	0.271	0.271	0.009
7	Support Rail	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
8	F1-CA1	L2.5X2.5X4	Beam	Single Angle	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
9	Kickers	LL2.5X2.5X3X3	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical	1.8	2.46	1.07	0.023
10	MF-CP3	PL3/8X6_HRB	Column	RECT	A36 Gr.36	Typical	2.28	0.027	6.84	0.105

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	2	3		MF-CP2	Beam	RECT	A36 Gr.36	Typical
2	2	5	6		MF-CP2	Beam	RECT	A36 Gr.36	Typical
3	3	6	3		MF-CP2	Beam	RECT	A36 Gr.36	Typical
4	4	8	7		SF-H1	Beam	Tube	A53 Gr.B	Typical
5	5	10	9		SF-H1	Beam	Tube	A53 Gr.B	Typical
6	6	9	11		SF-H1	Beam	Tube	A53 Gr.B	Typical
7	7	12	15		MF-CP1	Beam	RECT	A36 Gr.36	Typical
8	8	13	14		MF-CP1	Beam	RECT	A36 Gr.36	Typical
9	9	14	16		MF-CP1	Beam	RECT	A36 Gr.36	Typical
10	10	15	18		MF-CP1	Beam	RECT	A36 Gr.36	Typical
11	11	21	20		MF-H1	Beam	Pipe	A53 Gr.B	Typical
12	12	22	1		RIGID	None	None	RIGID	Typical
13	13	17	23		RIGID	None	None	RIGID	Typical
14	14	24	4		RIGID	None	None	RIGID	Typical
15	15	19	25		RIGID	None	None	RIGID	Typical
16	16	27	26		RIGID	None	None	RIGID	Typical
17	17	29	28		MF-P1	Column	Pipe	A53 Gr.B	Typical
18	18	30	7		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
19	19	7	31		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
20	20	33	34		Support Rail	Beam	Pipe	A53 Gr.B	Typical
21	21	35	36		RIGID	None	None	RIGID	Typical
22	22	37	38	180	F1-CA1	Beam	Single Angle	A36 Gr.36	Typical
23	23	39	40		Kickers	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical
24	24	41	42	90	MF-CP3	Column	RECT	A36 Gr.36	Typical
25	25	43	44		MF-CP1	Beam	RECT	A36 Gr.36	Typical
26	26	46	47		MF-CP2	Beam	RECT	A36 Gr.36	Typical
27	27	49	50		MF-CP2	Beam	RECT	A36 Gr.36	Typical
28	28	50	47		MF-CP2	Beam	RECT	A36 Gr.36	Typical
29	29	52	51		SF-H1	Beam	Tube	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
30	30	54	53		SF-H1	Beam	Tube	A53 Gr.B	Typical
31	31	53	55		SF-H1	Beam	Tube	A53 Gr.B	Typical
32	32	56	59		MF-CP1	Beam	RECT	A36 Gr.36	Typical
33	33	57	58		MF-CP1	Beam	RECT	A36 Gr.36	Typical
34	34	58	60		MF-CP1	Beam	RECT	A36 Gr.36	Typical
35	35	59	62		MF-CP1	Beam	RECT	A36 Gr.36	Typical
36	36	64	45		RIGID	None	None	RIGID	Typical
37	37	61	65		RIGID	None	None	RIGID	Typical
38	38	66	48		RIGID	None	None	RIGID	Typical
39	39	63	67		RIGID	None	None	RIGID	Typical
40	40	68	51		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
41	41	51	69		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
42	42	70	71	180	F1-CA1	Beam	Single Angle	A36 Gr.36	Typical
43	43	72	73		Kickers	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical
44	44	74	75	330	MF-CP3	Column	RECT	A36 Gr.36	Typical
45	45	76	77		MF-CP1	Beam	RECT	A36 Gr.36	Typical
46	46	79	80		MF-CP2	Beam	RECT	A36 Gr.36	Typical
47	47	82	83		MF-CP2	Beam	RECT	A36 Gr.36	Typical
48	48	83	80		MF-CP2	Beam	RECT	A36 Gr.36	Typical
49	49	85	84		SF-H1	Beam	Tube	A53 Gr.B	Typical
50	50	87	86		SF-H1	Beam	Tube	A53 Gr.B	Typical
51	51	86	88		SF-H1	Beam	Tube	A53 Gr.B	Typical
52	52	89	92		MF-CP1	Beam	RECT	A36 Gr.36	Typical
53	53	90	91		MF-CP1	Beam	RECT	A36 Gr.36	Typical
54	54	91	93		MF-CP1	Beam	RECT	A36 Gr.36	Typical
55	55	92	95		MF-CP1	Beam	RECT	A36 Gr.36	Typical
56	56	97	78		RIGID	None	None	RIGID	Typical
57	57	94	98		RIGID	None	None	RIGID	Typical
58	58	99	81		RIGID	None	None	RIGID	Typical
59	59	96	100		RIGID	None	None	RIGID	Typical
60	60	101	84		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
61	61	84	102		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
62	62	103	104	180	F1-CA1	Beam	Single Angle	A36 Gr.36	Typical
63	63	105	106		Kickers	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical
64	64	107	108	30	MF-CP3	Column	RECT	A36 Gr.36	Typical
65	65	109	110		MF-CP1	Beam	RECT	A36 Gr.36	Typical
66	66	112	111		MF-H1	Beam	Pipe	A53 Gr.B	Typical
67	67	113	114		Support Rail	Beam	Pipe	A53 Gr.B	Typical
68	68	116	115		MF-H1	Beam	Pipe	A53 Gr.B	Typical
69	69	117	118		Support Rail	Beam	Pipe	A53 Gr.B	Typical
70	70	120	119		RIGID	None	None	RIGID	Typical
71	71	122	121		MF-P1	Column	Pipe	A53 Gr.B	Typical
72	72	123	124		RIGID	None	None	RIGID	Typical
73	73	126	125		RIGID	None	None	RIGID	Typical
74	74	128	127		MF-P1	Column	Pipe	A53 Gr.B	Typical
75	75	129	130		RIGID	None	None	RIGID	Typical
76	76	135	134		RIGID	None	None	RIGID	Typical
77	77	137	136		MF-P1	Column	Pipe	A53 Gr.B	Typical
78	78	138	139		RIGID	None	None	RIGID	Typical
79	82	147	146		RIGID	None	None	RIGID	Typical
80	83	149	148		MF-P1	Column	Pipe	A53 Gr.B	Typical
81	84	150	151		RIGID	None	None	RIGID	Typical
82	85	153	152		RIGID	None	None	RIGID	Typical
83	86	155	154		MF-P1	Column	Pipe	A53 Gr.B	Typical
84	87	156	157		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
85	91	165	164		RIGID	None	None	RIGID	Typical
86	92	167	166		MF-P1	Column	Pipe	A53 Gr.B	Typical
87	93	168	169		RIGID	None	None	RIGID	Typical
88	94	172	173		RIGID	None	None	RIGID	Typical
89	95	174	175		MF-P1	Column	Pipe	A53 Gr.B	Typical
90	96	176	177		RIGID	None	None	RIGID	Typical
91	97	178	179		MF-P1	Column	Pipe	A53 Gr.B	Typical
92	98	180	181		RIGID	None	None	RIGID	Typical
93	99	182	183		MF-P1	Column	Pipe	A53 Gr.B	Typical
94	100	172	184		RIGID	None	None	RIGID	Typical
95	101	185	186		MF-P1	Column	Pipe	A53 Gr.B	Typical
96	102	176	187		RIGID	None	None	RIGID	Typical
97	103	188	189		MF-P1	Column	Pipe	A53 Gr.B	Typical
98	104	180	190		RIGID	None	None	RIGID	Typical
99	105	191	192		MF-P1	Column	Pipe	A53 Gr.B	Typical
100	106	291	288		RIGID	None	None	RIGID	Typical
101	107	193	293		MF-P1	Column	Pipe	A53 Gr.B	Typical
102	108	194	195		RIGID	None	None	RIGID	Typical
103	106A	290	289		RIGID	None	None	RIGID	Typical
104	207	192B	292		MF-P1	Column	Pipe	A53 Gr.B	Typical
105	108A	283	294		RIGID	None	None	RIGID	Typical

Member Advanced Data

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

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
32	32					Yes	Default	None
33	33					Yes	Default	None
34	34					Yes	N/A	None
35	35					Yes	N/A	None
36	36	OOOOOX				Yes	** NA **	None
37	37		OOOOOX			Yes	** NA **	None
38	38	OOOOOX				Yes	** NA **	None
39	39		OOOOOX			Yes	** NA **	None
40	40					Yes	N/A	None
41	41					Yes	N/A	None
42	42					Yes	N/A	None
43	43	BenPIN	BenPIN			Yes	** NA **	None
44	44					Yes	** NA **	None
45	45					Yes	N/A	None
46	46					Yes	N/A	None
47	47					Yes	N/A	None
48	48					Yes	N/A	None
49	49					Yes	N/A	None
50	50				2	Yes	N/A	None
51	51			2		Yes	N/A	None
52	52					Yes	Default	None
53	53					Yes	Default	None
54	54					Yes	N/A	None
55	55					Yes	N/A	None
56	56	OOOOOX				Yes	** NA **	None
57	57		OOOOOX			Yes	** NA **	None
58	58	OOOOOX				Yes	** NA **	None
59	59		OOOOOX			Yes	** NA **	None
60	60					Yes	N/A	None
61	61					Yes	N/A	None
62	62					Yes	N/A	None
63	63	BenPIN	BenPIN			Yes	** NA **	None
64	64					Yes	** NA **	None
65	65					Yes	N/A	None
66	66					Yes	N/A	None
67	67					Yes	N/A	None
68	68					Yes	N/A	None
69	69					Yes	N/A	None
70	70					Yes	** NA **	None
71	71					Yes	** NA **	None
72	72					Yes	** NA **	None
73	73					Yes	** NA **	None
74	74					Yes	** NA **	None
75	75					Yes	** NA **	None
76	76					Yes	** NA **	None
77	77					Yes	** NA **	None
78	78					Yes	** NA **	None
79	82					Yes	** NA **	None
80	83					Yes	** NA **	None
81	84					Yes	** NA **	None
82	85					Yes	** NA **	None
83	86					Yes	** NA **	None
84	87					Yes	** NA **	None
85	91					Yes	** NA **	None
86	92					Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
87	93					Yes	** NA **	None
88	94					Yes	** NA **	None
89	95					Yes	** NA **	None
90	96					Yes	** NA **	None
91	97					Yes	** NA **	None
92	98					Yes	** NA **	None
93	99					Yes	** NA **	None
94	100					Yes	** NA **	None
95	101					Yes	** NA **	None
96	102					Yes	** NA **	None
97	103					Yes	** NA **	None
98	104					Yes	** NA **	None
99	105					Yes	** NA **	None
100	106					Yes	** NA **	None
101	107					Yes	** NA **	None
102	108					Yes	** NA **	None
103	106A					Yes	** NA **	None
104	207					Yes	** NA **	None
105	108A					Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Channel Conn.	a [ft]	Function
1	1	MF-CP2	0.25	Lbyy	N/A	N/A	Lateral
2	2	MF-CP2	0.25	Lbyy	N/A	N/A	Lateral
3	3	MF-CP2	1.039	Lbyy	N/A	N/A	Lateral
4	4	SF-H1	6.484	Lbyy	N/A	N/A	Lateral
5	5	SF-H1	2.541	Lbyy	N/A	N/A	Lateral
6	6	SF-H1	2.541	Lbyy	N/A	N/A	Lateral
7	7	MF-CP1	0.417	Lbyy	N/A	N/A	Lateral
8	8	MF-CP1	0.417	Lbyy	N/A	N/A	Lateral
9	9	MF-CP1	0.25	Lbyy	N/A	N/A	Lateral
10	10	MF-CP1	0.25	Lbyy	N/A	N/A	Lateral
11	11	MF-H1	14.5	Lbyy	N/A	N/A	Lateral
12	17	MF-P1	10.5	Lbyy	N/A	N/A	Lateral
13	18	SF-H2	4.168	Lbyy	N/A	N/A	Lateral
14	19	SF-H2	4.168	Lbyy	N/A	N/A	Lateral
15	20	Support Rail	14.5	Lbyy	N/A	N/A	Lateral
16	22	F1-CA1	1.245	Lbyy	N/A	N/A	Lateral
17	23	Kickers	7	Lbyy	N/A	N/A	Lateral
18	24	MF-CP3	0.333	Lbyy	N/A	N/A	Lateral
19	25	MF-CP1	0.333	Lbyy	N/A	N/A	Lateral
20	26	MF-CP2	0.25	Lbyy	N/A	N/A	Lateral
21	27	MF-CP2	0.25	Lbyy	N/A	N/A	Lateral
22	28	MF-CP2	1.039	Lbyy	N/A	N/A	Lateral
23	29	SF-H1	6.484	Lbyy	N/A	N/A	Lateral
24	30	SF-H1	2.541	Lbyy	N/A	N/A	Lateral
25	31	SF-H1	2.541	Lbyy	N/A	N/A	Lateral
26	32	MF-CP1	0.417	Lbyy	N/A	N/A	Lateral
27	33	MF-CP1	0.417	Lbyy	N/A	N/A	Lateral
28	34	MF-CP1	0.25	Lbyy	N/A	N/A	Lateral
29	35	MF-CP1	0.25	Lbyy	N/A	N/A	Lateral
30	40	SF-H2	4.168	Lbyy	N/A	N/A	Lateral
31	41	SF-H2	4.168	Lbyy	N/A	N/A	Lateral
32	42	F1-CA1	1.245	Lbyy	N/A	N/A	Lateral
33	43	Kickers	7	Lbyy	N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Channel Conn.	a [ft]	Function
34	44	MF-CP3	0.333	Lbyy	N/A	N/A	Lateral
35	45	MF-CP1	0.333	Lbyy	N/A	N/A	Lateral
36	46	MF-CP2	0.25	Lbyy	N/A	N/A	Lateral
37	47	MF-CP2	0.25	Lbyy	N/A	N/A	Lateral
38	48	MF-CP2	1.039	Lbyy	N/A	N/A	Lateral
39	49	SF-H1	6.484	Lbyy	N/A	N/A	Lateral
40	50	SF-H1	2.541	Lbyy	N/A	N/A	Lateral
41	51	SF-H1	2.541	Lbyy	N/A	N/A	Lateral
42	52	MF-CP1	0.417	Lbyy	N/A	N/A	Lateral
43	53	MF-CP1	0.417	Lbyy	N/A	N/A	Lateral
44	54	MF-CP1	0.25	Lbyy	N/A	N/A	Lateral
45	55	MF-CP1	0.25	Lbyy	N/A	N/A	Lateral
46	60	SF-H2	4.168	Lbyy	N/A	N/A	Lateral
47	61	SF-H2	4.168	Lbyy	N/A	N/A	Lateral
48	62	F1-CA1	1.245	Lbyy	N/A	N/A	Lateral
49	63	Kickers	7	Lbyy	N/A	N/A	Lateral
50	64	MF-CP3	0.333	Lbyy	N/A	N/A	Lateral
51	65	MF-CP1	0.333	Lbyy	N/A	N/A	Lateral
52	66	MF-H1	14.5	Lbyy	N/A	N/A	Lateral
53	67	Support Rail	14.5	Lbyy	N/A	N/A	Lateral
54	68	MF-H1	14.5	Lbyy	N/A	N/A	Lateral
55	69	Support Rail	14.5	Lbyy	N/A	N/A	Lateral
56	71	MF-P1	10.5	Lbyy	N/A	N/A	Lateral
57	74	MF-P1	10.5	Lbyy	N/A	N/A	Lateral
58	77	MF-P1	10.5	Lbyy	N/A	N/A	Lateral
59	83	MF-P1	10.5	Lbyy	N/A	N/A	Lateral
60	86	MF-P1	10.5	Lbyy	N/A	N/A	Lateral
61	92	MF-P1	10.5	Lbyy	N/A	N/A	Lateral
62	95	MF-P1	6	Lbyy	N/A	N/A	Lateral
63	97	MF-P1	6	Lbyy	N/A	N/A	Lateral
64	99	MF-P1	6	Lbyy	N/A	N/A	Lateral
65	101	MF-P1	6	Lbyy	N/A	N/A	Lateral
66	103	MF-P1	6	Lbyy	N/A	N/A	Lateral
67	105	MF-P1	6	Lbyy	N/A	N/A	Lateral
68	107	MF-P1	10.5	Lbyy	N/A	N/A	Lateral
69	207	MF-P1	10.5	Lbyy	N/A	N/A	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	Y	-0.038	%5
2	17	Y	-0.038	%80
3	17	Y	0	0
4	17	Y	0	0
5	17	Y	0	0
6	71	Y	-0.038	%5
7	71	Y	-0.038	%80
8	71	Y	0	0
9	71	Y	0	0
10	71	Y	0	0
11	74	Y	-0.041	%5
12	74	Y	-0.041	%80
13	74	Y	0	0
14	74	Y	0	0
15	74	Y	0	0
16	103	Y	-0.071	%25

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
17	103	Y	-0.072	%75
18	103	Y	0	0
19	103	Y	0	0
20	103	Y	0	0
21	97	Y	-0.059	%25
22	97	Y	-0.077	%75
23	97	Y	0	0
24	97	Y	0	0
25	97	Y	0	0
26	86	Y	-0.038	%5
27	86	Y	-0.038	%80
28	86	Y	0	0
29	86	Y	0	0
30	86	Y	0	0
31	107	Y	-0.038	%5
32	107	Y	-0.038	%80
33	107	Y	0	0
34	107	Y	0	0
35	107	Y	0	0
36	92	Y	-0.041	%5
37	92	Y	-0.041	%80
38	92	Y	0	0
39	92	Y	0	0
40	92	Y	0	0
41	101	Y	-0.071	%25
42	101	Y	-0.072	%75
43	101	Y	0	0
44	101	Y	0	0
45	101	Y	0	0
46	95	Y	-0.059	%25
47	95	Y	-0.077	%75
48	95	Y	0	0
49	95	Y	0	0
50	95	Y	0	0
51	77	Y	-0.038	%5
52	77	Y	-0.038	%80
53	77	Y	0	0
54	77	Y	0	0
55	77	Y	0	0
56	207	Y	-0.038	%5
57	207	Y	-0.038	%80
58	207	Y	0	0
59	207	Y	0	0
60	207	Y	0	0
61	83	Y	-0.041	%5
62	83	Y	-0.041	%80
63	83	Y	0	0
64	83	Y	0	0
65	83	Y	0	0
66	105	Y	-0.071	%25
67	105	Y	-0.072	%75
68	105	Y	0	0
69	105	Y	0	0
70	105	Y	0	0
71	99	Y	-0.059	%25

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
72	99	Y	-0.077	%75
73	99	Y	0	0
74	99	Y	0	0
75	99	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	Z	-0.333	%5
2	17	Z	-0.333	%80
3	17	Z	0	0
4	17	Z	0	0
5	17	Z	0	0
6	71	Z	-0.333	%5
7	71	Z	-0.333	%80
8	71	Z	0	0
9	71	Z	0	0
10	71	Z	0	0
11	74	Z	-0.227	%5
12	74	Z	-0.227	%80
13	74	Z	0	0
14	74	Z	0	0
15	74	Z	0	0
16	103	Z	-0.068	%25
17	103	Z	-0.057	%75
18	103	Z	0	0
19	103	Z	0	0
20	103	Z	0	0
21	97	Z	-0.07	%25
22	97	Z	-0.114	%75
23	97	Z	0	0
24	97	Z	0	0
25	97	Z	0	0
26	86	Z	-0.333	%5
27	86	Z	-0.333	%80
28	86	Z	0	0
29	86	Z	0	0
30	86	Z	0	0
31	107	Z	-0.333	%5
32	107	Z	-0.333	%80
33	107	Z	0	0
34	107	Z	0	0
35	107	Z	0	0
36	92	Z	-0.227	%5
37	92	Z	-0.227	%80
38	92	Z	0	0
39	92	Z	0	0
40	92	Z	0	0
41	101	Z	-0.068	%25
42	101	Z	-0.057	%75
43	101	Z	0	0
44	101	Z	0	0
45	101	Z	0	0
46	95	Z	-0.07	%25
47	95	Z	-0.114	%75
48	95	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
49	95	Z	0	0
50	95	Z	0	0
51	77	Z	-0.333	%5
52	77	Z	-0.333	%80
53	77	Z	0	0
54	77	Z	0	0
55	77	Z	0	0
56	207	Z	-0.333	%5
57	207	Z	-0.333	%80
58	207	Z	0	0
59	207	Z	0	0
60	207	Z	0	0
61	83	Z	-0.227	%5
62	83	Z	-0.227	%80
63	83	Z	0	0
64	83	Z	0	0
65	83	Z	0	0
66	105	Z	-0.068	%25
67	105	Z	-0.057	%75
68	105	Z	0	0
69	105	Z	0	0
70	105	Z	0	0
71	99	Z	-0.07	%25
72	99	Z	-0.114	%75
73	99	Z	0	0
74	99	Z	0	0
75	99	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	X	-0.124	%5
2	17	X	-0.124	%80
3	17	X	0	0
4	17	X	0	0
5	17	X	0	0
6	71	X	-0.124	%5
7	71	X	-0.124	%80
8	71	X	0	0
9	71	X	0	0
10	71	X	0	0
11	74	X	-0.134	%5
12	74	X	-0.134	%80
13	74	X	0	0
14	74	X	0	0
15	74	X	0	0
16	103	X	-0.048	%25
17	103	X	-0.047	%75
18	103	X	0	0
19	103	X	0	0
20	103	X	0	0
21	97	X	-0.043	%25
22	97	X	-0.081	%75
23	97	X	0	0
24	97	X	0	0
25	97	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
26	86	X	-0.124	%5
27	86	X	-0.124	%80
28	86	X	0	0
29	86	X	0	0
30	86	X	0	0
31	107	X	-0.124	%5
32	107	X	-0.124	%80
33	107	X	0	0
34	107	X	0	0
35	107	X	0	0
36	92	X	-0.134	%5
37	92	X	-0.134	%80
38	92	X	0	0
39	92	X	0	0
40	92	X	0	0
41	101	X	-0.048	%25
42	101	X	-0.047	%75
43	101	X	0	0
44	101	X	0	0
45	101	X	0	0
46	95	X	-0.043	%25
47	95	X	-0.081	%75
48	95	X	0	0
49	95	X	0	0
50	95	X	0	0
51	77	X	-0.124	%5
52	77	X	-0.124	%80
53	77	X	0	0
54	77	X	0	0
55	77	X	0	0
56	207	X	-0.124	%5
57	207	X	-0.124	%80
58	207	X	0	0
59	207	X	0	0
60	207	X	0	0
61	83	X	-0.134	%5
62	83	X	-0.134	%80
63	83	X	0	0
64	83	X	0	0
65	83	X	0	0
66	105	X	-0.048	%25
67	105	X	-0.047	%75
68	105	X	0	0
69	105	X	0	0
70	105	X	0	0
71	99	X	-0.043	%25
72	99	X	-0.081	%75
73	99	X	0	0
74	99	X	0	0
75	99	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	Z	-0.061	%5
2	17	Z	-0.061	%80

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
3	17	Z	0	0
4	17	Z	0	0
5	17	Z	0	0
6	71	Z	-0.061	%5
7	71	Z	-0.061	%80
8	71	Z	0	0
9	71	Z	0	0
10	71	Z	0	0
11	74	Z	-0.043	%5
12	74	Z	-0.043	%80
13	74	Z	0	0
14	74	Z	0	0
15	74	Z	0	0
16	103	Z	-0.011	%25
17	103	Z	-0.009	%75
18	103	Z	0	0
19	103	Z	0	0
20	103	Z	0	0
21	97	Z	-0.011	%25
22	97	Z	-0.019	%75
23	97	Z	0	0
24	97	Z	0	0
25	97	Z	0	0
26	86	Z	-0.061	%5
27	86	Z	-0.061	%80
28	86	Z	0	0
29	86	Z	0	0
30	86	Z	0	0
31	107	Z	-0.061	%5
32	107	Z	-0.061	%80
33	107	Z	0	0
34	107	Z	0	0
35	107	Z	0	0
36	92	Z	-0.043	%5
37	92	Z	-0.043	%80
38	92	Z	0	0
39	92	Z	0	0
40	92	Z	0	0
41	101	Z	-0.011	%25
42	101	Z	-0.009	%75
43	101	Z	0	0
44	101	Z	0	0
45	101	Z	0	0
46	95	Z	-0.011	%25
47	95	Z	-0.019	%75
48	95	Z	0	0
49	95	Z	0	0
50	95	Z	0	0
51	77	Z	-0.061	%5
52	77	Z	-0.061	%80
53	77	Z	0	0
54	77	Z	0	0
55	77	Z	0	0
56	207	Z	-0.061	%5
57	207	Z	-0.061	%80

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
58	207	Z	0	0
59	207	Z	0	0
60	207	Z	0	0
61	83	Z	-0.043	%5
62	83	Z	-0.043	%80
63	83	Z	0	0
64	83	Z	0	0
65	83	Z	0	0
66	105	Z	-0.011	%25
67	105	Z	-0.009	%75
68	105	Z	0	0
69	105	Z	0	0
70	105	Z	0	0
71	99	Z	-0.011	%25
72	99	Z	-0.019	%75
73	99	Z	0	0
74	99	Z	0	0
75	99	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	X	-0.026	%5
2	17	X	-0.026	%80
3	17	X	0	0
4	17	X	0	0
5	17	X	0	0
6	71	X	-0.026	%5
7	71	X	-0.026	%80
8	71	X	0	0
9	71	X	0	0
10	71	X	0	0
11	74	X	-0.027	%5
12	74	X	-0.027	%80
13	74	X	0	0
14	74	X	0	0
15	74	X	0	0
16	103	X	-0.008	%25
17	103	X	-0.008	%75
18	103	X	0	0
19	103	X	0	0
20	103	X	0	0
21	97	X	-0.007	%25
22	97	X	-0.013	%75
23	97	X	0	0
24	97	X	0	0
25	97	X	0	0
26	86	X	-0.026	%5
27	86	X	-0.026	%80
28	86	X	0	0
29	86	X	0	0
30	86	X	0	0
31	107	X	-0.026	%5
32	107	X	-0.026	%80
33	107	X	0	0
34	107	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
35	107	X	0	0
36	92	X	-0.027	%5
37	92	X	-0.027	%80
38	92	X	0	0
39	92	X	0	0
40	92	X	0	0
41	101	X	-0.008	%25
42	101	X	-0.008	%75
43	101	X	0	0
44	101	X	0	0
45	101	X	0	0
46	95	X	-0.007	%25
47	95	X	-0.013	%75
48	95	X	0	0
49	95	X	0	0
50	95	X	0	0
51	77	X	-0.026	%5
52	77	X	-0.026	%80
53	77	X	0	0
54	77	X	0	0
55	77	X	0	0
56	207	X	-0.026	%5
57	207	X	-0.026	%80
58	207	X	0	0
59	207	X	0	0
60	207	X	0	0
61	83	X	-0.027	%5
62	83	X	-0.027	%80
63	83	X	0	0
64	83	X	0	0
65	83	X	0	0
66	105	X	-0.008	%25
67	105	X	-0.008	%75
68	105	X	0	0
69	105	X	0	0
70	105	X	0	0
71	99	X	-0.007	%25
72	99	X	-0.013	%75
73	99	X	0	0
74	99	X	0	0
75	99	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	Z	-0.02	%5
2	17	Z	-0.02	%80
3	17	Z	0	0
4	17	Z	0	0
5	17	Z	0	0
6	71	Z	-0.02	%5
7	71	Z	-0.02	%80
8	71	Z	0	0
9	71	Z	0	0
10	71	Z	0	0
11	74	Z	-0.013	%5

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
12	74	Z	-0.013	%80
13	74	Z	0	0
14	74	Z	0	0
15	74	Z	0	0
16	103	Z	-0.004	%25
17	103	Z	-0.003	%75
18	103	Z	0	0
19	103	Z	0	0
20	103	Z	0	0
21	97	Z	-0.004	%25
22	97	Z	-0.007	%75
23	97	Z	0	0
24	97	Z	0	0
25	97	Z	0	0
26	86	Z	-0.02	%5
27	86	Z	-0.02	%80
28	86	Z	0	0
29	86	Z	0	0
30	86	Z	0	0
31	107	Z	-0.02	%5
32	107	Z	-0.02	%80
33	107	Z	0	0
34	107	Z	0	0
35	107	Z	0	0
36	92	Z	-0.013	%5
37	92	Z	-0.013	%80
38	92	Z	0	0
39	92	Z	0	0
40	92	Z	0	0
41	101	Z	-0.004	%25
42	101	Z	-0.003	%75
43	101	Z	0	0
44	101	Z	0	0
45	101	Z	0	0
46	95	Z	-0.004	%25
47	95	Z	-0.007	%75
48	95	Z	0	0
49	95	Z	0	0
50	95	Z	0	0
51	77	Z	-0.02	%5
52	77	Z	-0.02	%80
53	77	Z	0	0
54	77	Z	0	0
55	77	Z	0	0
56	207	Z	-0.02	%5
57	207	Z	-0.02	%80
58	207	Z	0	0
59	207	Z	0	0
60	207	Z	0	0
61	83	Z	-0.013	%5
62	83	Z	-0.013	%80
63	83	Z	0	0
64	83	Z	0	0
65	83	Z	0	0
66	105	Z	-0.004	%25

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
67	105	Z	-0.003	%75
68	105	Z	0	0
69	105	Z	0	0
70	105	Z	0	0
71	99	Z	-0.004	%25
72	99	Z	-0.007	%75
73	99	Z	0	0
74	99	Z	0	0
75	99	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	X	-0.007	%5
2	17	X	-0.007	%80
3	17	X	0	0
4	17	X	0	0
5	17	X	0	0
6	71	X	-0.007	%5
7	71	X	-0.007	%80
8	71	X	0	0
9	71	X	0	0
10	71	X	0	0
11	74	X	-0.008	%5
12	74	X	-0.008	%80
13	74	X	0	0
14	74	X	0	0
15	74	X	0	0
16	103	X	-0.003	%25
17	103	X	-0.003	%75
18	103	X	0	0
19	103	X	0	0
20	103	X	0	0
21	97	X	-0.003	%25
22	97	X	-0.005	%75
23	97	X	0	0
24	97	X	0	0
25	97	X	0	0
26	86	X	-0.007	%5
27	86	X	-0.007	%80
28	86	X	0	0
29	86	X	0	0
30	86	X	0	0
31	107	X	-0.007	%5
32	107	X	-0.007	%80
33	107	X	0	0
34	107	X	0	0
35	107	X	0	0
36	92	X	-0.008	%5
37	92	X	-0.008	%80
38	92	X	0	0
39	92	X	0	0
40	92	X	0	0
41	101	X	-0.003	%25
42	101	X	-0.003	%75
43	101	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
44	101	X	0	0
45	101	X	0	0
46	95	X	-0.003	%25
47	95	X	-0.005	%75
48	95	X	0	0
49	95	X	0	0
50	95	X	0	0
51	77	X	-0.007	%5
52	77	X	-0.007	%80
53	77	X	0	0
54	77	X	0	0
55	77	X	0	0
56	207	X	-0.007	%5
57	207	X	-0.007	%80
58	207	X	0	0
59	207	X	0	0
60	207	X	0	0
61	83	X	-0.008	%5
62	83	X	-0.008	%80
63	83	X	0	0
64	83	X	0	0
65	83	X	0	0
66	105	X	-0.003	%25
67	105	X	-0.003	%75
68	105	X	0	0
69	105	X	0	0
70	105	X	0	0
71	99	X	-0.003	%25
72	99	X	-0.005	%75
73	99	X	0	0
74	99	X	0	0
75	99	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	Y	-0.141	%5
2	17	Y	-0.141	%80
3	17	Y	0	0
4	17	Y	0	0
5	17	Y	0	0
6	71	Y	-0.141	%5
7	71	Y	-0.141	%80
8	71	Y	0	0
9	71	Y	0	0
10	71	Y	0	0
11	74	Y	-0.124	%5
12	74	Y	-0.124	%80
13	74	Y	0	0
14	74	Y	0	0
15	74	Y	0	0
16	103	Y	-0.036	%25
17	103	Y	-0.032	%75
18	103	Y	0	0
19	103	Y	0	0
20	103	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
21	97	Y	-0.035	%25
22	97	Y	-0.06	%75
23	97	Y	0	0
24	97	Y	0	0
25	97	Y	0	0
26	86	Y	-0.141	%5
27	86	Y	-0.141	%80
28	86	Y	0	0
29	86	Y	0	0
30	86	Y	0	0
31	107	Y	-0.141	%5
32	107	Y	-0.141	%80
33	107	Y	0	0
34	107	Y	0	0
35	107	Y	0	0
36	92	Y	-0.124	%5
37	92	Y	-0.124	%80
38	92	Y	0	0
39	92	Y	0	0
40	92	Y	0	0
41	101	Y	-0.036	%25
42	101	Y	-0.032	%75
43	101	Y	0	0
44	101	Y	0	0
45	101	Y	0	0
46	95	Y	-0.035	%25
47	95	Y	-0.06	%75
48	95	Y	0	0
49	95	Y	0	0
50	95	Y	0	0
51	77	Y	-0.141	%5
52	77	Y	-0.141	%80
53	77	Y	0	0
54	77	Y	0	0
55	77	Y	0	0
56	207	Y	-0.141	%5
57	207	Y	-0.141	%80
58	207	Y	0	0
59	207	Y	0	0
60	207	Y	0	0
61	83	Y	-0.124	%5
62	83	Y	-0.124	%80
63	83	Y	0	0
64	83	Y	0	0
65	83	Y	0	0
66	105	Y	-0.036	%25
67	105	Y	-0.032	%75
68	105	Y	0	0
69	105	Y	0	0
70	105	Y	0	0
71	99	Y	-0.035	%25
72	99	Y	-0.06	%75
73	99	Y	0	0
74	99	Y	0	0
75	99	Y	0	0

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

Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	Z	-0.019	%5
2	17	Z	-0.019	%80
3	17	Z	0	0
4	17	Z	0	0
5	17	Z	0	0
6	71	Z	-0.019	%5
7	71	Z	-0.019	%80
8	71	Z	0	0
9	71	Z	0	0
10	71	Z	0	0
11	74	Z	-0.021	%5
12	74	Z	-0.021	%80
13	74	Z	0	0
14	74	Z	0	0
15	74	Z	0	0
16	103	Z	-0.018	%25
17	103	Z	-0.018	%75
18	103	Z	0	0
19	103	Z	0	0
20	103	Z	0	0
21	97	Z	-0.015	%25
22	97	Z	-0.019	%75
23	97	Z	0	0
24	97	Z	0	0
25	97	Z	0	0
26	86	Z	-0.019	%5
27	86	Z	-0.019	%80
28	86	Z	0	0
29	86	Z	0	0
30	86	Z	0	0
31	107	Z	-0.019	%5
32	107	Z	-0.019	%80
33	107	Z	0	0
34	107	Z	0	0
35	107	Z	0	0
36	92	Z	-0.021	%5
37	92	Z	-0.021	%80
38	92	Z	0	0
39	92	Z	0	0
40	92	Z	0	0
41	101	Z	-0.018	%25
42	101	Z	-0.018	%75
43	101	Z	0	0
44	101	Z	0	0
45	101	Z	0	0
46	95	Z	-0.015	%25
47	95	Z	-0.019	%75
48	95	Z	0	0
49	95	Z	0	0
50	95	Z	0	0
51	77	Z	-0.019	%5
52	77	Z	-0.019	%80
53	77	Z	0	0
54	77	Z	0	0
55	77	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
56	207	Z	-0.019	%5
57	207	Z	-0.019	%80
58	207	Z	0	0
59	207	Z	0	0
60	207	Z	0	0
61	83	Z	-0.021	%5
62	83	Z	-0.021	%80
63	83	Z	0	0
64	83	Z	0	0
65	83	Z	0	0
66	105	Z	-0.018	%25
67	105	Z	-0.018	%75
68	105	Z	0	0
69	105	Z	0	0
70	105	Z	0	0
71	99	Z	-0.015	%25
72	99	Z	-0.019	%75
73	99	Z	0	0
74	99	Z	0	0
75	99	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	X	-0.019	%5
2	17	X	-0.019	%80
3	17	X	0	0
4	17	X	0	0
5	17	X	0	0
6	71	X	-0.019	%5
7	71	X	-0.019	%80
8	71	X	0	0
9	71	X	0	0
10	71	X	0	0
11	74	X	-0.021	%5
12	74	X	-0.021	%80
13	74	X	0	0
14	74	X	0	0
15	74	X	0	0
16	103	X	-0.018	%25
17	103	X	-0.018	%75
18	103	X	0	0
19	103	X	0	0
20	103	X	0	0
21	97	X	-0.015	%25
22	97	X	-0.019	%75
23	97	X	0	0
24	97	X	0	0
25	97	X	0	0
26	86	X	-0.019	%5
27	86	X	-0.019	%80
28	86	X	0	0
29	86	X	0	0
30	86	X	0	0
31	107	X	-0.019	%5
32	107	X	-0.019	%80

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
33	107	X	0	0
34	107	X	0	0
35	107	X	0	0
36	92	X	-0.021	%5
37	92	X	-0.021	%80
38	92	X	0	0
39	92	X	0	0
40	92	X	0	0
41	101	X	-0.018	%25
42	101	X	-0.018	%75
43	101	X	0	0
44	101	X	0	0
45	101	X	0	0
46	95	X	-0.015	%25
47	95	X	-0.019	%75
48	95	X	0	0
49	95	X	0	0
50	95	X	0	0
51	77	X	-0.019	%5
52	77	X	-0.019	%80
53	77	X	0	0
54	77	X	0	0
55	77	X	0	0
56	207	X	-0.019	%5
57	207	X	-0.019	%80
58	207	X	0	0
59	207	X	0	0
60	207	X	0	0
61	83	X	-0.021	%5
62	83	X	-0.021	%80
63	83	X	0	0
64	83	X	0	0
65	83	X	0	0
66	105	X	-0.018	%25
67	105	X	-0.018	%75
68	105	X	0	0
69	105	X	0	0
70	105	X	0	0
71	99	X	-0.015	%25
72	99	X	-0.019	%75
73	99	X	0	0
74	99	X	0	0
75	99	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	20	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	11	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	20	Y	-0.25	%95

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	11	Y	-0.25	%95

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	68	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	68	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	67	Y	-0.25	%5

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	Y	-0.25	%5

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	67	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	Y	-0.25	%95

Member Point Loads (BLC 28 : Maint LL 14)

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

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	49	Y	-0.25	%95

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.021	-0.021	0	%100
2	2	Z	-0.021	-0.021	0	%100
3	3	Z	-0.021	-0.021	0	%100
4	4	Z	-0.021	-0.021	0	%100
5	5	Z	-0.016	-0.016	0	%100
6	6	Z	-0.016	-0.016	0	%100
7	7	Z	-0.021	-0.021	0	%100
8	8	Z	-0.021	-0.021	0	%100
9	9	Z	-0.021	-0.021	0	%100
10	10	Z	-0.021	-0.021	0	%100
11	11	Z	-0.012	-0.012	0	%100
12	17	Z	-0.008	-0.008	0	%100
13	18	Z	-0.012	-0.012	0	%100
14	19	Z	-0.012	-0.012	0	%100
15	20	Z	-0.008	-0.008	0	%100
16	22	Z	-0.01	-0.01	0	%100
17	23	Z	-0.025	-0.025	0	%100
18	24	Z	-0.002	-0.002	0	%100
19	25	Z	-0.021	-0.021	0	%100
20	26	Z	-0.021	-0.021	0	%100
21	27	Z	-0.021	-0.021	0	%100
22	28	Z	-0.021	-0.021	0	%100
23	29	Z	-0.021	-0.021	0	%100
24	30	Z	-0.016	-0.016	0	%100
25	31	Z	-0.016	-0.016	0	%100
26	32	Z	-0.021	-0.021	0	%100
27	33	Z	-0.021	-0.021	0	%100
28	34	Z	-0.021	-0.021	0	%100
29	35	Z	-0.021	-0.021	0	%100
30	40	Z	-0.012	-0.012	0	%100
31	41	Z	-0.012	-0.012	0	%100
32	42	Z	-0.01	-0.01	0	%100
33	43	Z	-0.025	-0.025	0	%100
34	44	Z	-0.002	-0.002	0	%100
35	45	Z	-0.021	-0.021	0	%100
36	46	Z	-0.021	-0.021	0	%100
37	47	Z	-0.021	-0.021	0	%100
38	48	Z	-0.021	-0.021	0	%100
39	49	Z	-0.021	-0.021	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
40	50	Z	-0.016	-0.016	0	%100
41	51	Z	-0.016	-0.016	0	%100
42	52	Z	-0.021	-0.021	0	%100
43	53	Z	-0.021	-0.021	0	%100
44	54	Z	-0.021	-0.021	0	%100
45	55	Z	-0.021	-0.021	0	%100
46	60	Z	-0.012	-0.012	0	%100
47	61	Z	-0.012	-0.012	0	%100
48	62	Z	-0.01	-0.01	0	%100
49	63	Z	-0.025	-0.025	0	%100
50	64	Z	-0.002	-0.002	0	%100
51	65	Z	-0.021	-0.021	0	%100
52	66	Z	-0.012	-0.012	0	%100
53	67	Z	-0.008	-0.008	0	%100
54	68	Z	-0.012	-0.012	0	%100
55	69	Z	-0.008	-0.008	0	%100
56	71	Z	-0.008	-0.008	0	%100
57	74	Z	-0.008	-0.008	0	%100
58	77	Z	-0.008	-0.008	0	%100
59	83	Z	-0.008	-0.008	0	%100
60	86	Z	-0.008	-0.008	0	%100
61	92	Z	-0.008	-0.008	0	%100
62	95	Z	-0.008	-0.008	0	%100
63	97	Z	-0.008	-0.008	0	%100
64	99	Z	-0.008	-0.008	0	%100
65	101	Z	-0.008	-0.008	0	%100
66	103	Z	-0.008	-0.008	0	%100
67	105	Z	-0.008	-0.008	0	%100
68	107	Z	-0.008	-0.008	0	%100
69	207	Z	-0.008	-0.008	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.021	-0.021	0	%100
2	2	X	-0.021	-0.021	0	%100
3	3	X	-0.021	-0.021	0	%100
4	4	X	-0.021	-0.021	0	%100
5	5	X	-0.016	-0.016	0	%100
6	6	X	-0.016	-0.016	0	%100
7	7	X	-0.021	-0.021	0	%100
8	8	X	-0.021	-0.021	0	%100
9	9	X	-0.021	-0.021	0	%100
10	10	X	-0.021	-0.021	0	%100
11	11	X	-0.012	-0.012	0	%100
12	17	X	-0.008	-0.008	0	%100
13	18	X	-0.012	-0.012	0	%100
14	19	X	-0.012	-0.012	0	%100
15	20	X	-0.008	-0.008	0	%100
16	22	X	-0.01	-0.01	0	%100
17	23	X	-0.025	-0.025	0	%100
18	24	X	-0.002	-0.002	0	%100
19	25	X	-0.021	-0.021	0	%100
20	26	X	-0.021	-0.021	0	%100
21	27	X	-0.021	-0.021	0	%100
22	28	X	-0.021	-0.021	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
23	29	X	-0.021	-0.021	0	%100
24	30	X	-0.016	-0.016	0	%100
25	31	X	-0.016	-0.016	0	%100
26	32	X	-0.021	-0.021	0	%100
27	33	X	-0.021	-0.021	0	%100
28	34	X	-0.021	-0.021	0	%100
29	35	X	-0.021	-0.021	0	%100
30	40	X	-0.012	-0.012	0	%100
31	41	X	-0.012	-0.012	0	%100
32	42	X	-0.01	-0.01	0	%100
33	43	X	-0.025	-0.025	0	%100
34	44	X	-0.002	-0.002	0	%100
35	45	X	-0.021	-0.021	0	%100
36	46	X	-0.021	-0.021	0	%100
37	47	X	-0.021	-0.021	0	%100
38	48	X	-0.021	-0.021	0	%100
39	49	X	-0.021	-0.021	0	%100
40	50	X	-0.016	-0.016	0	%100
41	51	X	-0.016	-0.016	0	%100
42	52	X	-0.021	-0.021	0	%100
43	53	X	-0.021	-0.021	0	%100
44	54	X	-0.021	-0.021	0	%100
45	55	X	-0.021	-0.021	0	%100
46	60	X	-0.012	-0.012	0	%100
47	61	X	-0.012	-0.012	0	%100
48	62	X	-0.01	-0.01	0	%100
49	63	X	-0.025	-0.025	0	%100
50	64	X	-0.002	-0.002	0	%100
51	65	X	-0.021	-0.021	0	%100
52	66	X	-0.012	-0.012	0	%100
53	67	X	-0.008	-0.008	0	%100
54	68	X	-0.012	-0.012	0	%100
55	69	X	-0.008	-0.008	0	%100
56	71	X	-0.008	-0.008	0	%100
57	74	X	-0.008	-0.008	0	%100
58	77	X	-0.008	-0.008	0	%100
59	83	X	-0.008	-0.008	0	%100
60	86	X	-0.008	-0.008	0	%100
61	92	X	-0.008	-0.008	0	%100
62	95	X	-0.008	-0.008	0	%100
63	97	X	-0.008	-0.008	0	%100
64	99	X	-0.008	-0.008	0	%100
65	101	X	-0.008	-0.008	0	%100
66	103	X	-0.008	-0.008	0	%100
67	105	X	-0.008	-0.008	0	%100
68	107	X	-0.008	-0.008	0	%100
69	207	X	-0.008	-0.008	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.008	-0.008	0	%100
2	2	Z	-0.008	-0.008	0	%100
3	3	Z	-0.006	-0.006	0	%100
4	4	Z	-0.005	-0.005	0	%100
5	5	Z	-0.004	-0.004	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
6	6	Z	-0.004	-0.004	0	%100
7	7	Z	-0.007	-0.007	0	%100
8	8	Z	-0.007	-0.007	0	%100
9	9	Z	-0.008	-0.008	0	%100
10	10	Z	-0.008	-0.008	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	17	Z	-0.001	-0.001	0	%100
13	18	Z	-0.004	-0.004	0	%100
14	19	Z	-0.004	-0.004	0	%100
15	20	Z	-0.001	-0.001	0	%100
16	22	Z	-0.003	-0.003	0	%100
17	23	Z	-0.006	-0.006	0	%100
18	24	Z	-0.003	-0.003	0	%100
19	25	Z	-0.007	-0.007	0	%100
20	26	Z	-0.008	-0.008	0	%100
21	27	Z	-0.008	-0.008	0	%100
22	28	Z	-0.006	-0.006	0	%100
23	29	Z	-0.005	-0.005	0	%100
24	30	Z	-0.004	-0.004	0	%100
25	31	Z	-0.004	-0.004	0	%100
26	32	Z	-0.007	-0.007	0	%100
27	33	Z	-0.007	-0.007	0	%100
28	34	Z	-0.008	-0.008	0	%100
29	35	Z	-0.008	-0.008	0	%100
30	40	Z	-0.004	-0.004	0	%100
31	41	Z	-0.004	-0.004	0	%100
32	42	Z	-0.003	-0.003	0	%100
33	43	Z	-0.006	-0.006	0	%100
34	44	Z	-0.003	-0.003	0	%100
35	45	Z	-0.007	-0.007	0	%100
36	46	Z	-0.008	-0.008	0	%100
37	47	Z	-0.008	-0.008	0	%100
38	48	Z	-0.006	-0.006	0	%100
39	49	Z	-0.005	-0.005	0	%100
40	50	Z	-0.004	-0.004	0	%100
41	51	Z	-0.004	-0.004	0	%100
42	52	Z	-0.007	-0.007	0	%100
43	53	Z	-0.007	-0.007	0	%100
44	54	Z	-0.008	-0.008	0	%100
45	55	Z	-0.008	-0.008	0	%100
46	60	Z	-0.004	-0.004	0	%100
47	61	Z	-0.004	-0.004	0	%100
48	62	Z	-0.003	-0.003	0	%100
49	63	Z	-0.006	-0.006	0	%100
50	64	Z	-0.003	-0.003	0	%100
51	65	Z	-0.007	-0.007	0	%100
52	66	Z	-0.002	-0.002	0	%100
53	67	Z	-0.001	-0.001	0	%100
54	68	Z	-0.002	-0.002	0	%100
55	69	Z	-0.001	-0.001	0	%100
56	71	Z	-0.001	-0.001	0	%100
57	74	Z	-0.001	-0.001	0	%100
58	77	Z	-0.001	-0.001	0	%100
59	83	Z	-0.001	-0.001	0	%100
60	86	Z	-0.001	-0.001	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
61	92	Z	-0.001	-0.001	0	%100
62	95	Z	-0.001	-0.001	0	%100
63	97	Z	-0.001	-0.001	0	%100
64	99	Z	-0.001	-0.001	0	%100
65	101	Z	-0.001	-0.001	0	%100
66	103	Z	-0.001	-0.001	0	%100
67	105	Z	-0.001	-0.001	0	%100
68	107	Z	-0.001	-0.001	0	%100
69	207	Z	-0.001	-0.001	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.008	-0.008	0	%100
2	2	X	-0.008	-0.008	0	%100
3	3	X	-0.006	-0.006	0	%100
4	4	X	-0.005	-0.005	0	%100
5	5	X	-0.004	-0.004	0	%100
6	6	X	-0.004	-0.004	0	%100
7	7	X	-0.007	-0.007	0	%100
8	8	X	-0.007	-0.007	0	%100
9	9	X	-0.008	-0.008	0	%100
10	10	X	-0.008	-0.008	0	%100
11	11	X	-0.002	-0.002	0	%100
12	17	X	-0.001	-0.001	0	%100
13	18	X	-0.004	-0.004	0	%100
14	19	X	-0.004	-0.004	0	%100
15	20	X	-0.001	-0.001	0	%100
16	22	X	-0.003	-0.003	0	%100
17	23	X	-0.006	-0.006	0	%100
18	24	X	-0.003	-0.003	0	%100
19	25	X	-0.007	-0.007	0	%100
20	26	X	-0.008	-0.008	0	%100
21	27	X	-0.008	-0.008	0	%100
22	28	X	-0.006	-0.006	0	%100
23	29	X	-0.005	-0.005	0	%100
24	30	X	-0.004	-0.004	0	%100
25	31	X	-0.004	-0.004	0	%100
26	32	X	-0.007	-0.007	0	%100
27	33	X	-0.007	-0.007	0	%100
28	34	X	-0.008	-0.008	0	%100
29	35	X	-0.008	-0.008	0	%100
30	40	X	-0.004	-0.004	0	%100
31	41	X	-0.004	-0.004	0	%100
32	42	X	-0.003	-0.003	0	%100
33	43	X	-0.006	-0.006	0	%100
34	44	X	-0.003	-0.003	0	%100
35	45	X	-0.007	-0.007	0	%100
36	46	X	-0.008	-0.008	0	%100
37	47	X	-0.008	-0.008	0	%100
38	48	X	-0.006	-0.006	0	%100
39	49	X	-0.005	-0.005	0	%100
40	50	X	-0.004	-0.004	0	%100
41	51	X	-0.004	-0.004	0	%100
42	52	X	-0.007	-0.007	0	%100
43	53	X	-0.007	-0.007	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
44	54	X	-0.008	-0.008	0	%100
45	55	X	-0.008	-0.008	0	%100
46	60	X	-0.004	-0.004	0	%100
47	61	X	-0.004	-0.004	0	%100
48	62	X	-0.003	-0.003	0	%100
49	63	X	-0.006	-0.006	0	%100
50	64	X	-0.003	-0.003	0	%100
51	65	X	-0.007	-0.007	0	%100
52	66	X	-0.002	-0.002	0	%100
53	67	X	-0.001	-0.001	0	%100
54	68	X	-0.002	-0.002	0	%100
55	69	X	-0.001	-0.001	0	%100
56	71	X	-0.001	-0.001	0	%100
57	74	X	-0.001	-0.001	0	%100
58	77	X	-0.001	-0.001	0	%100
59	83	X	-0.001	-0.001	0	%100
60	86	X	-0.001	-0.001	0	%100
61	92	X	-0.001	-0.001	0	%100
62	95	X	-0.001	-0.001	0	%100
63	97	X	-0.001	-0.001	0	%100
64	99	X	-0.001	-0.001	0	%100
65	101	X	-0.001	-0.001	0	%100
66	103	X	-0.001	-0.001	0	%100
67	105	X	-0.001	-0.001	0	%100
68	107	X	-0.001	-0.001	0	%100
69	207	X	-0.001	-0.001	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.001	-0.001	0	%100
2	2	Z	-0.001	-0.001	0	%100
3	3	Z	-0.001	-0.001	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	5	Z	-0.0009	-0.0009	0	%100
6	6	Z	-0.0009	-0.0009	0	%100
7	7	Z	-0.001	-0.001	0	%100
8	8	Z	-0.001	-0.001	0	%100
9	9	Z	-0.001	-0.001	0	%100
10	10	Z	-0.001	-0.001	0	%100
11	11	Z	-0.0004	-0.0004	0	%100
12	17	Z	-0.0002	-0.0002	0	%100
13	18	Z	-0.0007	-0.0007	0	%100
14	19	Z	-0.0007	-0.0007	0	%100
15	20	Z	-0.0002	-0.0002	0	%100
16	22	Z	-0.0006	-0.0006	0	%100
17	23	Z	-0.001	-0.001	0	%100
18	24	Z	-1e-04	-1e-04	0	%100
19	25	Z	-0.001	-0.001	0	%100
20	26	Z	-0.001	-0.001	0	%100
21	27	Z	-0.001	-0.001	0	%100
22	28	Z	-0.001	-0.001	0	%100
23	29	Z	-0.001	-0.001	0	%100
24	30	Z	-0.0009	-0.0009	0	%100
25	31	Z	-0.0009	-0.0009	0	%100
26	32	Z	-0.001	-0.001	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
27	33	Z	-0.001	-0.001	0	%100
28	34	Z	-0.001	-0.001	0	%100
29	35	Z	-0.001	-0.001	0	%100
30	40	Z	-0.0007	-0.0007	0	%100
31	41	Z	-0.0007	-0.0007	0	%100
32	42	Z	-0.0006	-0.0006	0	%100
33	43	Z	-0.001	-0.001	0	%100
34	44	Z	-1e-04	-1e-04	0	%100
35	45	Z	-0.001	-0.001	0	%100
36	46	Z	-0.001	-0.001	0	%100
37	47	Z	-0.001	-0.001	0	%100
38	48	Z	-0.001	-0.001	0	%100
39	49	Z	-0.001	-0.001	0	%100
40	50	Z	-0.0009	-0.0009	0	%100
41	51	Z	-0.0009	-0.0009	0	%100
42	52	Z	-0.001	-0.001	0	%100
43	53	Z	-0.001	-0.001	0	%100
44	54	Z	-0.001	-0.001	0	%100
45	55	Z	-0.001	-0.001	0	%100
46	60	Z	-0.0007	-0.0007	0	%100
47	61	Z	-0.0007	-0.0007	0	%100
48	62	Z	-0.0006	-0.0006	0	%100
49	63	Z	-0.001	-0.001	0	%100
50	64	Z	-1e-04	-1e-04	0	%100
51	65	Z	-0.001	-0.001	0	%100
52	66	Z	-0.0004	-0.0004	0	%100
53	67	Z	-0.0002	-0.0002	0	%100
54	68	Z	-0.0004	-0.0004	0	%100
55	69	Z	-0.0002	-0.0002	0	%100
56	71	Z	-0.0002	-0.0002	0	%100
57	74	Z	-0.0002	-0.0002	0	%100
58	77	Z	-0.0002	-0.0002	0	%100
59	83	Z	-0.0002	-0.0002	0	%100
60	86	Z	-0.0002	-0.0002	0	%100
61	92	Z	-0.0002	-0.0002	0	%100
62	95	Z	-0.0002	-0.0002	0	%100
63	97	Z	-0.0002	-0.0002	0	%100
64	99	Z	-0.0002	-0.0002	0	%100
65	101	Z	-0.0002	-0.0002	0	%100
66	103	Z	-0.0002	-0.0002	0	%100
67	105	Z	-0.0002	-0.0002	0	%100
68	107	Z	-0.0002	-0.0002	0	%100
69	207	Z	-0.0002	-0.0002	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.001	-0.001	0	%100
2	2	X	-0.001	-0.001	0	%100
3	3	X	-0.001	-0.001	0	%100
4	4	X	-0.001	-0.001	0	%100
5	5	X	-0.0009	-0.0009	0	%100
6	6	X	-0.0009	-0.0009	0	%100
7	7	X	-0.001	-0.001	0	%100
8	8	X	-0.001	-0.001	0	%100
9	9	X	-0.001	-0.001	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
10	10	X	-0.001	-0.001	0	%100
11	11	X	-0.0004	-0.0004	0	%100
12	17	X	-0.0002	-0.0002	0	%100
13	18	X	-0.0007	-0.0007	0	%100
14	19	X	-0.0007	-0.0007	0	%100
15	20	X	-0.0002	-0.0002	0	%100
16	22	X	-0.0006	-0.0006	0	%100
17	23	X	-0.001	-0.001	0	%100
18	24	X	-1e-04	-1e-04	0	%100
19	25	X	-0.001	-0.001	0	%100
20	26	X	-0.001	-0.001	0	%100
21	27	X	-0.001	-0.001	0	%100
22	28	X	-0.001	-0.001	0	%100
23	29	X	-0.001	-0.001	0	%100
24	30	X	-0.0009	-0.0009	0	%100
25	31	X	-0.0009	-0.0009	0	%100
26	32	X	-0.001	-0.001	0	%100
27	33	X	-0.001	-0.001	0	%100
28	34	X	-0.001	-0.001	0	%100
29	35	X	-0.001	-0.001	0	%100
30	40	X	-0.0007	-0.0007	0	%100
31	41	X	-0.0007	-0.0007	0	%100
32	42	X	-0.0006	-0.0006	0	%100
33	43	X	-0.001	-0.001	0	%100
34	44	X	-1e-04	-1e-04	0	%100
35	45	X	-0.001	-0.001	0	%100
36	46	X	-0.001	-0.001	0	%100
37	47	X	-0.001	-0.001	0	%100
38	48	X	-0.001	-0.001	0	%100
39	49	X	-0.001	-0.001	0	%100
40	50	X	-0.0009	-0.0009	0	%100
41	51	X	-0.0009	-0.0009	0	%100
42	52	X	-0.001	-0.001	0	%100
43	53	X	-0.001	-0.001	0	%100
44	54	X	-0.001	-0.001	0	%100
45	55	X	-0.001	-0.001	0	%100
46	60	X	-0.0007	-0.0007	0	%100
47	61	X	-0.0007	-0.0007	0	%100
48	62	X	-0.0006	-0.0006	0	%100
49	63	X	-0.001	-0.001	0	%100
50	64	X	-1e-04	-1e-04	0	%100
51	65	X	-0.001	-0.001	0	%100
52	66	X	-0.0004	-0.0004	0	%100
53	67	X	-0.0002	-0.0002	0	%100
54	68	X	-0.0004	-0.0004	0	%100
55	69	X	-0.0002	-0.0002	0	%100
56	71	X	-0.0002	-0.0002	0	%100
57	74	X	-0.0002	-0.0002	0	%100
58	77	X	-0.0002	-0.0002	0	%100
59	83	X	-0.0002	-0.0002	0	%100
60	86	X	-0.0002	-0.0002	0	%100
61	92	X	-0.0002	-0.0002	0	%100
62	95	X	-0.0002	-0.0002	0	%100
63	97	X	-0.0002	-0.0002	0	%100
64	99	X	-0.0002	-0.0002	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
65	101	X	-0.0002	-0.0002	0	%100
66	103	X	-0.0002	-0.0002	0	%100
67	105	X	-0.0002	-0.0002	0	%100
68	107	X	-0.0002	-0.0002	0	%100
69	207	X	-0.0002	-0.0002	0	%100

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.01	-0.01	0	%100
2	2	Y	-0.01	-0.01	0	%100
3	3	Y	-0.01	-0.01	0	%100
4	4	Y	-0.009	-0.009	0	%100
5	5	Y	-0.009	-0.009	0	%100
6	6	Y	-0.009	-0.009	0	%100
7	7	Y	-0.01	-0.01	0	%100
8	8	Y	-0.01	-0.01	0	%100
9	9	Y	-0.01	-0.01	0	%100
10	10	Y	-0.01	-0.01	0	%100
11	11	Y	-0.006	-0.006	0	%100
12	17	Y	-0.005	-0.005	0	%100
13	18	Y	-0.005	-0.005	0	%100
14	19	Y	-0.005	-0.005	0	%100
15	20	Y	-0.005	-0.005	0	%100
16	22	Y	-0.006	-0.006	0	%100
17	23	Y	-0.01	-0.01	0	%100
18	24	Y	-0.01	-0.01	0	%100
19	25	Y	-0.01	-0.01	0	%100
20	26	Y	-0.01	-0.01	0	%100
21	27	Y	-0.01	-0.01	0	%100
22	28	Y	-0.01	-0.01	0	%100
23	29	Y	-0.009	-0.009	0	%100
24	30	Y	-0.009	-0.009	0	%100
25	31	Y	-0.009	-0.009	0	%100
26	32	Y	-0.01	-0.01	0	%100
27	33	Y	-0.01	-0.01	0	%100
28	34	Y	-0.01	-0.01	0	%100
29	35	Y	-0.01	-0.01	0	%100
30	40	Y	-0.005	-0.005	0	%100
31	41	Y	-0.005	-0.005	0	%100
32	42	Y	-0.006	-0.006	0	%100
33	43	Y	-0.01	-0.01	0	%100
34	44	Y	-0.01	-0.01	0	%100
35	45	Y	-0.01	-0.01	0	%100
36	46	Y	-0.01	-0.01	0	%100
37	47	Y	-0.01	-0.01	0	%100
38	48	Y	-0.01	-0.01	0	%100
39	49	Y	-0.009	-0.009	0	%100
40	50	Y	-0.009	-0.009	0	%100
41	51	Y	-0.009	-0.009	0	%100
42	52	Y	-0.01	-0.01	0	%100
43	53	Y	-0.01	-0.01	0	%100
44	54	Y	-0.01	-0.01	0	%100
45	55	Y	-0.01	-0.01	0	%100
46	60	Y	-0.005	-0.005	0	%100
47	61	Y	-0.005	-0.005	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
48	62	Y	-0.006	-0.006	0	%100
49	63	Y	-0.01	-0.01	0	%100
50	64	Y	-0.01	-0.01	0	%100
51	65	Y	-0.01	-0.01	0	%100
52	66	Y	-0.006	-0.006	0	%100
53	67	Y	-0.005	-0.005	0	%100
54	68	Y	-0.006	-0.006	0	%100
55	69	Y	-0.005	-0.005	0	%100
56	71	Y	-0.005	-0.005	0	%100
57	74	Y	-0.005	-0.005	0	%100
58	77	Y	-0.005	-0.005	0	%100
59	83	Y	-0.005	-0.005	0	%100
60	86	Y	-0.005	-0.005	0	%100
61	92	Y	-0.005	-0.005	0	%100
62	95	Y	-0.005	-0.005	0	%100
63	97	Y	-0.005	-0.005	0	%100
64	99	Y	-0.005	-0.005	0	%100
65	101	Y	-0.005	-0.005	0	%100
66	103	Y	-0.005	-0.005	0	%100
67	105	Y	-0.005	-0.005	0	%100
68	107	Y	-0.005	-0.005	0	%100
69	207	Y	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.002	-0.002	0	%100
2	2	Z	-0.002	-0.002	0	%100
3	3	Z	-0.002	-0.002	0	%100
4	4	Z	-0.003	-0.003	0	%100
5	5	Z	-0.003	-0.003	0	%100
6	6	Z	-0.003	-0.003	0	%100
7	7	Z	-0.002	-0.002	0	%100
8	8	Z	-0.002	-0.002	0	%100
9	9	Z	-0.002	-0.002	0	%100
10	10	Z	-0.002	-0.002	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	17	Z	-0.0009	-0.0009	0	%100
13	18	Z	-0.0006	-0.0006	0	%100
14	19	Z	-0.0006	-0.0006	0	%100
15	20	Z	-0.0009	-0.0009	0	%100
16	22	Z	-0.001	-0.001	0	%100
17	23	Z	-0.002	-0.002	0	%100
18	24	Z	-0.002	-0.002	0	%100
19	25	Z	-0.002	-0.002	0	%100
20	26	Z	-0.002	-0.002	0	%100
21	27	Z	-0.002	-0.002	0	%100
22	28	Z	-0.002	-0.002	0	%100
23	29	Z	-0.003	-0.003	0	%100
24	30	Z	-0.003	-0.003	0	%100
25	31	Z	-0.003	-0.003	0	%100
26	32	Z	-0.002	-0.002	0	%100
27	33	Z	-0.002	-0.002	0	%100
28	34	Z	-0.002	-0.002	0	%100
29	35	Z	-0.002	-0.002	0	%100
30	40	Z	-0.0006	-0.0006	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
31	41	Z	-0.0006	-0.0006	0	%100
32	42	Z	-0.001	-0.001	0	%100
33	43	Z	-0.002	-0.002	0	%100
34	44	Z	-0.002	-0.002	0	%100
35	45	Z	-0.002	-0.002	0	%100
36	46	Z	-0.002	-0.002	0	%100
37	47	Z	-0.002	-0.002	0	%100
38	48	Z	-0.002	-0.002	0	%100
39	49	Z	-0.003	-0.003	0	%100
40	50	Z	-0.003	-0.003	0	%100
41	51	Z	-0.003	-0.003	0	%100
42	52	Z	-0.002	-0.002	0	%100
43	53	Z	-0.002	-0.002	0	%100
44	54	Z	-0.002	-0.002	0	%100
45	55	Z	-0.002	-0.002	0	%100
46	60	Z	-0.0006	-0.0006	0	%100
47	61	Z	-0.0006	-0.0006	0	%100
48	62	Z	-0.001	-0.001	0	%100
49	63	Z	-0.002	-0.002	0	%100
50	64	Z	-0.002	-0.002	0	%100
51	65	Z	-0.002	-0.002	0	%100
52	66	Z	-0.002	-0.002	0	%100
53	67	Z	-0.0009	-0.0009	0	%100
54	68	Z	-0.002	-0.002	0	%100
55	69	Z	-0.0009	-0.0009	0	%100
56	71	Z	-0.0009	-0.0009	0	%100
57	74	Z	-0.0009	-0.0009	0	%100
58	77	Z	-0.0009	-0.0009	0	%100
59	83	Z	-0.0009	-0.0009	0	%100
60	86	Z	-0.0009	-0.0009	0	%100
61	92	Z	-0.0009	-0.0009	0	%100
62	95	Z	-0.0009	-0.0009	0	%100
63	97	Z	-0.0009	-0.0009	0	%100
64	99	Z	-0.0009	-0.0009	0	%100
65	101	Z	-0.0009	-0.0009	0	%100
66	103	Z	-0.0009	-0.0009	0	%100
67	105	Z	-0.0009	-0.0009	0	%100
68	107	Z	-0.0009	-0.0009	0	%100
69	207	Z	-0.0009	-0.0009	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.002	-0.002	0	%100
2	2	X	-0.002	-0.002	0	%100
3	3	X	-0.002	-0.002	0	%100
4	4	X	-0.003	-0.003	0	%100
5	5	X	-0.003	-0.003	0	%100
6	6	X	-0.003	-0.003	0	%100
7	7	X	-0.002	-0.002	0	%100
8	8	X	-0.002	-0.002	0	%100
9	9	X	-0.002	-0.002	0	%100
10	10	X	-0.002	-0.002	0	%100
11	11	X	-0.002	-0.002	0	%100
12	17	X	-0.0009	-0.0009	0	%100
13	18	X	-0.0006	-0.0006	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
14	19	X	-0.0006	-0.0006	0	%100
15	20	X	-0.0009	-0.0009	0	%100
16	22	X	-0.001	-0.001	0	%100
17	23	X	-0.002	-0.002	0	%100
18	24	X	-0.002	-0.002	0	%100
19	25	X	-0.002	-0.002	0	%100
20	26	X	-0.002	-0.002	0	%100
21	27	X	-0.002	-0.002	0	%100
22	28	X	-0.002	-0.002	0	%100
23	29	X	-0.003	-0.003	0	%100
24	30	X	-0.003	-0.003	0	%100
25	31	X	-0.003	-0.003	0	%100
26	32	X	-0.002	-0.002	0	%100
27	33	X	-0.002	-0.002	0	%100
28	34	X	-0.002	-0.002	0	%100
29	35	X	-0.002	-0.002	0	%100
30	40	X	-0.0006	-0.0006	0	%100
31	41	X	-0.0006	-0.0006	0	%100
32	42	X	-0.001	-0.001	0	%100
33	43	X	-0.002	-0.002	0	%100
34	44	X	-0.002	-0.002	0	%100
35	45	X	-0.002	-0.002	0	%100
36	46	X	-0.002	-0.002	0	%100
37	47	X	-0.002	-0.002	0	%100
38	48	X	-0.002	-0.002	0	%100
39	49	X	-0.003	-0.003	0	%100
40	50	X	-0.003	-0.003	0	%100
41	51	X	-0.003	-0.003	0	%100
42	52	X	-0.002	-0.002	0	%100
43	53	X	-0.002	-0.002	0	%100
44	54	X	-0.002	-0.002	0	%100
45	55	X	-0.002	-0.002	0	%100
46	60	X	-0.0006	-0.0006	0	%100
47	61	X	-0.0006	-0.0006	0	%100
48	62	X	-0.001	-0.001	0	%100
49	63	X	-0.002	-0.002	0	%100
50	64	X	-0.002	-0.002	0	%100
51	65	X	-0.002	-0.002	0	%100
52	66	X	-0.002	-0.002	0	%100
53	67	X	-0.0009	-0.0009	0	%100
54	68	X	-0.002	-0.002	0	%100
55	69	X	-0.0009	-0.0009	0	%100
56	71	X	-0.0009	-0.0009	0	%100
57	74	X	-0.0009	-0.0009	0	%100
58	77	X	-0.0009	-0.0009	0	%100
59	83	X	-0.0009	-0.0009	0	%100
60	86	X	-0.0009	-0.0009	0	%100
61	92	X	-0.0009	-0.0009	0	%100
62	95	X	-0.0009	-0.0009	0	%100
63	97	X	-0.0009	-0.0009	0	%100
64	99	X	-0.0009	-0.0009	0	%100
65	101	X	-0.0009	-0.0009	0	%100
66	103	X	-0.0009	-0.0009	0	%100
67	105	X	-0.0009	-0.0009	0	%100
68	107	X	-0.0009	-0.0009	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
69	207	X	-0.0009	-0.0009	0	%100

Member Distributed Loads (BLC 39 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	4	Y	-0.011	-0.011	3.78	5.441
2	5	Y	-0.01	-0.01	1.579	2.375
3	6	Y	-0.01	-0.01	0.167	0.962
4	18	Y	-0.008	-0.005	0	2.084
5	18	Y	-0.005	-0.001	2.084	4.168
6	19	Y	-0.001	-0.005	0	2.084
7	19	Y	-0.005	-0.008	2.084	4.168
8	29	Y	-0.011	-0.011	3.78	5.441
9	30	Y	-0.01	-0.01	1.579	2.375
10	31	Y	-0.01	-0.01	0.167	0.962
11	40	Y	-0.008	-0.005	0	2.084
12	40	Y	-0.005	-0.001	2.084	4.168
13	41	Y	-0.001	-0.005	0	2.084
14	41	Y	-0.005	-0.008	2.084	4.168
15	49	Y	-0.011	-0.011	3.78	5.441
16	50	Y	-0.01	-0.01	1.579	2.375
17	51	Y	-0.01	-0.01	0.167	0.962
18	60	Y	-0.008	-0.005	0	2.084
19	60	Y	-0.005	-0.001	2.084	4.168
20	61	Y	-0.001	-0.005	0	2.084
21	61	Y	-0.005	-0.008	2.084	4.168

Member Distributed Loads (BLC 40 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	31	Y	-0.005	-0.005	0.167	0.962
2	40	Y	-0.004	-0.002	0	2.084
3	40	Y	-0.002	-0.0007057	2.084	4.168
4	41	Y	-0.0007404	-0.002	0	2.084
5	41	Y	-0.002	-0.004	2.084	4.168
6	49	Y	-0.006	-0.006	3.779	5.446
7	50	Y	-0.005	-0.005	1.58	2.375
8	51	Y	-0.005	-0.005	0.167	0.962
9	60	Y	-0.004	-0.002	0	2.084
10	60	Y	-0.002	-0.0007057	2.084	4.168
11	61	Y	-0.0007404	-0.002	0	2.084
12	61	Y	-0.002	-0.004	2.084	4.168
13	4	Y	-0.006	-0.006	3.779	5.446
14	5	Y	-0.006	-0.006	1.58	2.375
15	6	Y	-0.005	-0.005	0.167	0.962
16	18	Y	-0.004	-0.003	0	2.084
17	18	Y	-0.003	-0.0007602	2.084	4.168
18	19	Y	-0.0007976	-0.003	0	2.084
19	19	Y	-0.003	-0.004	2.084	4.168
20	29	Y	-0.006	-0.006	3.779	5.446
21	30	Y	-0.005	-0.005	1.58	2.375

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	30	7	31	30	Y	Two Way	-0.01
2	68	51	69	68	Y	Two Way	-0.01
3	101	84	102	101	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

	Node A	Node B	Node C	Direction	Load Direction	Magnitude [ksf]
1	30	7	31	Y	Two Way	-0.005
2	68	51	69	Y	Two Way	-0.005
3	101	84	102	Y	Two Way	-0.005

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	125	L	Y	-0.5
2	146	L	Y	-0.5
3	164	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	119	L	Y	-0.5
2	288	L	Y	-0.5
3	289	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	26	L	Y	-0.5
2	134	L	Y	-0.5
3	152	L	Y	-0.5

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		75		3
2	0 Wind - No Ice	WLZ			75	69	
3	90 Wind - No Ice	WLX			75	69	
4	0 Wind - Ice	WLZ			75	69	
5	90 Wind - Ice	WLX			75	69	
6	0 Wind - Service	WLZ			75	69	
7	90 Wind - Service	WLX			75	69	
8	Ice	OL1			75	69	3
9	0 Seismic	ELZ			75	69	
10	90 Seismic	ELX			75	69	
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		

Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
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					
31	Maint LL 17	LL					
32	Maint LL 18	LL					
33	Maint LL 19	LL					
34	Maint LL 20	LL					
35	Maint LL 21	LL					
36	Maint LL 22	LL					
37	Maint LL 23	LL					
38	Maint LL 24	LL					
39	BLC 1 Transient Area Loads	None				21	
40	BLC 8 Transient Area Loads	None				21	

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		

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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
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

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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
104	1.2 D + 1.5 LL Maint (19)	Yes	Y	1	1.2					33	1.5
105	1.2 D + 1.5 LL Maint (20)	Yes	Y	1	1.2					34	1.5
106	1.2 D + 1.5 LL Maint (21)	Yes	Y	1	1.2					35	1.5
107	1.2 D + 1.5 LL Maint (22)	Yes	Y	1	1.2					36	1.5
108	1.2 D + 1.5 LL Maint (23)	Yes	Y	1	1.2					37	1.5
109	1.2 D + 1.5 LL Maint (24)	Yes	Y	1	1.2					38	1.5

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	8	max	1.189	5	1.303	21	6.503	2	1.379	21	1.432	11	0.297	55
2		min	-1.192	11	0.524	63	-5.265	8	0.392	63	-1.435	5	-0.332	49
3	43	max	0.092	5	1.898	14	0.358	8	0.316	14	0.015	11	0	62
4		min	-0.092	11	-0.357	8	-2.117	14	-0.06	8	-0.015	5	0	44
5	52	max	4.055	6	1.298	25	2.518	13	-0.068	70	1.918	3	-0.402	7
6		min	-2.98	12	0.525	68	-3.135	7	-0.901	40	-1.916	9	-1.24	61
7	76	max	0.014	13	1.84	19	1.022	18	0.003	13	0.015	3	0.004	13
8		min	-1.783	19	-0.03	13	0.029	12	-0.153	19	-0.015	9	-0.266	19
9	85	max	2.994	4	1.295	17	2.709	3	-0.169	9	2.035	7	1.231	42
10		min	-4.065	10	0.526	70	-3.337	9	-0.886	51	-2.032	13	0.269	72
11	109	max	1.775	21	1.836	22	1.022	22	0	4	0.015	7	0.265	22
12		min	0.026	3	0.004	4	0.032	4	-0.153	22	-0.015	13	0.001	4
13	Totals:	max	6.562	5	8.98	20	9.891	2						
14		min	-6.562	11	4.036	2	-9.891	8						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	1	PL1/2X6	0.115	0.25	8	0.245	0.25	y	62	95.014	97.2	1.012	12.15	1.515	H1-1b
2	2	PL1/2X6	0.132	0.25	2	0.108	0.25	y	91	95.014	97.2	1.012	12.15	1.482	H1-1b
3	3	PL1/2X6	0.225	0.519	2	0.142	0.519	y	2	65.639	97.2	1.012	12.15	1.386	H1-1b
4	4	HSS4X4X4	0.175	0	11	0.092	5.539	y	62	92.852	106.155	12.311	12.311	2.528	H1-1b
5	5	HSS4X4X4	0.13	2.375	15	0.062	0.445	z	2	104.266	106.155	12.311	12.311	1.657	H1-1b
6	6	HSS4X4X4	0.111	0	60	0.055	1.929	z	7	104.266	106.155	12.311	12.311	1.658	H1-1b
7	7	PL3/8X6_HRB	0.085	0.256	13	0.237	0.256	y	56	66.219	73.872	0.585	9.234	2.4	H1-1b
8	8	PL3/8X6_HRB	0.074	0.417	8	0.244	0.256	y	45	66.219	73.872	0.585	9.234	3	H1-1b
9	9	PL3/8X6_HRB	0.1	0.125	12	0.173	0	y	57	71.02	73.872	0.585	9.234	1.443	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
10	10	PL3/8X6_HRB	0.081	0.125	10	0.191	0	y	38	71.02	73.872	0.585	9.234	1.365	H1-1b
11	11	PIPE_3.0	0.103	9.214	52	0.163	9.667		8	21.266	65.205	5.749	5.749	1	H1-1b
12	17	PIPE_2.0	0.469	6.016	8	0.252	2.516		8	8.922	32.13	1.872	1.872	1	H1-1b
13	18	L2X2X3	0.282	4.168	2	0.012	4.168	y	14	9.798	23.393	0.558	1.14	1.5	H2-1
14	19	L2X2X3	0.256	4.168	13	0.007	4.168	y	63	9.798	23.393	0.558	1.14	1.5	H2-1
15	20	PIPE_2.0	0.442	4.38	9	0.268	13.745		8	4.679	32.13	1.872	1.872	1	H1-1b
16	22	L2.5X2.5X4	0.487	1.245	2	0.209	0	z	6	36.654	38.556	1.114	2.537	1.5	H2-1
17	23	LL2.5X2.5X3X3	0.104	3.5	3	0.005	7	z	5	31.22	58.32	3.954	2.511	1	H1-1b
18	24	PL3/8X6_HRB	0.057	0	3	0.073	0	y	14	68.878	73.872	0.585	9.234	3	H1-1b
19	25	PL3/8X6_HRB	0.054	0	4	0.065	0	y	14	68.878	73.872	0.585	9.234	3	H1-1b
20	26	PL1/2X6	0.084	0.25	12	0.243	0.25	y	67	95.014	97.2	1.012	12.15	1.46	H1-1b
21	27	PL1/2X6	0.097	0.25	7	0.108	0.25	y	87	95.014	97.2	1.012	12.15	1.449	H1-1b
22	28	PL1/2X6	0.168	0.519	7	0.13	0.519	y	67	65.639	97.2	1.012	12.15	1.406	H1-1b
23	29	HSS4X4X4	0.217	0	2	0.091	5.539	y	67	92.852	106.155	12.311	12.311	2.07	H1-1b
24	30	HSS4X4X4	0.132	2.375	20	0.052	0.445	z	7	104.266	106.155	12.311	12.311	1.654	H1-1b
25	31	HSS4X4X4	0.111	0	51	0.037	1.929	z	11	104.266	106.155	12.311	12.311	1.657	H1-1b
26	32	PL3/8X6_HRB	0.085	0.256	9	0.234	0.256	y	60	66.219	73.872	0.585	9.234	2.553	H1-1b
27	33	PL3/8X6_HRB	0.119	0.256	2	0.245	0.256	y	38	66.219	73.872	0.585	9.234	3	H1-1b
28	34	PL3/8X6_HRB	0.122	0.125	3	0.173	0	y	50	71.02	73.872	0.585	9.234	1.382	H1-1b
29	35	PL3/8X6_HRB	0.115	0.125	2	0.19	0	y	42	71.02	73.872	0.585	9.234	1.378	H1-1b
30	40	L2X2X3	0.238	4.168	7	0.012	4.168	y	19	9.798	23.393	0.558	1.14	1.5	H2-1
31	41	L2X2X3	0.172	4.168	5	0.007	4.168	y	68	9.798	23.393	0.558	1.14	1.5	H2-1
32	42	L2.5X2.5X4	0.593	1.245	8	0.297	0.999	z	9	36.654	38.556	1.114	2.537	1.5	H2-1
33	43	LL2.5X2.5X3X3	0.099	3.5	7	0.005	7	z	9	31.22	58.32	3.954	2.511	1	H1-1b
34	44	PL3/8X6_HRB	0.056	0	8	0.071	0	y	19	68.878	73.872	0.585	9.234	3	H1-1b
35	45	PL3/8X6_HRB	0.055	0	8	0.063	0	y	19	68.878	73.872	0.585	9.234	3	H1-1b
36	46	PL1/2X6	0.09	0.125	3	0.242	0.25	y	70	95.014	97.2	1.012	12.15	1.473	H1-1b
37	47	PL1/2X6	0.089	0.25	10	0.108	0.25	y	95	95.014	97.2	1.012	12.15	1.492	H1-1b
38	48	PL1/2X6	0.156	0.519	9	0.13	0.519	y	69	65.639	97.2	1.012	12.15	1.364	H1-1b
39	49	HSS4X4X4	0.227	0	7	0.091	5.539	y	70	92.852	106.155	12.311	12.311	2.496	H1-1b
40	50	HSS4X4X4	0.128	2.375	24	0.047	0.445	y	45	104.266	106.155	12.311	12.311	1.653	H1-1b
41	51	HSS4X4X4	0.116	0	8	0.053	1.929	z	3	104.266	106.155	12.311	12.311	1.652	H1-1b
42	52	PL3/8X6_HRB	0.113	0.256	8	0.236	0.256	y	51	66.219	73.872	0.585	9.234	2.404	H1-1b
43	53	PL3/8X6_HRB	0.114	0.256	7	0.244	0.256	y	42	66.219	73.872	0.585	9.234	3	H1-1b
44	54	PL3/8X6_HRB	0.16	0.125	8	0.173	0	y	53	71.02	73.872	0.585	9.234	1.413	H1-1b
45	55	PL3/8X6_HRB	0.099	0.125	13	0.19	0	y	45	71.02	73.872	0.585	9.234	1.374	H1-1b
46	60	L2X2X3	0.205	4.168	10	0.012	4.168	y	22	9.798	23.393	0.558	1.14	1.5	H2-1
47	61	L2X2X3	0.236	4.168	9	0.007	4.168	y	71	9.798	23.393	0.558	1.14	1.5	H2-1
48	62	L2.5X2.5X4	0.424	1.245	13	0.359	0	z	2	36.654	38.556	1.114	2.537	1.5	H2-1
49	63	LL2.5X2.5X3X3	0.098	3.5	9	0.005	7	z	7	31.22	58.32	3.954	2.511	1	H1-1b
50	64	PL3/8X6_HRB	0.054	0	8	0.071	0	y	22	68.878	73.872	0.585	9.234	3	H1-1b
51	65	PL3/8X6_HRB	0.053	0	8	0.062	0	y	22	68.878	73.872	0.585	9.234	3	H1-1b
52	66	PIPE_3.0	0.109	4.531	2	0.126	13.594		13	21.266	65.205	5.749	5.749	1	H1-1b
53	67	PIPE_2.0	0.599	4.38	2	0.254	13.745		13	4.679	32.13	1.872	1.872	1	H1-1b
54	68	PIPE_3.0	0.117	4.38	2	0.105	9.667		3	21.266	65.205	5.749	5.749	1	H1-1b
55	69	PIPE_2.0	0.555	13.745	2	0.164	13.745		4	4.679	32.13	1.872	1.872	1	H1-1b
56	71	PIPE_2.0	0.688	5.906	2	0.133	5.906		9	8.922	32.13	1.872	1.872	1	H1-1b
57	74	PIPE_2.0	0.503	5.906	3	0.159	5.906		8	8.922	32.13	1.872	1.872	1	H1-1b
58	77	PIPE_2.0	0.498	5.906	3	0.161	2.516		12	8.922	32.13	1.872	1.872	1	H1-1b
59	83	PIPE_2.0	0.791	5.906	8	0.139	5.906		13	8.922	32.13	1.872	1.872	1	H1-1b
60	86	PIPE_2.0	0.52	5.906	7	0.213	5.906		9	8.922	32.13	1.872	1.872	1	H1-1b
61	92	PIPE_2.0	0.728	5.906	13	0.163	5.906		2	8.922	32.13	1.872	1.872	1	H1-1b
62	95	PIPE_2.0	0.113	3	2	0.014	3		2	20.867	32.13	1.872	1.872	1	H1-1b
63	97	PIPE_2.0	0.113	3	8	0.014	3		8	20.867	32.13	1.872	1.872	1	H1-1b
64	99	PIPE_2.0	0.113	3	8	0.014	3		8	20.867	32.13	1.872	1.872	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
65	101	PIPE_2.0	0.076	3	2	0.01	3		2	20.867	32.13	1.872	1.872	1	H1-1b
66	103	PIPE_2.0	0.076	3	8	0.01	3		8	20.867	32.13	1.872	1.872	1	H1-1b
67	105	PIPE_2.0	0.076	3	8	0.01	3		8	20.867	32.13	1.872	1.872	1	H1-1b
68	107	PIPE_2.0	0.784	5.906	8	0.11	5.906		6	8.922	32.13	1.872	1.872	1	H1-1b
69	207	PIPE_2.0	0.74	5.906	8	0.165	5.906		2	8.922	32.13	1.872	1.872	1	H1-1b

APPENDIX D

ADDITIONAL CALCULATIONS

PROJECT	79791.006.01.0001 - NORWICH, CT			KSC
SUBJECT	Platform Mount Analysis			
DATE	02/09/23	PAGE 1	OF	1

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

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	6.503	k
Vertical Shear	:	1.303	k
Horizontal Shear	:	1.192	k
Torsion	:	0.332	k.ft
Moment from Horizontal Forces	:	1.435	k.ft
Moment from Vertical Forces	:	1.379	k.ft

Bolt Parameters

Bolt Grade	:	A325	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in^2
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1	in
Bolt edge distance, plate width	:	1	in
Total Number of Bolts	:	4	bolts

Summary of Forces

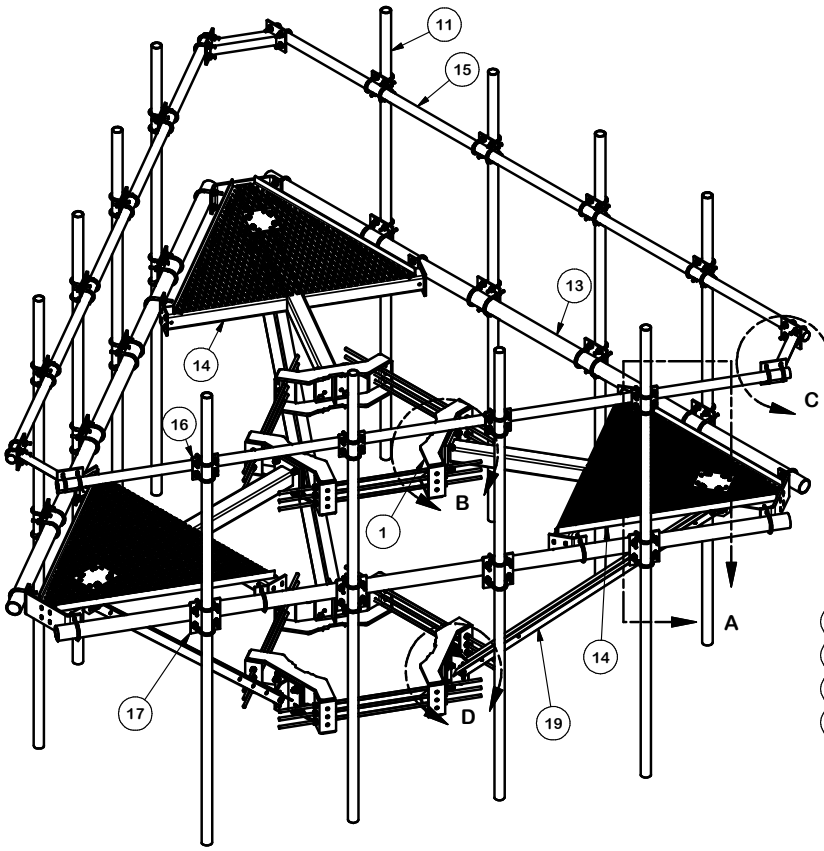
Shear Resultant Force	:	1.77	k
Force from Horz. Moment	:	2.60	k
Force from Vert. Moment	:	2.50	k
Shear Load / Bolt	:	0.44	k
Tension Load / Bolt	:	1.63	k
Resultant from Moments / Bolt	:	1.80	k

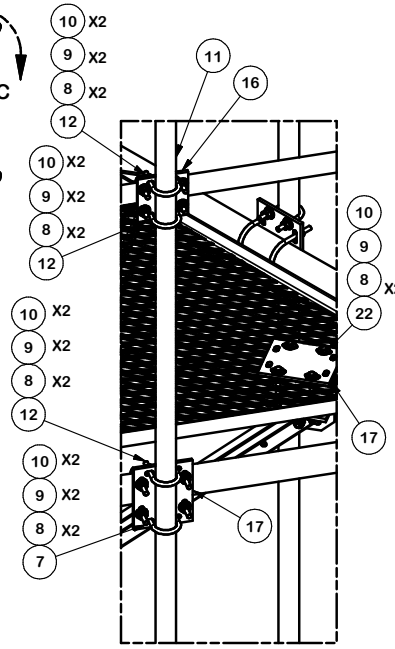
Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	**16.54%**		**OKAY**
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	**18.70%**		**OKAY**
Unity Check, Combined	:	**35.25%**		**OKAY**
Available Bearing Strength, ΦR_n	:	18.35	k/bolt	
Unity Check, Bolt Bearing	:	**2.41%**		**OKAY**

APPENDIX E

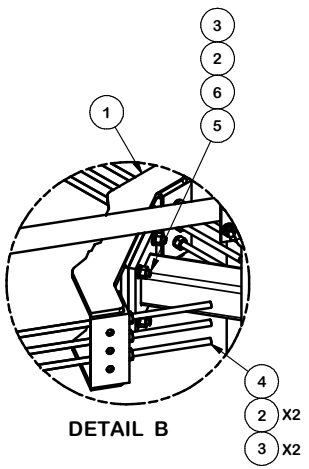
SUPPLEMENTAL DRAWINGS



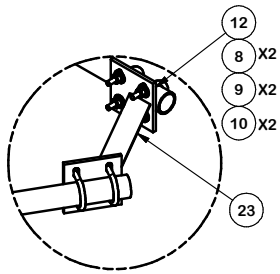


DETAIL A

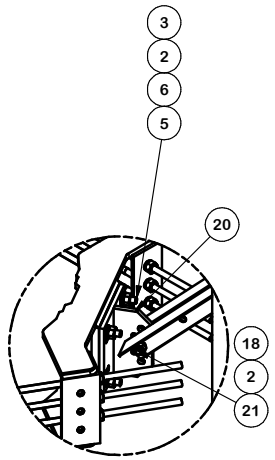
PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	6	X-LWRM	RING MOUNT WELDMENT		68.81	412.85
2	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
3	60	A58NUT	5/8" HDG A325 HEX NUT		0.13	7.79
4	18	G58R-24	5/8" x 24" THREADED ROD (HDG.)		2.09	37.63
4	18	G58R-48	5/8" x 48" THREADED ROD (HDG.)		4.18	75.27
5	24	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2 3/4 in	0.36	8.54
6	24	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.82
7	36	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	29.82
8	264	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	9.00
9	252	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	3.50
10	252	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	18.05
11	12	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	489.03
12	84	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	52.51
13	3	P3174	3-1/2" X 174" SCH 40 GALVANIZED PIPE	174 in	109.97	329.90
14	3	X-SV196L	LONG PLATFORM WELDMENT		230.94	692.81
15	3	P2174	2-3/8" OD X 174" SCH 40 GALVANIZED PIPE	174 in	55.75	167.24
16	12	SCX1	CROSSOVER PLATE 2-3/8" X 2-3/8"	6 in	3.71	44.50
17	15	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	90.32
18	6	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	0.78
19	6	X-254923	PLATFORM REINFORCEMENT KIT ANGLE	84 in	22.83	137.00
20	6	X-TBW	T-BRACKET WELDMENT		13.60	81.60
21	6	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.62
22	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	5 1/2 in	0.41	4.91
23	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
					TOTAL WT. #	2735.65



DETAIL B



DETAIL C



DETAIL D

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
B	RELOCATED MAST PIPE LOCATIONS	4488	KC8	5/26/2021
A	CHANGED X-253992 TO X-TBW	4488	CEK	9/20/2018

REVISION HISTORY

TOLERANCE NOTES

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

DESCRIPTION
14' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-3/8" ANTENNA MOUNTING
PIPES, AND SUPPORT RAIL

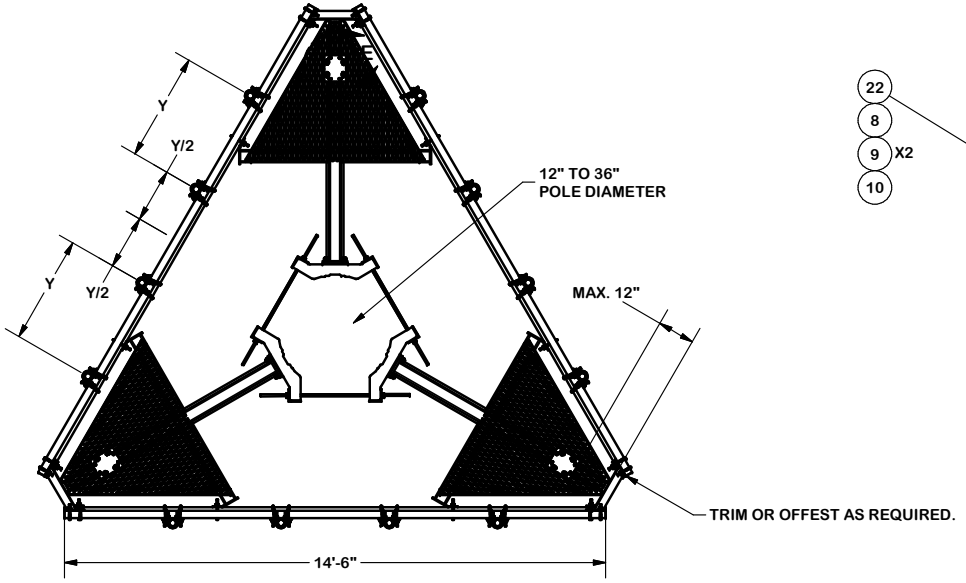
SITE PRO 1 — A valmont COMPANY

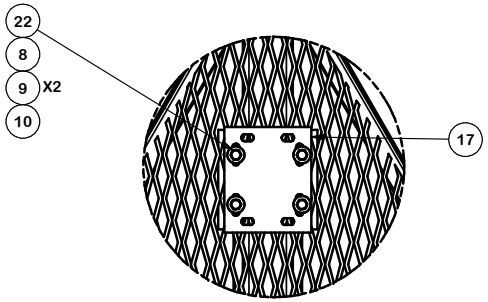
Engineering Support Team: 1-888-753-7446

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

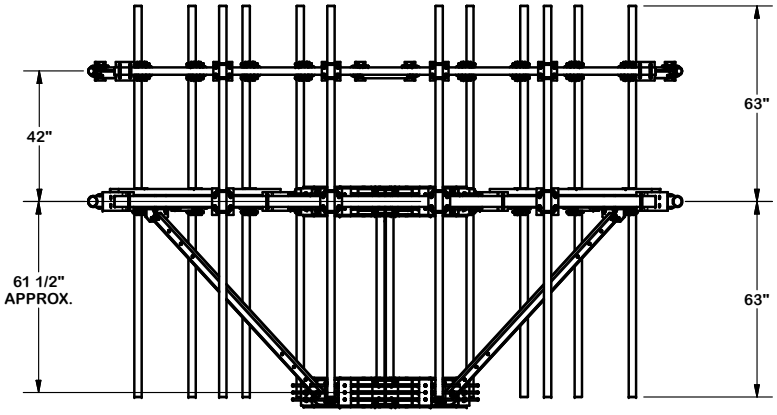
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4488	CEK 2/5/2018		RMQLP-4126-HK

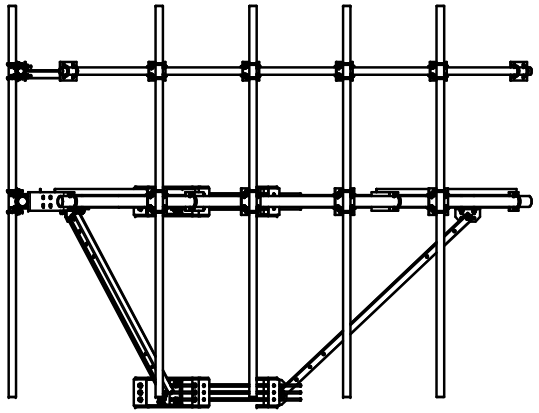
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 2/6/2018	RMQLP-4126-HK





DETAIL E





TOLERANCE NOTES

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

DESCRIPTION
14' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-3/8" ANTENNA MOUNTING
PIPES, AND SUPPORT RAIL

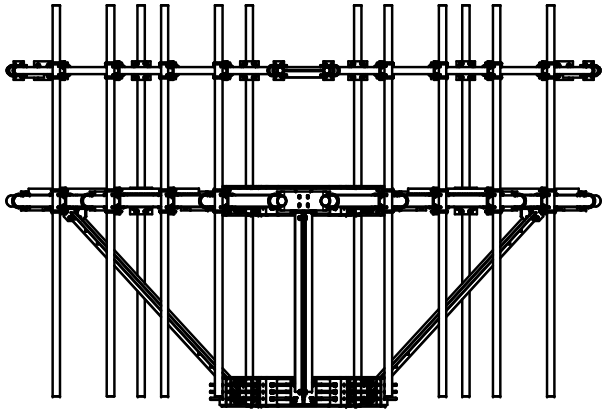
SITE PRO 1
A valmont COMPANY
Engineering Support Team:
1-888-753-7446
Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

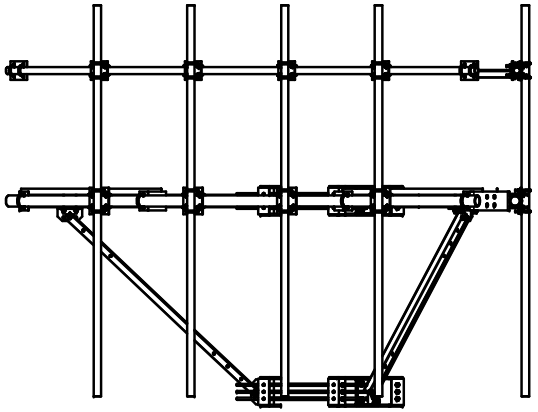
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
B	RELOCATED MAST PIPE LOCATIONS	4488	KC8	5/26/2021
A	CHANGED X-253992 TO X-TBW	4488	CEK	9/20/2018

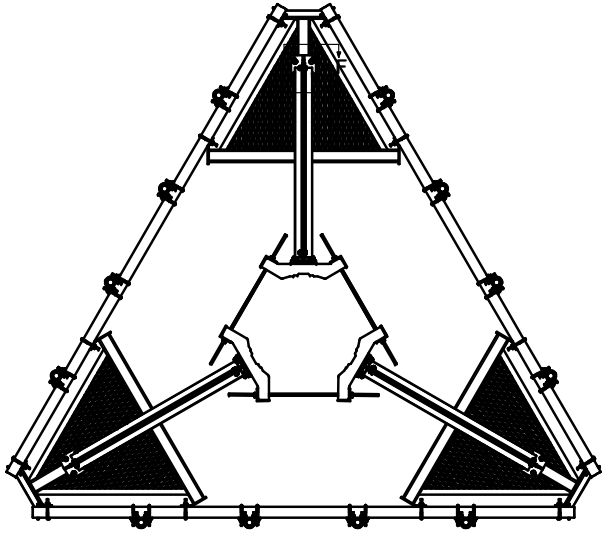
REVISION HISTORY

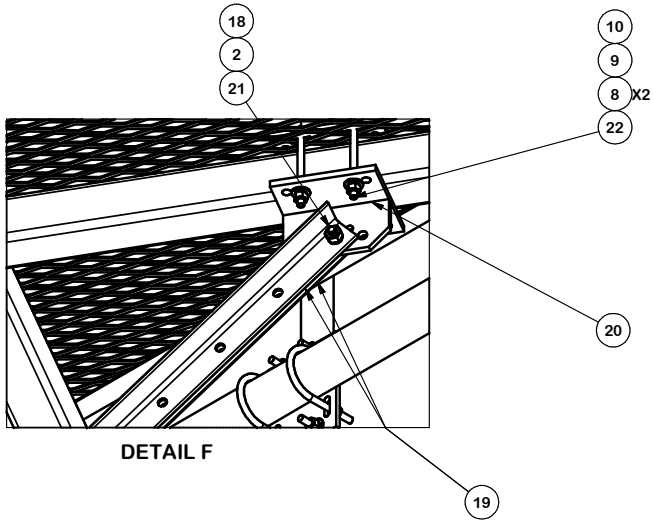
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4488	CEK 2/5/2018		RMQLP-4126-HK

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 2/6/2018	RMQLP-4126-HK









DETAIL F

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
B	RELOCATED MAST PIPE LOCATIONS	4488	KC8	5/26/2021
A	CHANGED X-253992 TO X-TBW	4488	CEK	9/20/2018

REVISION HISTORY

TOLERANCE NOTES

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

DESCRIPTION
14' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-3/8" ANTENNA MOUNTING
PIPES, AND SUPPORT RAIL

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

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4488	CEK 2/5/2018		RMQLP-4126-HK

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 2/6/2018	RMQLP-4126-HK

Date: **February 13, 2023**

Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject:	**Structural Analysis Report**	
Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Site Number:	CT5458
	Site Name:	PLAINFIELD SOUTH
	FA Number:	10092031
Crown Castle Designation:	**BU Number:**	876359
	Site Name:	NORWICH
	JDE Job Number:	726267
	Work Order Number:	2203149
	Order Number:	627245 Rev. 1
Engineering Firm Designation:	**Crown Castle Project Number:**	2203149
Site Data:	**954 Norwich Road, Plainfield, Windham County, CT** **Latitude *41° 39' 31.46"*, Longitude *-71° 55' 29.75"*** **130 Foot - Monopole Tower**	

Crown Castle is 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 - 80.7%**

This analysis has been performed in accordance with the 2022 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 124 mph. Applicable Standard references and design criteria are listed in Section 2 - "Analysis Criteria".

Structural analysis prepared by: Emma McCarty

Respectfully submitted by:

Maham Barimani, P.E.
Senior Project Engineer

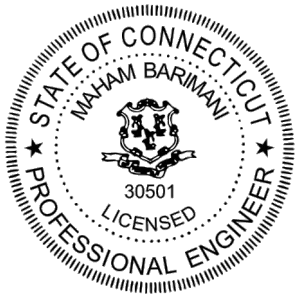


TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 130 ft Monopole tower designed by Summit.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	124 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)
114.0	115.0	6	cci antennas	OPA65R-BU8D w/ Mount Pipe	2 4 6	3/8 3/4 1-1/4
		3	cci antennas	TPA-65R-LCUUUU-H8 w/ Mount Pipe		
		3	ericsson	RADIO 8843 B2/B66A_CCIV3		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14_CCIV2		
		3	ericsson	RRUS-32 B30		
		1	raycap	DC6-48-60-18-8F		
		1	raycap	DC6-48-60-18-8F_CCIV2		
	114.0	1	Sitepro1	RMQLP-4126-HK		

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)
130.0	130.0	3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe	3	1-5/8
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	Radio 4480_TMOV2		
		3	rfs celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
		1	tower mounts	Platform Mount [LP 1201-1_KCKR-HR-1]		
116.0	116.0	3	ericsson	RRUS-11	-	-
		3	ericsson	RRUS12/RRUS A2		
		1	tower mounts	Side Arm Mount [SO 102-3]		
104.0	104.0	6	commscope	NHH-65B-R2B	1	1-5/8
		1	raycap	RVZDC-6627-PF-48_CCIV2		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		1	Site Pro 1	Hand Rail Kit[#F3P-HRK12]		
		3	commscope	Side by Side Mounting Kit [BSAMNT-SBS-1-2]		
		1	Site Pro 1	12' Tri-Cornered Telescoping Platform[#F3P-12]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	1616503	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1616546	CCISITES
4-TOWER MANUFACTURER DRAWINGS	1446983	CCISITES

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.

3.2) Assumptions

1) 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. Crown Castle 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	130 - 83	Pole	TP26.06x16x0.25	1	-17.04	1241.83	71.7	Pass
L2	83 - 43.25	Pole	TP34.068x24.8644x0.3125	2	-23.44	2030.16	80.7	Pass
L3	43.25 - 0	Pole	TP42.7x32.5333x0.375	3	-34.66	3139.28	75.1	Pass
							Summary	
						Pole (L2)	80.7	Pass
						Rating =	80.7	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	68.9	Pass
1	Base Plate	0	63.6	Pass
1,2	Base Foundation (Compared w/ Design Loads)	0	70.0	Pass

Structure Rating (max from all components) =	80.7%

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.
2) Foundation capacity determined by comparing analysis reactions to original design reactions.

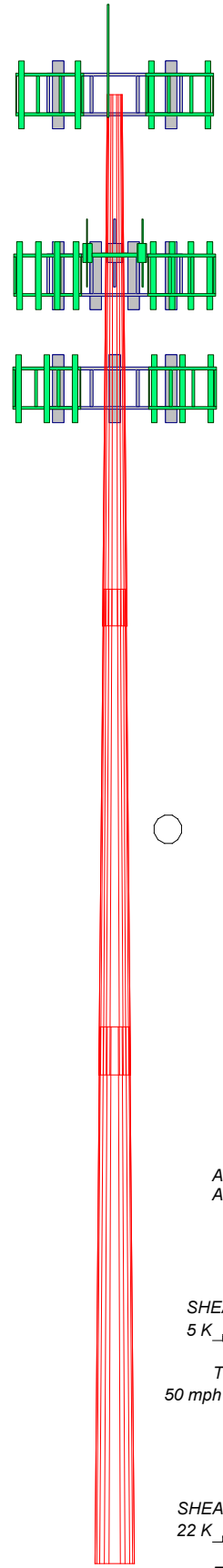
4.1) Recommendations

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	47.00	12	0.2500	3.25	16.0000	26.0600		2.7
2	43.00	12	0.3125	4.25	24.8644	34.0680	A607-65	4.3
3	47.50	12	0.3750		32.5333	42.7000		7.3
								14.2



ALL REACTIONS ARE FACTORED

AXIAL 49 K

SHEAR 5 K *MOMENT 518 kip-ft*

TORQUE 0 kip-ft

50 mph WIND - 1.0000 in ICE

AXIAL 35 K

SHEAR 22 K *MOMENT 2243 kip-ft*

TORQUE 1 kip-ft

REACTIONS - 124 mph WIND

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	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 124 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 0.00 ft
8. TOWER RATING: 80.7%

CROWN CASTLE
The Pathway to Possible

Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
Phone: (724) 416-2000
FAX:

Job: ***BU# 876359***			
Project:			
Client: Crown Castle	Drawn by: EMcCarty		App'd:
Code: TIA-222-H	Date: 02/13/23		Scale: NTS
Path: C:\WORK AREA\876359\WO 2203149 - SA\Prod\876359.eri			Dwg No. E-1

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: 182.00 ft.
- Basic wind speed of 124 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 1.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- 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	130.00-83.00	47.00	3.25	12	16.0000	26.0600	0.2500	1.0000	A607-65 (65 ksi)
L2	83.00-43.25	43.00	4.25	12	24.8644	34.0680	0.3125	1.2500	A607-65 (65 ksi)
L3	43.25-0.00	47.50		12	32.5333	42.7000	0.3750	1.5000	A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	16.4762	12.6788	401.4426	5.6385	8.2880	48.4366	813.4316	6.2401	3.6180	14.472
	26.8911	20.7770	1766.6310	9.2400	13.4991	130.8705	3579.6733	10.2258	6.3141	25.256
L2	26.3514	24.7053	1900.8382	8.7896	12.8797	147.5836	3851.6135	12.1592	5.8261	18.644
	35.1596	33.9665	4939.9833	12.0845	17.6472	279.9298	10009.7454	16.7173	8.2927	26.537
L3	34.4904	38.8312	5125.7082	11.5127	16.8523	304.1554	10386.0744	19.1115	7.7139	20.57
	44.0740	51.1074	11685.9491	15.1524	22.1186	528.3313	23678.9011	25.1535	10.4386	27.836

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 130.00-83.00				1	1	1			
L2 83.00-43.25				1	1	1			
L3 43.25-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
***											

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
******									
Safety Line 3/8"	C	No	No	CaAa (Out Of Face)	130.00 - 8.00	1	No Ice	0.00	0.22
							1/2" Ice	0.00	0.00
							1" Ice	0.00	0.00
Climbing Rungs	C	No	No	CaAa (Out Of Face)	130.00 - 8.00	1	No Ice	0.00	1.80
							1/2" Ice	0.00	0.00
							1" Ice	0.00	0.00
******									
HB158-21U6S24-xxM_TMO(1-5/8)	C	No	No	Inside Pole	130.00 - 0.00	3	No Ice	0.00	2.50
							1/2" Ice	0.00	2.50
							1" Ice	0.00	2.50

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
***									
LDF6-50A(1-1/4)	A	No	No	Inside Pole	114.00 - 0.00	6	No Ice	0.00	0.60
							1/2" Ice	0.00	0.60
							1" Ice	0.00	0.60
FB-L98B-002-XXX(3/8)	A	No	No	Inside Pole	114.00 - 0.00	2	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
WR-VG86ST-BRD(3/4)	A	No	No	Inside Pole	114.00 - 0.00	4	No Ice	0.00	0.58
							1/2" Ice	0.00	0.58
							1" Ice	0.00	0.58
***									
HFT1206-24SVL-XXX(1-5/8)	B	No	No	Inside Pole	104.00 - 0.00	1	No Ice	0.00	1.92
							1/2" Ice	0.00	1.92
							1" Ice	0.00	1.92
***									

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	130.00-83.00	A	0.000	0.000	0.000	0.000	0.19
		B	0.000	0.000	0.000	0.000	0.04
		C	0.000	0.000	0.000	0.000	0.45
L2	83.00-43.25	A	0.000	0.000	0.000	0.000	0.24
		B	0.000	0.000	0.000	0.000	0.08
		C	0.000	0.000	0.000	0.000	0.38
L3	43.25-0.00	A	0.000	0.000	0.000	0.000	0.26
		B	0.000	0.000	0.000	0.000	0.08
		C	0.000	0.000	0.000	0.000	0.40

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	130.00-83.00	A	0.954	0.000	0.000	0.000	0.000	0.19
		B		0.000	0.000	0.000	0.000	0.04
		C		0.000	0.000	0.000	0.000	0.35
L2	83.00-43.25	A	0.906	0.000	0.000	0.000	0.000	0.24
		B		0.000	0.000	0.000	0.000	0.08
		C		0.000	0.000	0.000	0.000	0.30
L3	43.25-0.00	A	0.812	0.000	0.000	0.000	0.000	0.26
		B		0.000	0.000	0.000	0.000	0.08
		C		0.000	0.000	0.000	0.000	0.32

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	130.00-83.00	0.0000	0.0000	0.0000	0.0000
L2	83.00-43.25	0.0000	0.0000	0.0000	0.0000
L3	43.25-0.00	0.0000	0.0000	0.0000	0.0000

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

Discrete Tower Loads

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* ft ft ft	*Azimuth Adjustment* °	*Placement* ft
******					
Lightning Rod 3/4" x 6'	C	From Leg	0.00 0.00 3.00	0.0000	130.00
130					
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	130.00
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	130.00
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	130.00
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	130.00
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	130.00
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	130.00
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00 0.00 0.00	0.0000	130.00
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00 0.00 0.00	0.0000	130.00
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00 0.00 0.00	0.0000	130.00
Radio 4480_TMOV2	A	From Leg	4.00 0.00 0.00	0.0000	130.00
Radio 4480_TMOV2	C	From Leg	4.00 0.00 0.00	0.0000	130.00
Radio 4480_TMOV2	B	From Leg	4.00 0.00 0.00	0.0000	130.00
8' Mount Pipe [#P2.0 STD]	A	From Leg	4.00 0.00 0.00	0.0000	130.00
8' Mount Pipe [#P2.0 STD]	B	From Leg	4.00 0.00 0.00	0.0000	130.00
8' Mount Pipe [#P2.0 STD]	C	From Leg	4.00 0.00 0.00	0.0000	130.00
6' x 2'' Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	130.00
6' x 2'' Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	130.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
6' x 2'' Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	130.00
Platform Mount [LP 1201-1_KCKR-HR-1]	C	None		0.0000	130.00
116					
RRUS-11	A	From Leg	2.00 0.00 0.00	0.0000	116.00
RRUS-11	B	From Leg	2.00 0.00 0.00	0.0000	116.00
RRUS-11	C	From Leg	2.00 0.00 0.00	0.0000	116.00
RRUS12/RRUS A2	A	From Leg	2.00 0.00 0.00	0.0000	116.00
RRUS12/RRUS A2	B	From Leg	2.00 0.00 0.00	0.0000	116.00
RRUS12/RRUS A2	C	From Leg	2.00 0.00 0.00	0.0000	116.00
(2) 4' x 2'' Pipe Mount	A	From Leg	2.00 0.00 0.00	0.0000	116.00
(2) 4' x 2'' Pipe Mount	B	From Leg	2.00 0.00 0.00	0.0000	116.00
(2) 4' x 2'' Pipe Mount	C	From Leg	2.00 0.00 0.00	0.0000	116.00
Side Arm Mount [SO 102-3]	C	None		0.0000	116.00
114					
(2) OPA65R-BU8D w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	114.00
(2) OPA65R-BU8D w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	114.00
(2) OPA65R-BU8D w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	114.00
RADIO 8843 B2/B66A_CCIV3	A	From Leg	4.00 0.00 1.00	0.0000	114.00
RADIO 8843 B2/B66A_CCIV3	B	From Leg	4.00 0.00 1.00	0.0000	114.00
RADIO 8843 B2/B66A_CCIV3	C	From Leg	4.00 0.00 1.00	0.0000	114.00
RRUS 4449 B5/B12	A	From Leg	4.00 0.00 1.00	0.0000	114.00
RRUS 4449 B5/B12	B	From Leg	4.00 0.00 1.00	0.0000	114.00
RRUS 4449 B5/B12	C	From Leg	4.00 0.00 1.00	0.0000	114.00
RRUS 4478 B14_CCIV2	A	From Leg	4.00 0.00 1.00	0.0000	114.00
RRUS 4478 B14_CCIV2	B	From Leg	4.00	0.0000	114.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
			0.00		
RRUS 4478 B14_CCIV2	C	From Leg	1.00 4.00 0.00	0.0000	114.00
TPA-65R-LCUUUU-H8 w/ Mount Pipe	A	From Leg	1.00 4.00 0.00	0.0000	114.00
TPA-65R-LCUUUU-H8 w/ Mount Pipe	B	From Leg	1.00 4.00 0.00	0.0000	114.00
TPA-65R-LCUUUU-H8 w/ Mount Pipe	C	From Leg	1.00 4.00 0.00	0.0000	114.00
RRUS-32 B30	A	From Leg	1.00 4.00 0.00	0.0000	114.00
RRUS-32 B30	B	From Leg	1.00 4.00 0.00	0.0000	114.00
RRUS-32 B30	C	From Leg	1.00 4.00 0.00	0.0000	114.00
DC6-48-60-18-8F	A	From Leg	1.00 4.00 0.00	0.0000	114.00
DC6-48-60-18-8F_CCIV2	A	From Leg	1.00 4.00 0.00	0.0000	114.00
8' x 2'' Mount Pipe	A	From Leg	1.00 4.00 0.00	0.0000	114.00
8' x 2'' Mount Pipe	B	From Leg	0.00 4.00 0.00	0.0000	114.00
8' x 2'' Mount Pipe	C	From Leg	0.00 4.00 0.00	0.0000	114.00
Sitepro1 RMQLP-4126-HK	C	None	0.00	0.0000	114.00
104					
MT6407-77A w/ Mount Pipe	A	From Leg	4.00 0.00	0.0000	104.00
MT6407-77A w/ Mount Pipe	B	From Leg	0.00 4.00 0.00	0.0000	104.00
MT6407-77A w/ Mount Pipe	C	From Leg	0.00 4.00 0.00	0.0000	104.00
(2) NHH-65B-R2B	A	From Leg	0.00 4.00 0.00	0.0000	104.00
(2) NHH-65B-R2B	B	From Leg	0.00 4.00 0.00	0.0000	104.00
(2) NHH-65B-R2B	C	From Leg	0.00 4.00 0.00	0.0000	104.00
RFV01U-D1A	A	From Leg	0.00 4.00 0.00	0.0000	104.00
RFV01U-D1A	B	From Leg	0.00 4.00 0.00	0.0000	104.00
RFV01U-D1A	C	From Leg	0.00 4.00	0.0000	104.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
			0.00 0.00		
RFV01U-D2A	A	From Leg	4.00 0.00 0.00	0.0000	104.00
RFV01U-D2A	B	From Leg	4.00 0.00 0.00	0.0000	104.00
RFV01U-D2A	C	From Leg	4.00 0.00 0.00	0.0000	104.00
RVZDC-6627-PF-48_CCIV2	A	From Leg	4.00 0.00 0.00	0.0000	104.00
12' Tri-Cornered Telescoping Platform[#F3P-12]	C	None		0.0000	104.00
Hand Rail Kit[#F3P-HRK12]	C	None		0.0000	104.00
Mounting Kit [BSAMNT-SBS-1-2]	A	From Leg	4.00 0.00 0.00	0.0000	104.00
Mounting Kit [BSAMNT-SBS-1-2]	B	From Leg	4.00 0.00 0.00	0.0000	104.00
Mounting Kit [BSAMNT-SBS-1-2]	C	From Leg	4.00 0.00 0.00	0.0000	104.00
****** ***					

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

Comb. No.	Description
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	130 - 83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.02	0.05	1.36
			Max. Mx	20	-17.04	522.03	0.31
			Max. My	2	-17.04	0.11	522.89
			Max. Vy	20	-17.56	522.03	0.31
			Max. Vx	2	-17.59	0.11	522.89
			Max. Torque	8			1.05
L2	83 - 43.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.03	0.07	1.38
			Max. Mx	20	-23.44	1244.37	0.30
			Max. My	2	-23.44	0.22	1246.32
			Max. Vy	20	-19.70	1244.37	0.30
			Max. Vx	2	-19.73	0.22	1246.32
			Max. Torque	8			1.04
L3	43.25 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.25	0.09	1.37
			Max. Mx	20	-34.66	2239.30	0.24
			Max. My	2	-34.66	0.35	2242.50
			Max. Vy	20	-22.17	2239.30	0.24
			Max. Vx	2	-22.20	0.35	2242.50
			Max. Torque	8			1.03

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	49.25	0.00	4.96
	Max. H_x	20	34.68	22.13	0.00
	Max. H_z	2	34.68	0.00	22.16
	Max. M_x	2	2242.50	0.00	22.16
	Max. M_z	8	2238.60	-22.13	0.00
	Max. Torsion	8	1.03	-22.13	0.00
	Min. Vert	7	26.01	-19.17	11.08

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Min. H_x	8	34.68	-22.13	0.00
	Min. H_z	14	34.68	0.00	-22.16
	Min. M_x	14	-2241.98	0.00	-22.16
	Min. M_z	20	-2239.30	22.13	0.00
	Min. Torsion	20	-1.03	22.13	0.00

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	28.90	0.00	0.00	-0.18	0.27	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	34.68	0.00	-22.16	-2242.50	0.35	-0.01
0.9 Dead+1.0 Wind 0 deg - No Ice	26.01	0.00	-22.16	-2199.50	0.26	-0.01
1.2 Dead+1.0 Wind 30 deg - No Ice	34.68	11.07	-19.20	-1942.11	-1119.13	-0.53
0.9 Dead+1.0 Wind 30 deg - No Ice	26.01	11.07	-19.20	-1904.85	-1097.78	-0.52
1.2 Dead+1.0 Wind 60 deg - No Ice	34.68	19.17	-11.08	-1121.38	-1938.65	-0.90
0.9 Dead+1.0 Wind 60 deg - No Ice	26.01	19.17	-11.08	-1099.84	-1901.61	-0.90
1.2 Dead+1.0 Wind 90 deg - No Ice	34.68	22.13	-0.00	-0.24	-2238.60	-1.03
0.9 Dead+1.0 Wind 90 deg - No Ice	26.01	22.13	-0.00	-0.17	-2195.82	-1.03
1.2 Dead+1.0 Wind 120 deg - No Ice	34.68	19.17	11.08	1120.89	-1938.63	-0.89
0.9 Dead+1.0 Wind 120 deg - No Ice	26.01	19.17	11.08	1099.49	-1901.59	-0.89
1.2 Dead+1.0 Wind 150 deg - No Ice	34.68	11.07	19.20	1941.60	-1119.11	-0.51
0.9 Dead+1.0 Wind 150 deg - No Ice	26.01	11.07	19.20	1904.49	-1097.77	-0.50
1.2 Dead+1.0 Wind 180 deg - No Ice	34.68	0.00	22.16	2241.98	0.35	0.01
0.9 Dead+1.0 Wind 180 deg - No Ice	26.01	0.00	22.16	2199.13	0.26	0.01
1.2 Dead+1.0 Wind 210 deg - No Ice	34.68	-11.07	19.20	1941.60	1119.82	0.53
0.9 Dead+1.0 Wind 210 deg - No Ice	26.01	-11.07	19.20	1904.49	1098.29	0.53
1.2 Dead+1.0 Wind 240 deg - No Ice	34.68	-19.17	11.08	1120.89	1939.33	0.90
0.9 Dead+1.0 Wind 240 deg - No Ice	26.01	-19.17	11.08	1099.49	1902.11	0.90
1.2 Dead+1.0 Wind 270 deg - No Ice	34.68	-22.13	-0.00	-0.24	2239.30	1.03
0.9 Dead+1.0 Wind 270 deg - No Ice	26.01	-22.13	-0.00	-0.17	2196.34	1.03
1.2 Dead+1.0 Wind 300 deg - No Ice	34.68	-19.17	-11.08	-1121.38	1939.35	0.89
0.9 Dead+1.0 Wind 300 deg - No Ice	26.01	-19.17	-11.08	-1099.84	1902.12	0.88
1.2 Dead+1.0 Wind 330 deg - No Ice	34.68	-11.07	-19.20	-1942.11	1119.84	0.50
0.9 Dead+1.0 Wind 330 deg - No Ice	26.01	-11.07	-19.20	-1904.85	1098.30	0.50
1.2 Dead+1.0 Ice+1.0 Temp	49.25	-0.00	-0.00	-1.37	0.09	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	49.25	-0.00	-4.96	-518.47	0.09	-0.01
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	49.25	2.48	-4.30	-449.21	-258.11	-0.11

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	49.25	4.29	-2.48	-259.98	-447.12	-0.19
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	49.25	4.96	-0.00	-1.49	-516.30	-0.22
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	49.25	4.29	2.48	257.01	-447.12	-0.18
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	49.25	2.48	4.30	446.24	-258.11	-0.10
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	49.25	-0.00	4.96	515.50	0.09	0.01
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	49.25	-2.48	4.30	446.24	258.29	0.11
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	49.25	-4.29	2.48	257.01	447.31	0.19
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	49.25	-4.96	-0.00	-1.49	516.49	0.22
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	49.25	-4.29	-2.48	-259.98	447.31	0.18
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	49.25	-2.48	-4.30	-449.21	258.29	0.10
Dead+Wind 0 deg - Service	28.90	0.00	-4.89	-489.74	0.29	-0.00
Dead+Wind 30 deg - Service	28.90	2.44	-4.23	-424.16	-244.11	-0.12
Dead+Wind 60 deg - Service	28.90	4.23	-2.44	-244.99	-423.04	-0.21
Dead+Wind 90 deg - Service	28.90	4.88	-0.00	-0.21	-488.51	-0.24
Dead+Wind 120 deg - Service	28.90	4.23	2.44	244.55	-423.02	-0.20
Dead+Wind 150 deg - Service	28.90	2.44	4.23	423.74	-244.12	-0.12
Dead+Wind 180 deg - Service	28.90	0.00	4.89	489.31	0.29	0.00
Dead+Wind 210 deg - Service	28.90	-2.44	4.23	423.74	244.70	0.12
Dead+Wind 240 deg - Service	28.90	-4.23	2.44	244.55	423.61	0.21
Dead+Wind 270 deg - Service	28.90	-4.88	-0.00	-0.21	489.10	0.24
Dead+Wind 300 deg - Service	28.90	-4.23	-2.44	-244.99	423.62	0.20
Dead+Wind 330 deg - Service	28.90	-2.44	-4.23	-424.16	244.69	0.12

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-28.90	0.00	0.00	28.90	0.00	0.000%
2	0.00	-34.68	-22.16	0.00	34.68	22.16	0.000%
3	0.00	-26.01	-22.16	0.00	26.01	22.16	0.000%
4	11.07	-34.68	-19.20	-11.07	34.68	19.20	0.000%
5	11.07	-26.01	-19.20	-11.07	26.01	19.20	0.000%
6	19.17	-34.68	-11.08	-19.17	34.68	11.08	0.000%
7	19.17	-26.01	-11.08	-19.17	26.01	11.08	0.000%
8	22.13	-34.68	0.00	-22.13	34.68	0.00	0.000%
9	22.13	-26.01	0.00	-22.13	26.01	0.00	0.000%
10	19.17	-34.68	11.08	-19.17	34.68	-11.08	0.000%
11	19.17	-26.01	11.08	-19.17	26.01	-11.08	0.000%
12	11.07	-34.68	19.20	-11.07	34.68	-19.20	0.000%
13	11.07	-26.01	19.20	-11.07	26.01	-19.20	0.000%
14	0.00	-34.68	22.16	0.00	34.68	-22.16	0.000%
15	0.00	-26.01	22.16	0.00	26.01	-22.16	0.000%
16	-11.07	-34.68	19.20	11.07	34.68	-19.20	0.000%
17	-11.07	-26.01	19.20	11.07	26.01	-19.20	0.000%
18	-19.17	-34.68	11.08	19.17	34.68	-11.08	0.000%
19	-19.17	-26.01	11.08	19.17	26.01	-11.08	0.000%
20	-22.13	-34.68	0.00	22.13	34.68	0.00	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
21	-22.13	-26.01	0.00	22.13	26.01	0.00	0.000%
22	-19.17	-34.68	-11.08	19.17	34.68	11.08	0.000%
23	-19.17	-26.01	-11.08	19.17	26.01	11.08	0.000%
24	-11.07	-34.68	-19.20	11.07	34.68	19.20	0.000%
25	-11.07	-26.01	-19.20	11.07	26.01	19.20	0.000%
26	0.00	-49.25	0.00	0.00	49.25	0.00	0.000%
27	0.00	-49.25	-4.96	0.00	49.25	4.96	0.000%
28	2.48	-49.25	-4.30	-2.48	49.25	4.30	0.000%
29	4.29	-49.25	-2.48	-4.29	49.25	2.48	0.000%
30	4.96	-49.25	0.00	-4.96	49.25	0.00	0.000%
31	4.29	-49.25	2.48	-4.29	49.25	-2.48	0.000%
32	2.48	-49.25	4.30	-2.48	49.25	-4.30	0.000%
33	0.00	-49.25	4.96	0.00	49.25	-4.96	0.000%
34	-2.48	-49.25	4.30	2.48	49.25	-4.30	0.000%
35	-4.29	-49.25	2.48	4.29	49.25	-2.48	0.000%
36	-4.96	-49.25	0.00	4.96	49.25	0.00	0.000%
37	-4.29	-49.25	-2.48	4.29	49.25	2.48	0.000%
38	-2.48	-49.25	-4.30	2.48	49.25	4.30	0.000%
39	0.00	-28.90	-4.89	0.00	28.90	4.89	0.000%
40	2.44	-28.90	-4.23	-2.44	28.90	4.23	0.000%
41	4.23	-28.90	-2.44	-4.23	28.90	2.44	0.000%
42	4.88	-28.90	0.00	-4.88	28.90	0.00	0.000%
43	4.23	-28.90	2.44	-4.23	28.90	-2.44	0.000%
44	2.44	-28.90	4.23	-2.44	28.90	-4.23	0.000%
45	0.00	-28.90	4.89	0.00	28.90	-4.89	0.000%
46	-2.44	-28.90	4.23	2.44	28.90	-4.23	0.000%
47	-4.23	-28.90	2.44	4.23	28.90	-2.44	0.000%
48	-4.88	-28.90	0.00	4.88	28.90	0.00	0.000%
49	-4.23	-28.90	-2.44	4.23	28.90	2.44	0.000%
50	-2.44	-28.90	-4.23	2.44	28.90	4.23	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	5	0.00000001	0.00004267
3	Yes	5	0.00000001	0.00001203
4	Yes	6	0.00000001	0.00057711
5	Yes	6	0.00000001	0.00018294
6	Yes	6	0.00000001	0.00059276
7	Yes	6	0.00000001	0.00018876
8	Yes	5	0.00000001	0.00021855
9	Yes	5	0.00000001	0.00010307
10	Yes	6	0.00000001	0.00057274
11	Yes	6	0.00000001	0.00018145
12	Yes	6	0.00000001	0.00058779
13	Yes	6	0.00000001	0.00018699
14	Yes	5	0.00000001	0.00004265
15	Yes	5	0.00000001	0.00001203
16	Yes	6	0.00000001	0.00058842
17	Yes	6	0.00000001	0.00018716
18	Yes	6	0.00000001	0.00057290
19	Yes	6	0.00000001	0.00018146
20	Yes	5	0.00000001	0.00021860
21	Yes	5	0.00000001	0.00010309
22	Yes	6	0.00000001	0.00059293
23	Yes	6	0.00000001	0.00018877
24	Yes	6	0.00000001	0.00057774
25	Yes	6	0.00000001	0.00018310
26	Yes	4	0.00000001	0.00002470
27	Yes	5	0.00000001	0.00060434
28	Yes	5	0.00000001	0.00085114
29	Yes	5	0.00000001	0.00086131
30	Yes	5	0.00000001	0.00060113

31	Yes	5	0.00000001	0.00083669
32	Yes	5	0.00000001	0.00084591
33	Yes	5	0.00000001	0.00059685
34	Yes	5	0.00000001	0.00084697
35	Yes	5	0.00000001	0.00083702
36	Yes	5	0.00000001	0.00060147
37	Yes	5	0.00000001	0.00086158
38	Yes	5	0.00000001	0.00085213
39	Yes	4	0.00000001	0.00028977
40	Yes	4	0.00000001	0.00094481
41	Yes	5	0.00000001	0.00008466
42	Yes	4	0.00000001	0.00031709
43	Yes	4	0.00000001	0.00092151
44	Yes	5	0.00000001	0.00008190
45	Yes	4	0.00000001	0.00028825
46	Yes	5	0.00000001	0.00008229
47	Yes	4	0.00000001	0.00092342
48	Yes	4	0.00000001	0.00031790
49	Yes	5	0.00000001	0.00008483
50	Yes	4	0.00000001	0.00094931

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 83	25.272	39	1.7516	0.0033
L2	86.25 - 43.25	10.748	39	1.2651	0.0016
L3	47.5 - 0	3.049	39	0.6106	0.0005

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
130.00	Lightning Rod 3/4" x 6'	39	25.272	1.7516	0.0033	26571
116.00	RRUS-11	39	20.262	1.6194	0.0027	9489
114.00	(2) OPA65R-BU8D w/ Mount Pipe	39	19.560	1.5996	0.0026	8303
104.00	MT6407-77A w/ Mount Pipe	39	16.155	1.4939	0.0022	5109

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 83	115.822	2	8.0472	0.0144
L2	86.25 - 43.25	49.285	2	5.8100	0.0069
L3	47.5 - 0	13.975	2	2.8012	0.0022

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
130.00	Lightning Rod 3/4" x 6'	2	115.822	8.0472	0.0144	5971

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
116.00	RRUS-11	2	92.873	7.4394	0.0119	2130
114.00	(2) OPA65R-BU8D w/ Mount Pipe	2	89.661	7.3482	0.0115	1863
104.00	MT6407-77A w/ Mount Pipe	2	74.063	6.8623	0.0098	1143

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	130 - 83 (1)	TP26.06x16x0.25	47.00	0.00	0.0	20.2171	-17.04	1182.70	0.014
L2	83 - 43.25 (2)	TP34.068x24.8644x0.3125	43.00	0.00	0.0	33.0511	-23.44	1933.49	0.012
L3	43.25 - 0 (3)	TP42.7x32.5333x0.375	47.50	0.00	0.0	51.1074	-34.66	2989.79	0.012

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	130 - 83 (1)	TP26.06x16x0.25	522.89	710.94	0.735	0.00	710.94	0.000
L2	83 - 43.25 (2)	TP34.068x24.8644x0.3125	1246.32	1493.72	0.834	0.00	1493.72	0.000
L3	43.25 - 0 (3)	TP42.7x32.5333x0.375	2242.51	2888.40	0.776	0.00	2888.40	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	130 - 83 (1)	TP26.06x16x0.25	17.59	354.81	0.050	0.01	783.82	0.000
L2	83 - 43.25 (2)	TP34.068x24.8644x0.3125	19.73	580.05	0.034	0.01	1675.88	0.000
L3	43.25 - 0 (3)	TP42.7x32.5333x0.375	22.20	896.94	0.025	0.01	3339.32	0.000

Pole Interaction Design Data

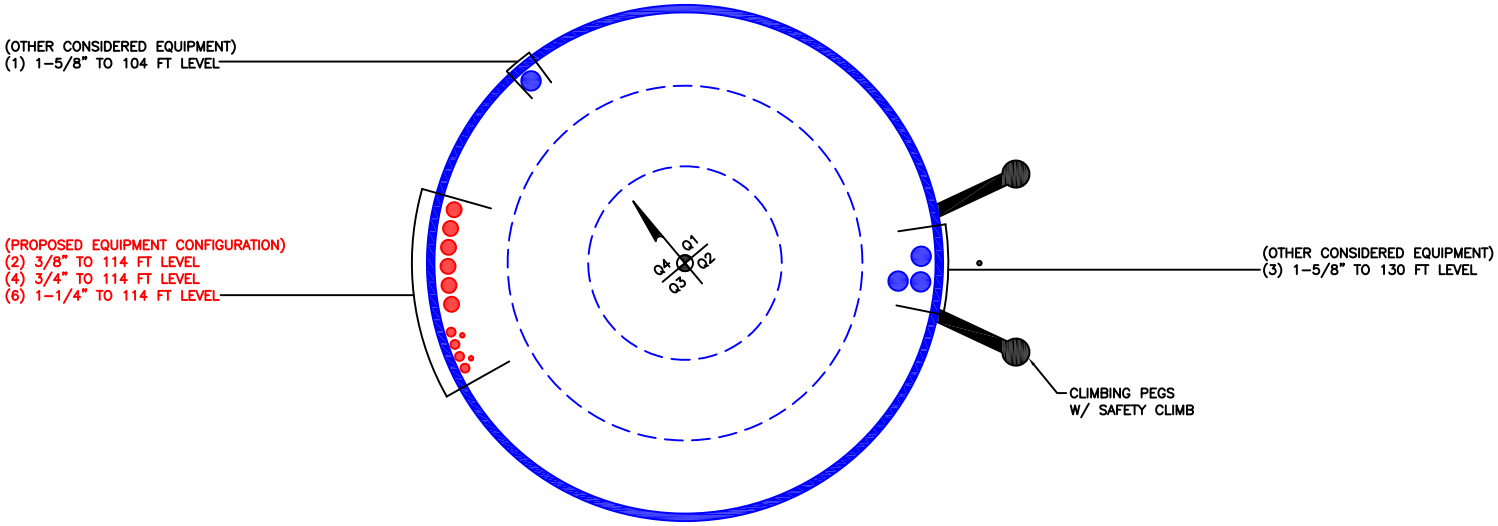
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	130 - 83 (1)	0.014	0.735	0.000	0.050	0.000	0.752	1.050	4.8.2
L2	83 - 43.25 (2)	0.012	0.834	0.000	0.034	0.000	0.848	1.050	4.8.2
L3	43.25 - 0 (3)	0.012	0.776	0.000	0.025	0.000	0.789	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	130 - 83	Pole	TP26.06x16x0.25	1	-17.04	1241.83	71.7	Pass
L2	83 - 43.25	Pole	TP34.068x24.8644x0.3125	2	-23.44	2030.16	80.7	Pass
L3	43.25 - 0	Pole	TP42.7x32.5333x0.375	3	-34.66	3139.28	75.1	Pass
							Summary	
						Pole (L2)	80.7	Pass
						RATING =	**80.7**	**Pass**

APPENDIX B

BASE LEVEL DRAWING


(OTHER CONSIDERED EQUIPMENT)
(1) 1-5/8" TO 104 FT LEVEL
(PROPOSED EQUIPMENT CONFIGURATION)
(2) 3/8" TO 114 FT LEVEL
(4) 3/4" TO 114 FT LEVEL
(6) 1-1/4" TO 114 FT LEVEL
Q1
Q2
Q3
Q4
(OTHER CONSIDERED EQUIPMENT)
(3) 1-5/8" TO 130 FT LEVEL
CLIMBING PEGS
W/ SAFETY CLIMB

APPENDIX C

ADDITIONAL CALCULATIONS

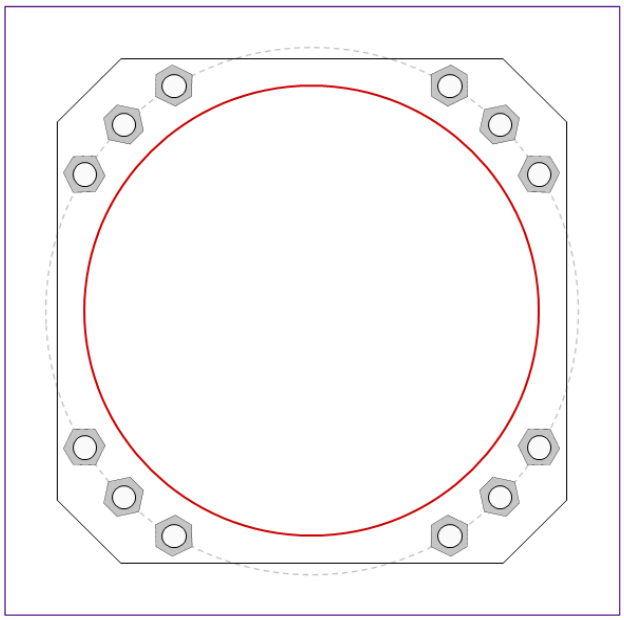
Monopole Base Plate Connection

Site Info	
BU #	876359
Site Name	NORWICH
Order #	627245 Rev. 1

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.5

Applied Loads	
Moment (kip-ft)	2242.50
Axial Force (kips)	34.66
Shear Force (kips)	22.20

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 50" BC

Anchor Spacing: 6 in

Base Plate Data

48" W x 3" Plate (A572-50; Fy=50 ksi, Fu=65 ksi); Clip: 6 in

Stiffener Data

N/A

Pole Data

42.7" x 0.375" 12-sided pole (A607-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

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

Pu_t = 176.36	ϕPn_t = 243.75	**Stress Rating**
Vu = 1.85	ϕVn = 149.1	**68.9%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	30.04	(Flexural)
Allowable Stress (ksi):	45	
Stress Rating:	**63.6%**	**Pass**

Monopole Base Reaction Comparison Test

BU # :	876359
Site Name:	NORWICH
Order Number:	627245 Rev. 1
Design TIA:	TIA-222-F
Current TIA:	TIA-222-H
Component:	Monopole Base
Reference Doc ID:	1446983

TIA-222-F Compared To TIA-222-H

MONOPOLE BASE FOUNDATION REACTION COMPARISON

REACTIONS	DESIGN REACTIONS	*MODIFIED DESIGN REACTIONS	CURRENT REACTIONS	% CAPACITY
MOMENT (kip-ft)	2260.0	3051.0	2242.5	70.0%
SHEAR (kips)	26.0	35.1	22.2	60.2%

Deisgn loads from: CCIsites Doc #1446983

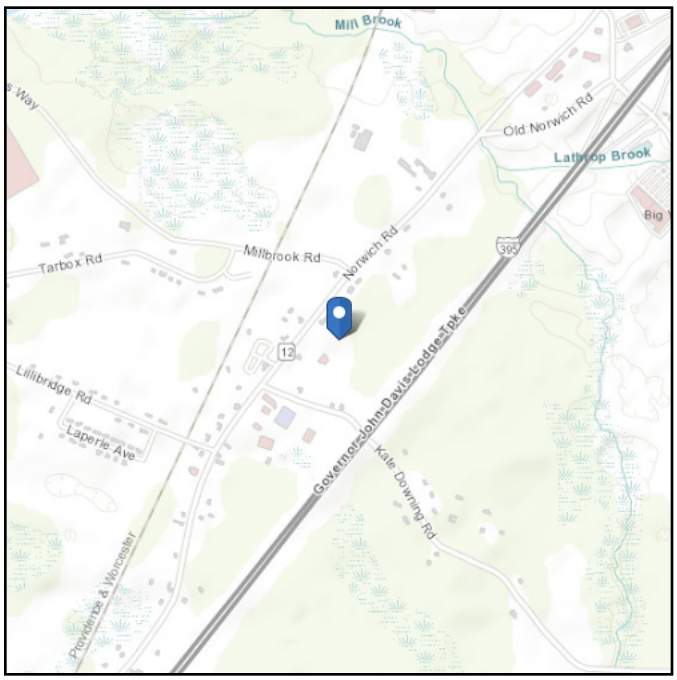
*Design loads were multiplied by 1.35 for comparison as allowed by TIA-222-H, Section 15.6.

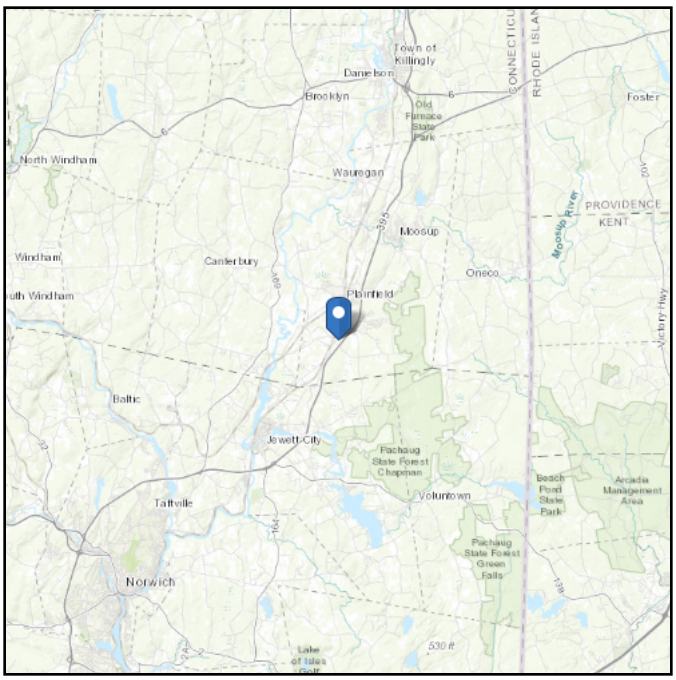
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Latitude: 41.658739
Longitude: -71.924931
Elevation: 181.69 ft (NAVD 88)





Wind

Results:

Wind Speed	124 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: Mon Feb 13 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

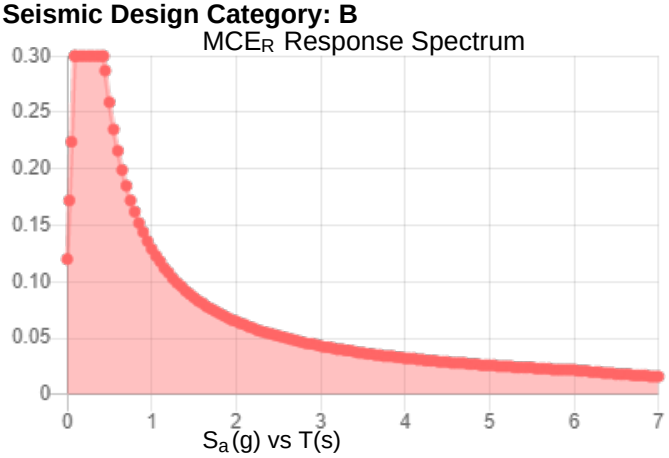
D - Default (see Section 11.4.3)

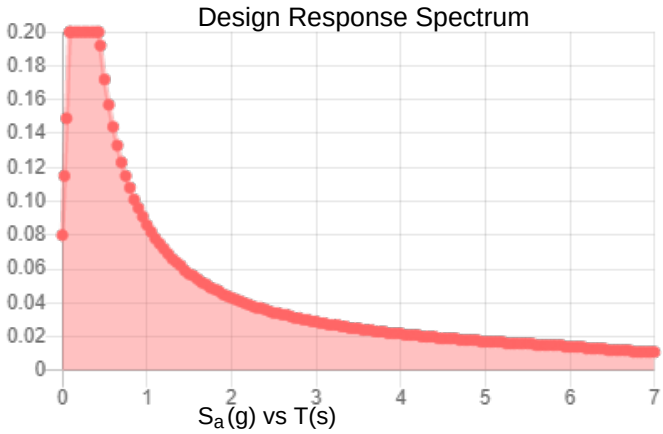
Site Soil Class:

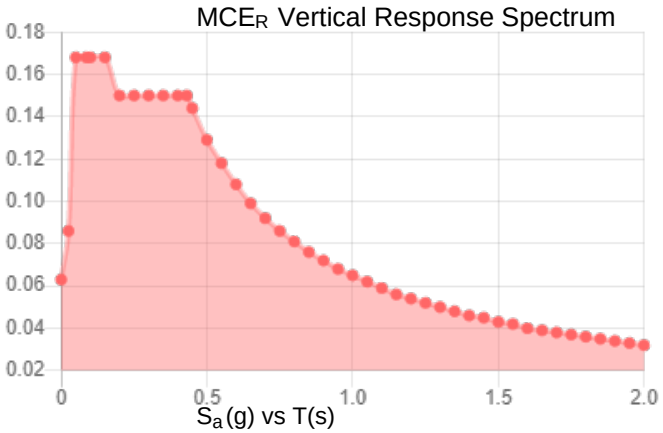
Results:

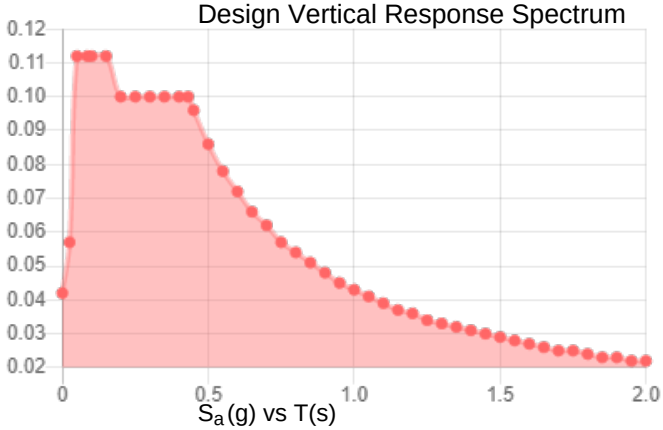
S_S :	0.187	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.102
F_v :	2.4	PGA_M :	0.163
S_{MS} :	0.3	F_{PGA} :	1.596
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.2	C_v :	0.7

Seismic Design Category: B









Data Accessed: **Mon Feb 13 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:	Mon Feb 13 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 SITE NUMBER: CTL05458
AT&T SITE NAME: PLAINFIELD SOUTH
AT&T FA CODE: 10092031
AT&T PACE NUMBER: MRCTB068551, MRCTB066207, MRCTB066211, MRCTB066257, MRCTB066208
AT&T PROJECT: 4TXRX ANTENNA RETROFIT, 5G NR 1DR-1, 5G NR 1DR-2, 4TX4RX SOFTWARE RETROFIT

BUSINESS UNIT #: 876359
SITE ADDRESS: 954 NORWICH ROAD PLAINFIELD, CT 06062
COUNTY: WINDHAM
SITE TYPE: MONOPOLE
TOWER HEIGHT: 130'-0"

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	NORWICH
SITE ADDRESS:	954 NORWICH ROAD PLAINFIELD, CT 06062
COUNTY:	WINDHAM
MAP/PARCEL #:	010-013B-0015
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.658739°
LONGITUDE:	-71.924931°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	182'
CURRENT ZONING:	C
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:	CAYA ENTERPRISES L.L.C 306 KENYON RD HAMPTON, CT 06247
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) 286-5000
TELCO PROVIDER:	AT&T (866) 620-6900

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 CHAPMAN - 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.

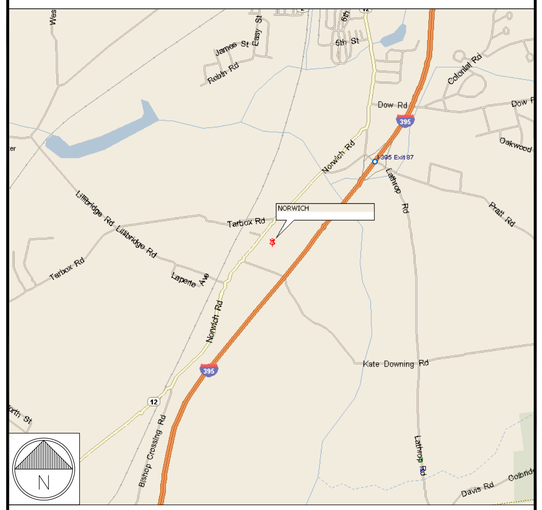
DRAWING INDEX

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	PLATFORM 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

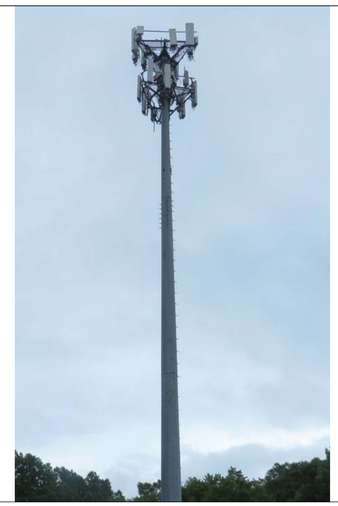
PROJECT DESCRIPTION

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

TOWER SCOPE OF WORK:
- REMOVE (1) 12' PLATFORM MOUNT
- REMOVE (3) CCI - HPA-65R-BUU-H8 ANTENNAS
- REMOVE (3) POWERWAVE - 7770 ANTENNAS
- REMOVE (3) POWERWAVE - LGP21401 TMAs
- REMOVE (3) ERICSSON - RRUS-11 B12 RRHs
- REMOVE (3) ERICSSON - RRUS-12 B2 + RRUS-A2 B25 RRHs
- REMOVE (6) COAX CABLES (1-1/4")
- RELOCATE (3) CCI - TPA-65R-LCUUUU-H8 ANTENNAS
- RELOCATE (3) ERICSSON - RRUS-32 B30 RRHs
- INSTALL (1) SITE PRO1 - RMQLP-4126-HK 14'-6" PLATFORM MOUNT & MODIFICATIONS PER MOUNT REPLACEMENT ANALYSIS BY B+T GROUP DATED FEBRUARY 9, 2023
- INSTALL (6) CCI - OPA65R-BU8DA ANTENNAS
- INSTALL (3) ERICSSON - 4449 B5/B12 RRHs
- INSTALL (3) ERICSSON - 8843 B2/B66A RRHs
- INSTALL (1) ERICSSON - 4478 B14 RRH
- INSTALL (6) DUAL RADIO MOUNTS
- INSTALL (6) Y CABLES FOR DUAL BAND RADIOS

GROUND SCOPE OF WORK:
- REMOVE (6) POWERWAVE - LGP21903 DIPLEXERS
- REMOVE (6) KAELUS - DBC0061F1V51-2 DIPLEXERS
- RELOCATE (2) ERICSSON - 4478 B14 RRHs TO TOWER
- INSTALL (2) RECTIFIERS
- INSTALL (1) 6648 W/ XCEDE CABLE

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:	CROWN CASTLE
DATED:	2/14/23
MOUNT ANALYSIS:	B+T GROUP
DATED:	2/9/23
RFDS REVISION:	PRELIMINARY
DATED:	3/7/23
ORDER ID:	627245
REVISION:	1

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT SWAP IS COMPLETE AND MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT MODIFICATION DESIGN BY B+T GROUP DATED FEBRUARY 9, 2023.

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

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

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

AT&T SITE NUMBER: **CTL05458**

BU #: **876359**
NORWICH

954 NORWICH ROAD
PLAINFIELD, CT 06062

EXISTING
130'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/22/23	TDG	PRELIMINARY REVIEW	CV
0	3/9/23	TDG	CONSTRUCTION	LR

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

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
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

AT&T SITE NUMBER: **CTL05458**

BU #: **876359**
NORWICH

954 NORWICH ROAD
PLAINFIELD, CT 06062

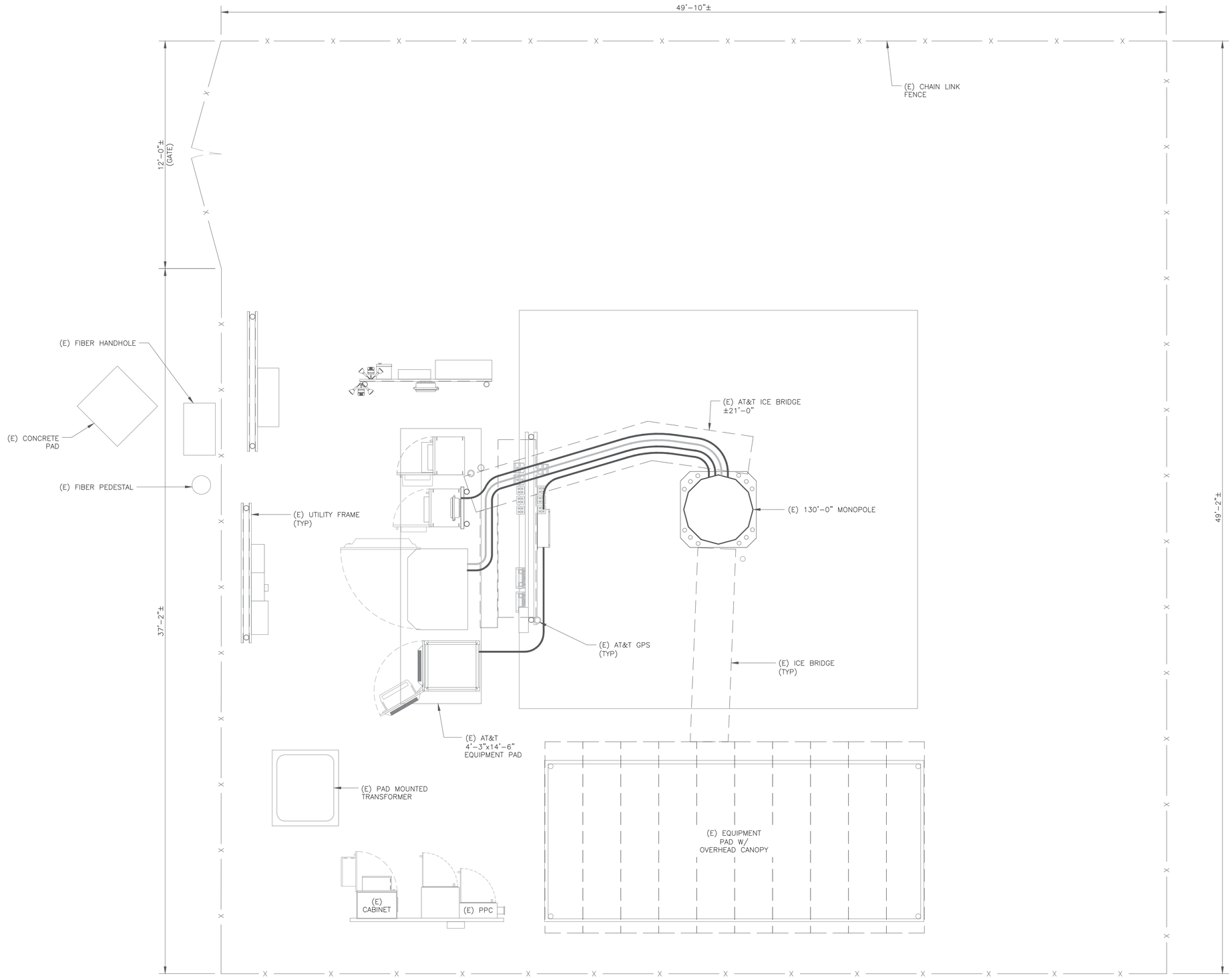
EXISTING
130'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/22/23	TDG	PRELIMINARY REVIEW	CV
0	3/9/23	TDG	CONSTRUCTION	LR

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: **T-2**
REVISION: **0**



1 SITE PLAN

SCALE: 2' 1' 0 2' 3/8"=1'-0" (FULL SIZE) 3/16"=1'-0" (11x17)

AT&T
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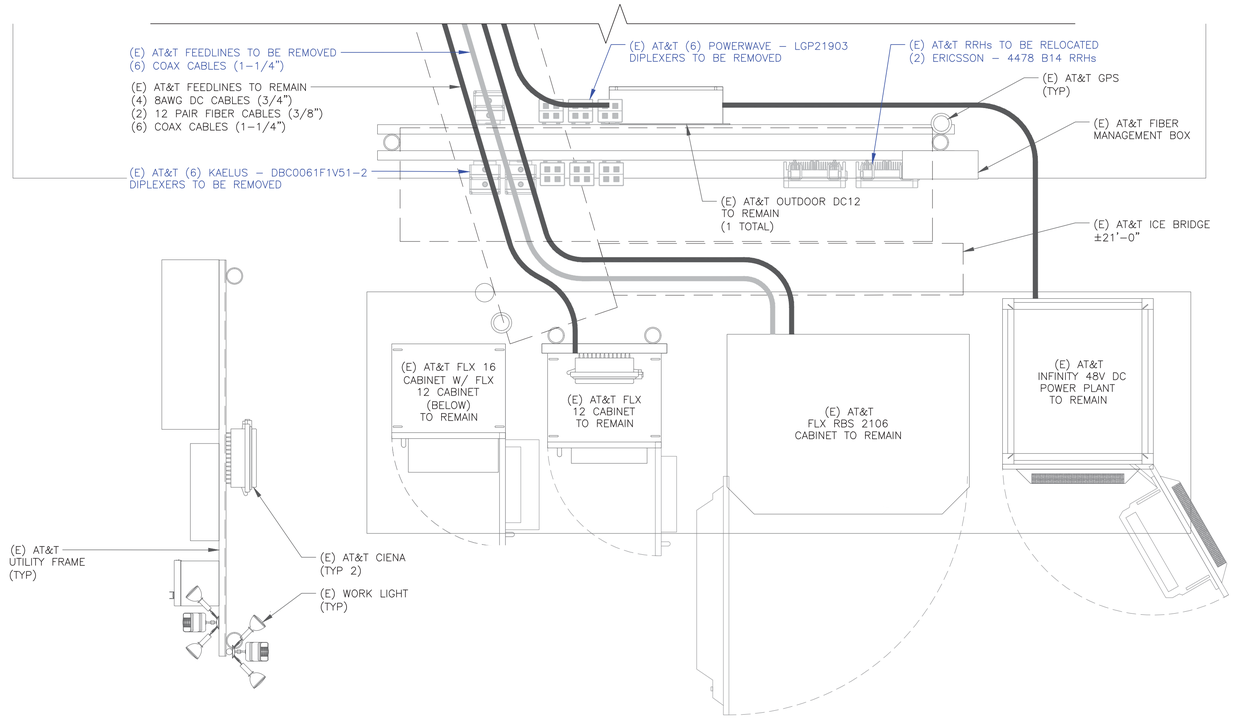
STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
3/9/23

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

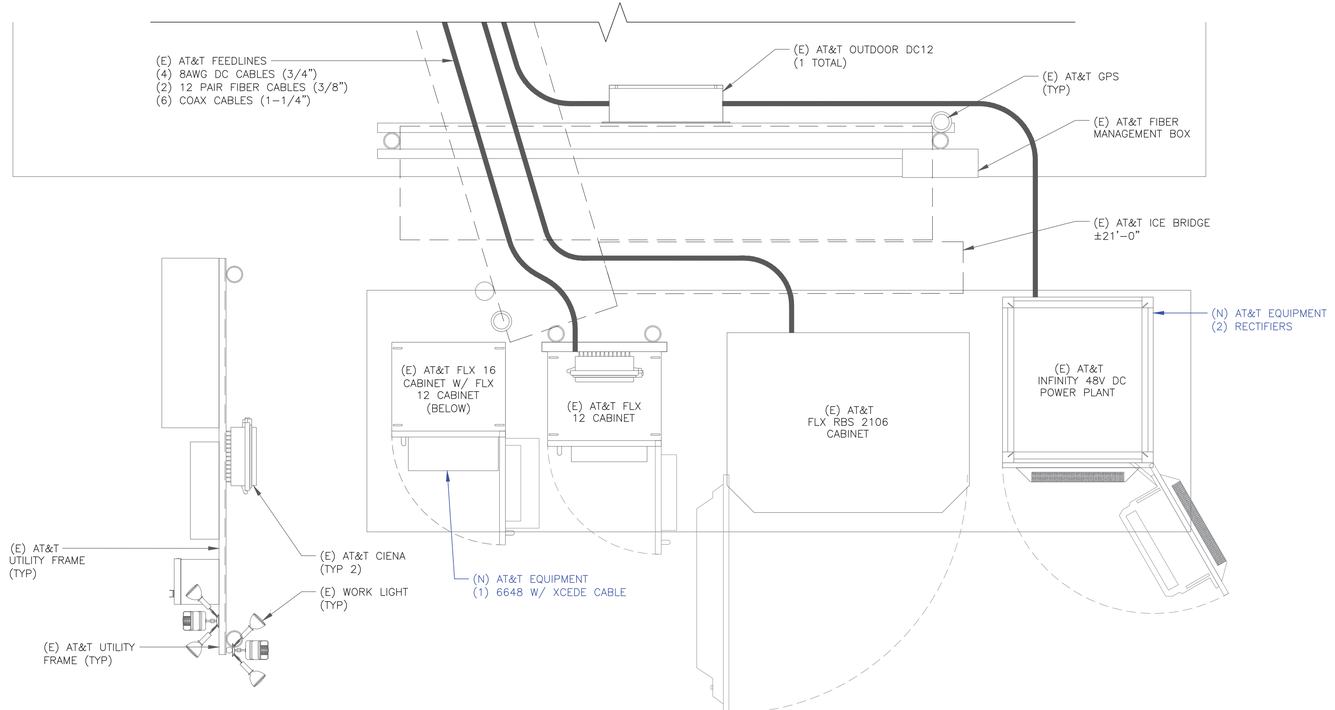
SHEET NUMBER: C-1.1

REVISION: 0



1 EXISTING EQUIPMENT PLAN

SCALE: 1' 6" 0 1' — 3/4"=1'-0" (FULL SIZE) 3/8"=1'-0" (11x17)



2 FINAL EQUIPMENT PLAN

SCALE: 1' 6" 0 1' — 3/4"=1'-0" (FULL SIZE) 3/8"=1'-0" (11x17)

GROUND SCOPE OF WORK:

- REMOVE (6) POWERWAVE - LGP21903 DIPLEXERS
- REMOVE (6) KAELUS - DBC0061F1V51-2 DIPLEXERS
- RELOCATE (2) ERICSSON - 4478 B14 RRHs TO TOWER
- INSTALL (2) RECTIFIERS
- INSTALL (1) 6648 W/ XCEDE CABLE

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AT&T SITE NUMBER: **CTL05458**

BU #: **876359**
NORWICH

954 NORWICH ROAD
PLAINFIELD, CT 06062

EXISTING
130'-0" MONOPOLE

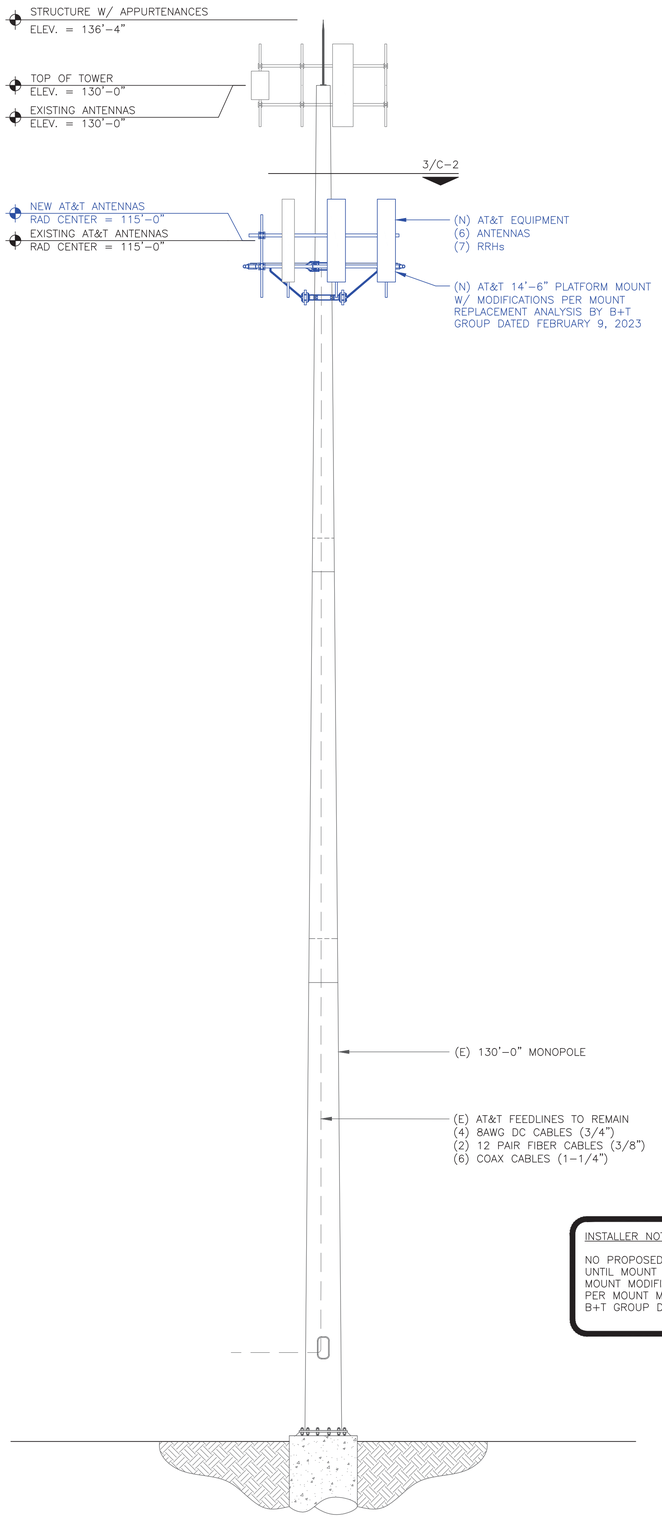
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/22/23	TDG	PRELIMINARY REVIEW	CV
0	3/9/23	TDG	CONSTRUCTION	LR

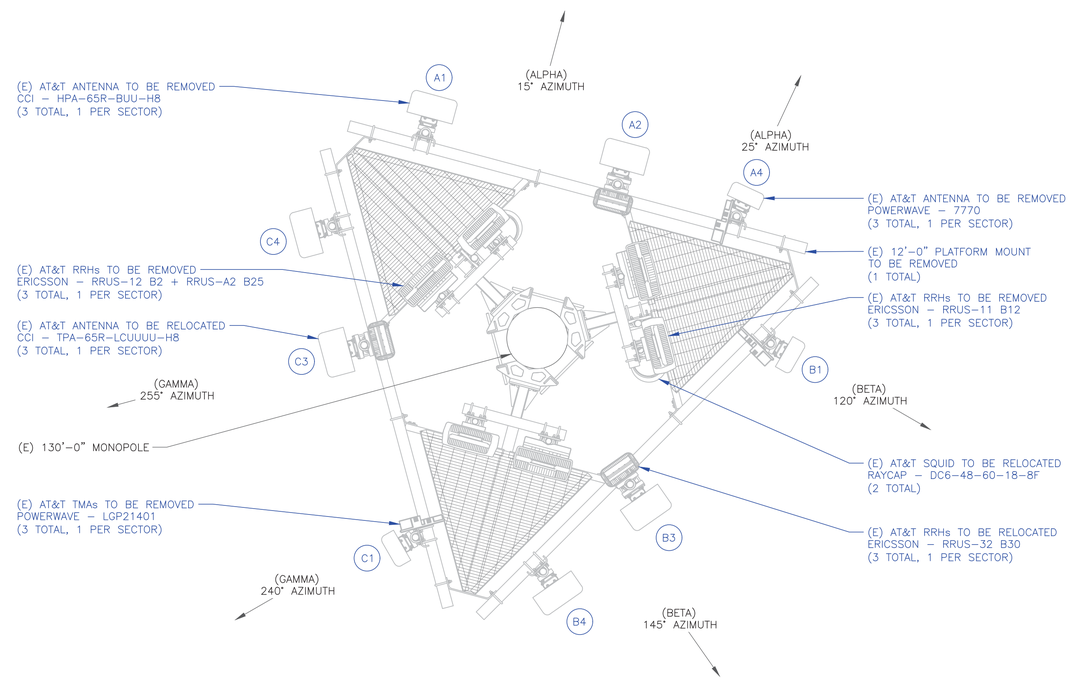
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-1.2

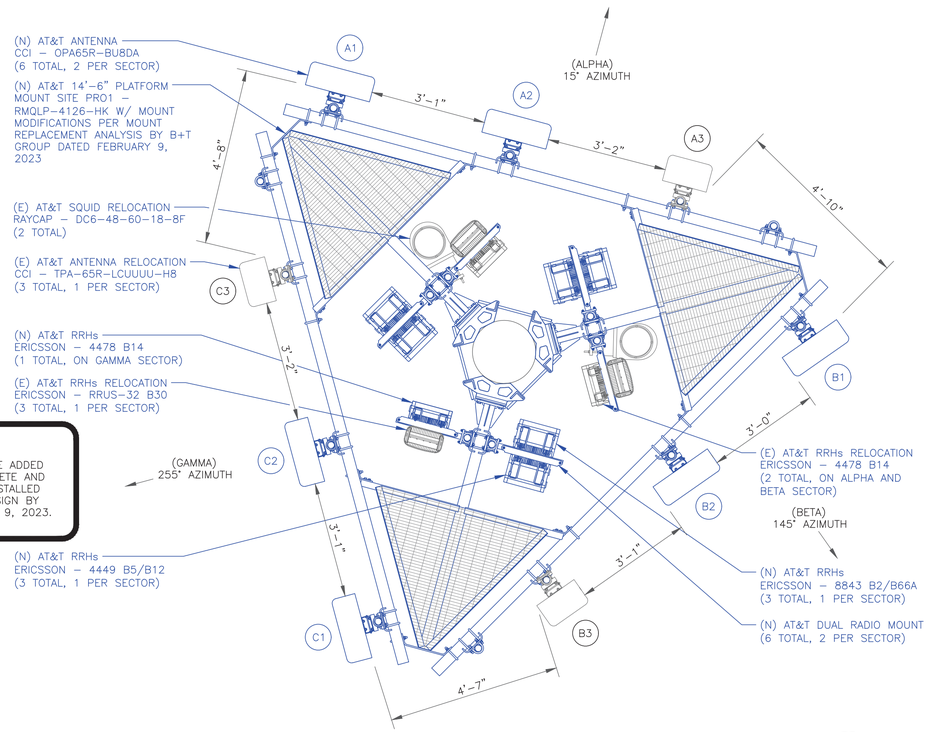
REVISION: 0



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)



3 FINAL 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 AND MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT MODIFICATION DESIGN BY B+T GROUP DATED FEBRUARY 9, 2023.

"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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AT&T SITE NUMBER: **CTL05458**

BU #: **876359**
NORWICH

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PLAINFIELD, CT 06062

EXISTING
130'-0" MONOPOLE

ISSUED FOR:

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0	3/9/23	TDG	CONSTRUCTION	LR

STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
3/9/23

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

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	LTE/5G	(N) CCI – OPA65R–BU8DA	15°	115'–0"	1 1	(N) 4449 B5/B12 (N) Y–CABLE	TOWER	–	–	–	–	–	–	–	–	–	–	–	
					1 1	(N) 8843 B2/B66A (N) Y–CABLE	TOWER												
A2	LTE/5G	(N) CCI – OPA65R–BU8DA	15°	115'–0"	1	(E) 4478 B14	TOWER		–	–	–	–	–	–	–	–	–	–	
A3	LTE	(E) CCI – TPA–65R–LCUUUU–H8	15°	115'–0"	1	(E) RRUS–32 B30	TOWER		–	–	–	–	–	–	–	–	–	–	
A4	–	–	–	–	–	–	–	–	–	–	–	–	1	(E) DC6–48–60–18–8F	2	(E) DC	3/4"	165'–0"	
															1	(E) FIBER	3/8"	165'–0"	
BETA																			
B1	LTE/5G	(N) CCI – OPA65R–BU8DA	145°	115'–0"	1 1	(N) 4449 B5/B12 (N) Y–CABLE	TOWER	–	–	–	–	–	–	–	–	–	–	–	
					1 1	(N) 8843 B2/B66A (N) Y–CABLE	TOWER												
B2	LTE/5G	(N) CCI – OPA65R–BU8DA	145°	115'–0"	1	(E) 4478 B14	TOWER	–	–	–	–	–	–	–	–	–	–	–	
B3	LTE	(E) CCI – TPA–65R–LCUUUU–H8	145°	115'–0"	1	(E) RRUS–32 B30	TOWER	–	–	–	–	–	–	–	–	–	–	–	
B4	–	–	–	–	–	–	–	–	–	–	–	–	1	(E) DC6–48–60–18–8F	2	(E) DC	3/4"	165'–0"	
															1	(E) FIBER	3/8"	165'–0"	
GAMMA																			
C1	LTE/5G	(N) CCI – OPA65R–BU8DA	255°	115'–0"	1 1	(N) 4449 B5/B12 (N) Y–CABLE	TOWER	–	–	–	–	–	–	–	–	–	–	–	
					1 1	(N) 8843 B2/B66A (N) Y–CABLE	TOWER												
C2	LTE/5G	(N) CCI – OPA65R–BU8DA	255°	115'–0"	1	(N) 4478 B14	TOWER	–	–	–	–	–	–	–	–	–	–	–	
C3	LTE	(E) CCI – TPA–65R–LCUUUU–H8	255°	115'–0"	1	(E) RRUS–32 B30	TOWER	–	–	–	–	–	–	–	–	–	–	–	
C4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
														UNUSED FEEDLINES	6	(E) COAX	1–1/4"	165'–0"	

NOTE:
(E) – EXISTING
(N) – NEW

1 FINAL ANTENNA AND FEEDLINE SCHEDULE
SCALE: NOT TO SCALE

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AT&T SITE NUMBER: **CTL05458**

BU #: **876359**
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EXISTING
130'-0" MONOPOLE

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STATE OF CONNECTICUT
No. 23924
LICENSED
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3/9/23

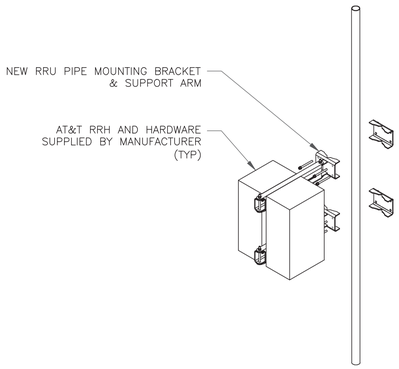
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-3

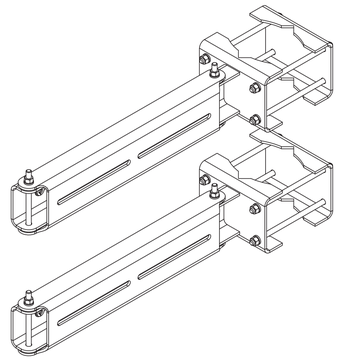
REVISION: 0

INSTALLER NOTES:

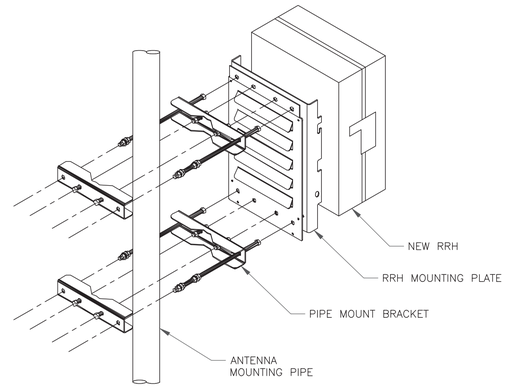
1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



1 DUAL RRH MOUNTING DETAIL
SCALE: NOT TO SCALE



2 DUAL RADIO MOUNT
SCALE: NOT TO SCALE



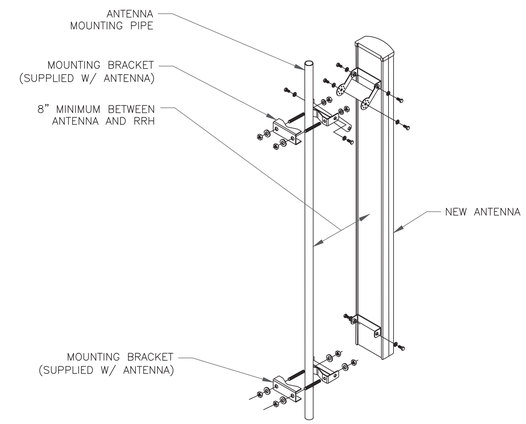
NOTE:
ANTENNA NOT SHOWN FOR CLARITY

3 SINGLE RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE

INSTALLER NOTES:

1. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.
2. EQUIPMENT SHALL NOT BE INSTALLED CLOSER THAN 8" TO ANTENNAS.



5 ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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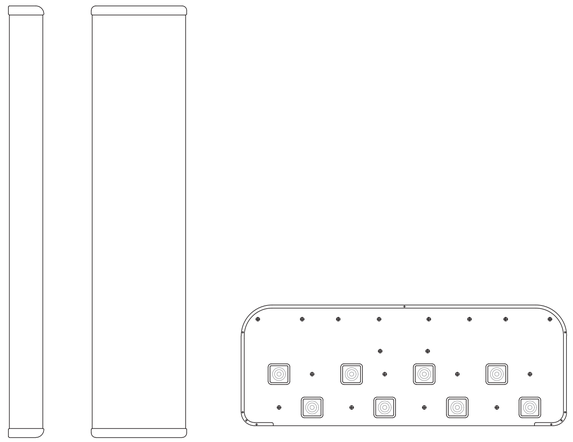
Expires 3/31/23

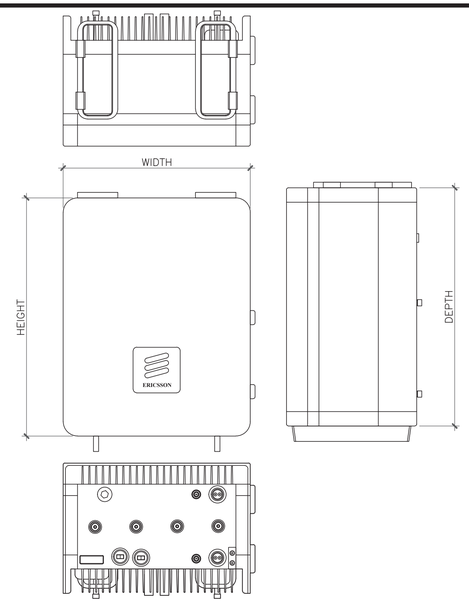
SHEET NUMBER: C-4

REVISION: 0



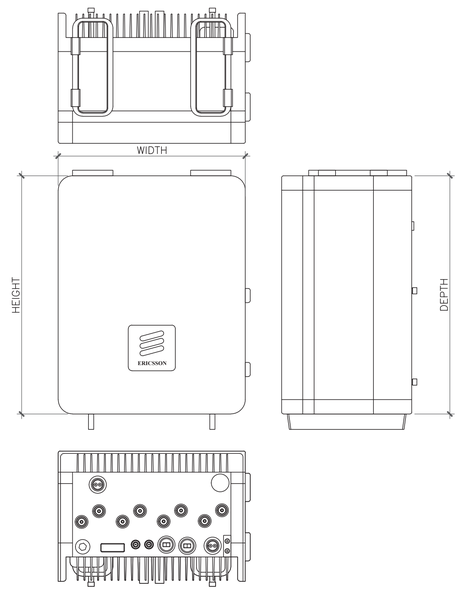
CCI ANTENNAS – OPA65R-BU8DA
WEIGHT (WITHOUT MOUNTING HARDWARE): 76.5 LBS
SIZE (HxWxD): 96.0x21.0x7.8 IN.
MOUNTING HARDWARE P/N: MBK-01
RATED WIND VELOCITY: 150.0 MPH

1 CCI ANTENNAS – OPA65R-BU8DA
SCALE: NOT TO SCALE



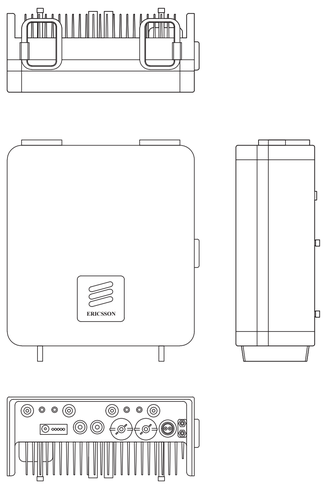
ERICSSON – RADIO 4449 B5/B12
WEIGHT: 70.0 LBS
SIZE (HxWxD): 18.0x13.2x9.4 IN.

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



ERICSSON – RADIO 8843 B2/B66A
WEIGHT: 75.0 LBS
SIZE (HxWxD): 18.0x13.2x11.3 IN.

3 ERICSSON – RADIO 8843 B2/B66A
SCALE: NOT TO SCALE



ERICSSON – RRUS 4478 B14
WEIGHT: 60.0 LBS
SIZE (HxWxD): 15.0x13.0x8.0 IN.

4 ERICSSON – RRUS 4478 B14
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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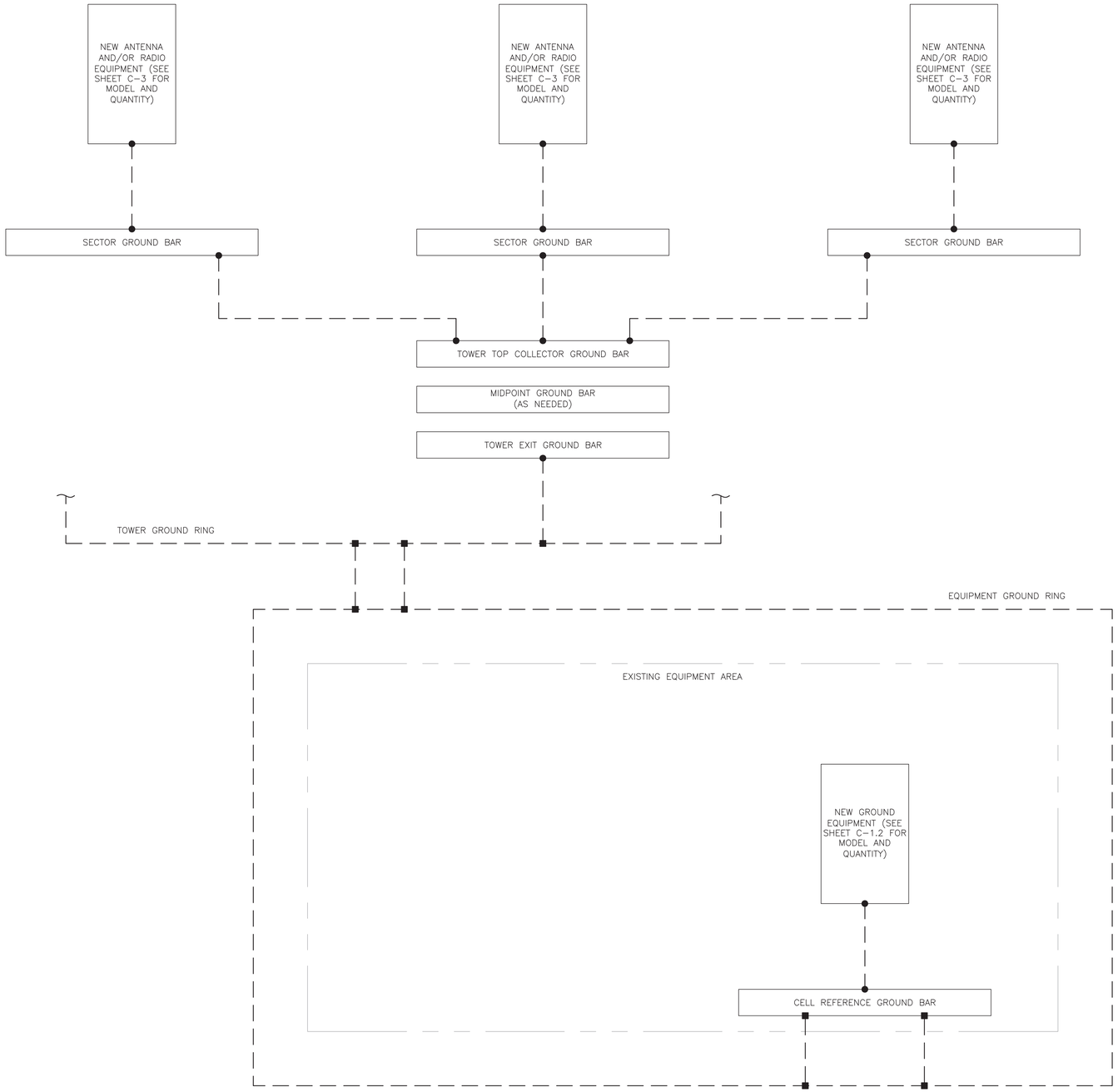
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-5

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.

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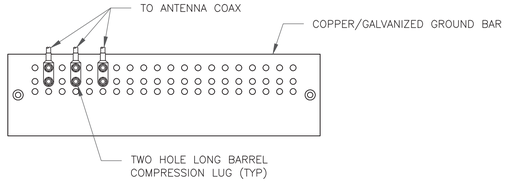
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: G-1
REVISION: 0

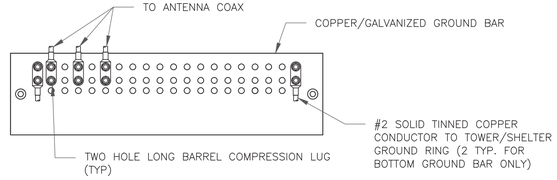
79791.007.01.0001_NORWICH.dwg – Sheet:G-1 – User: lisa.rider – Mar 09, 2023 – 3:38pm



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

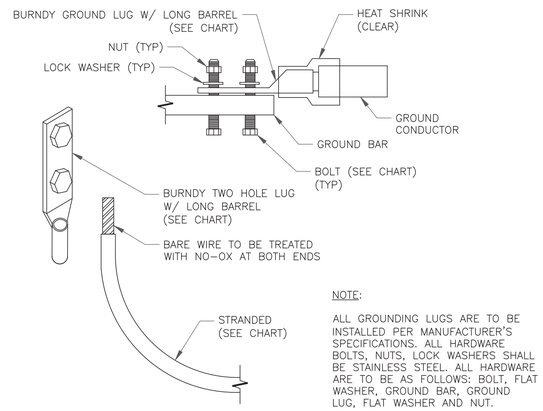


NOTES:

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

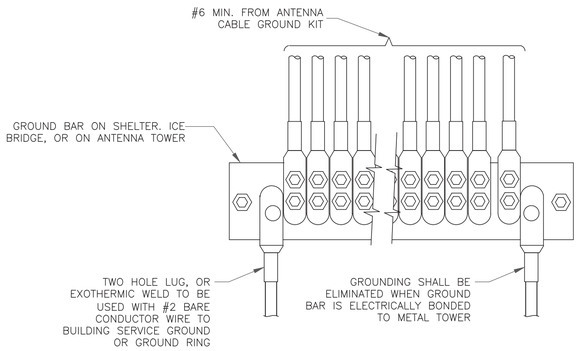
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



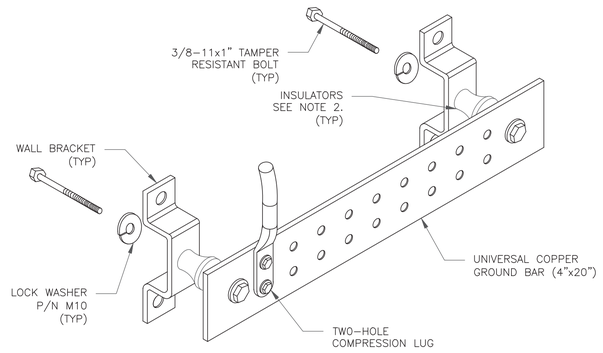
NOTE:

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

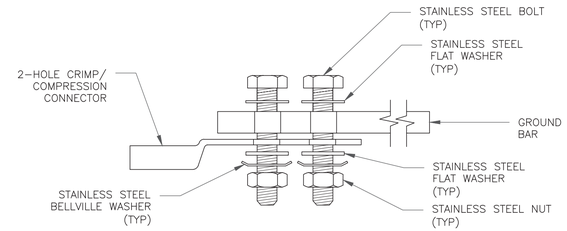


NOTES:

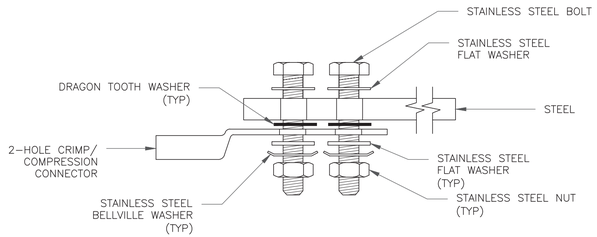
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.

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

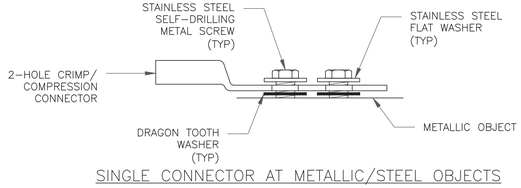
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

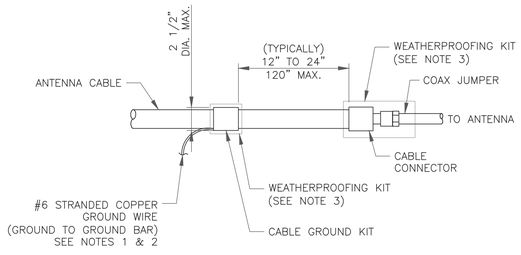


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

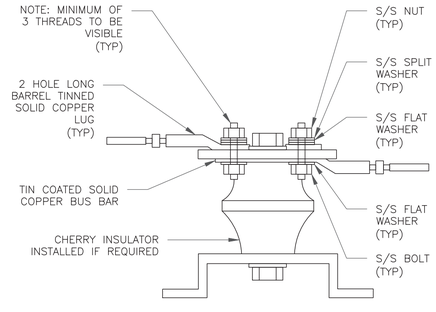
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



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
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

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

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

AT&T SITE NUMBER: **CTL05458**

BU #: **876359**
NORWICH

954 NORWICH ROAD
PLAINFIELD, CT 06062

EXISTING
130'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/22/23	TDG	PRELIMINARY REVIEW	CV
0	3/9/23	TDG	CONSTRUCTION	LR

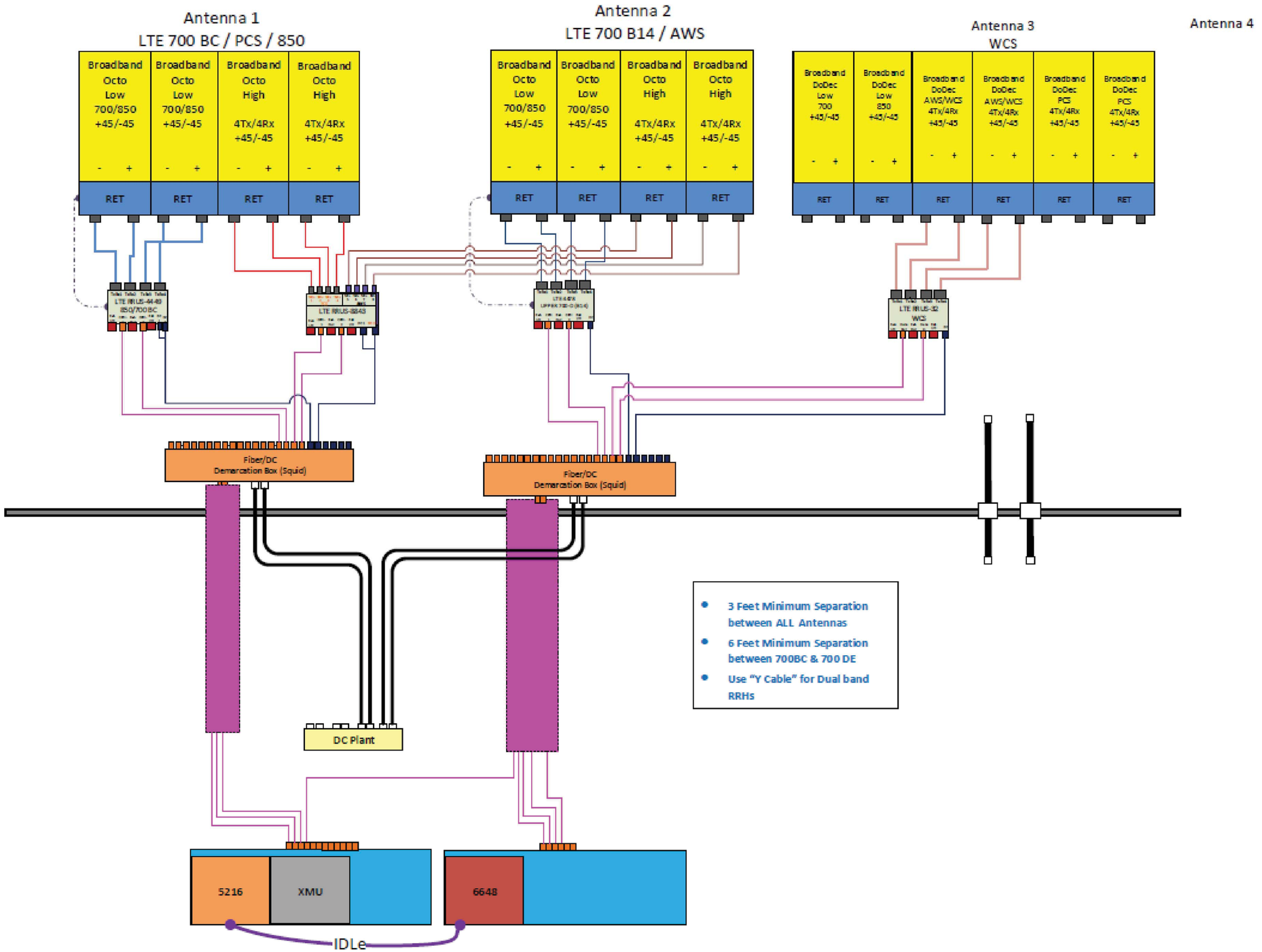
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

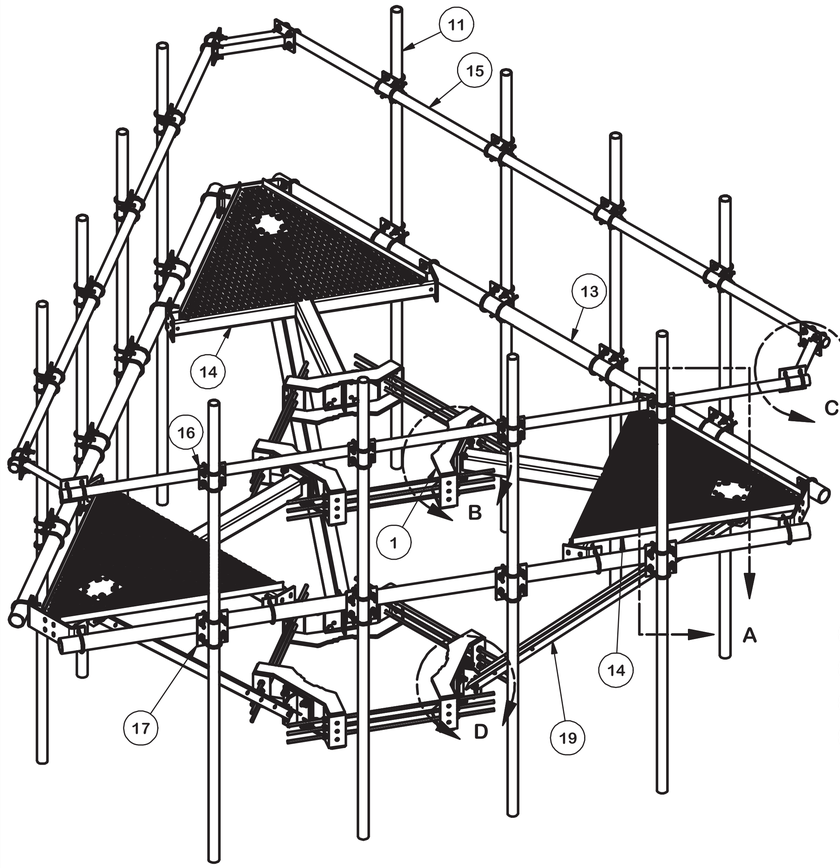
SHEET NUMBER: G-2

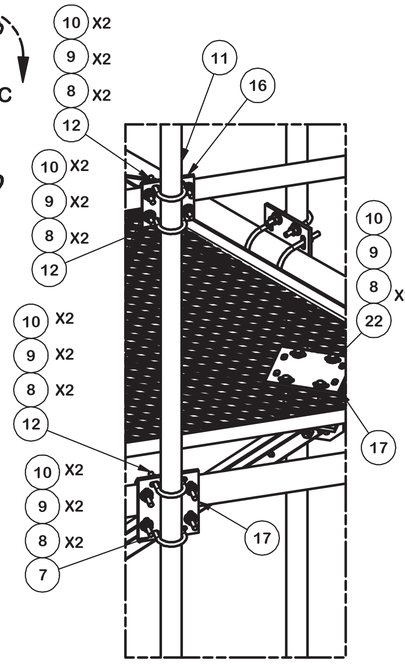
REVISION: 0

Diagram - Sector	A	Diagram File Name - CT5458 ABC MULTICARRIER_1.vsd					
Atoll Site Name -	CTV5458	Location Name -	PLAINFIELD SOUTH	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: "Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/ radio Port connections Field Notice (RF-HW-2016-265)"

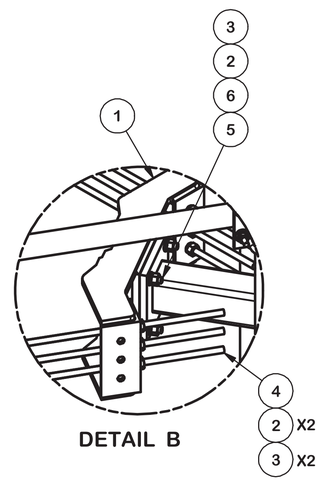




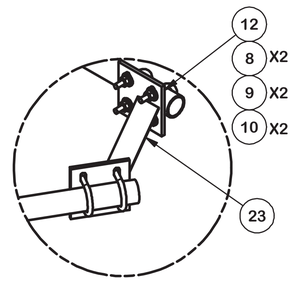


DETAIL A

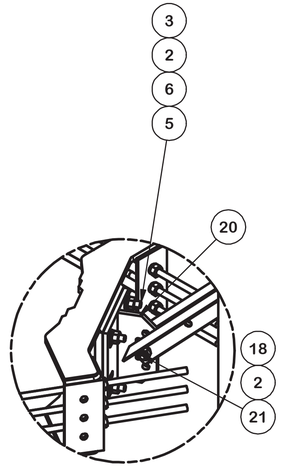
PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	6	X-LWRM	RING MOUNT WELDMENT		68.81	412.85
2	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
3	60	A58NUT	5/8'' HDG A325 HEX NUT		0.13	7.79
4	18	G58R-24	5/8" x 24" THREADED ROD (HDG.)		2.09	37.63
4	18	G58R-48	5/8" x 48" THREADED ROD (HDG.)		4.18	75.27
5	24	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2 3/4 in	0.36	8.54
6	24	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.82
7	36	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	29.82
8	264	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	9.00
9	252	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	3.50
10	252	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	18.05
11	12	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	489.03
12	84	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	52.51
13	3	P3174	3-1/2" X 174" SCH 40 GALVANIZED PIPE	174 in	109.97	329.90
14	3	X-SV196L	LONG PLATFORM WELDMENT		230.94	692.81
15	3	P2174	2-3/8" OD X 174" SCH 40 GALVANIZED PIPE	174 in	55.75	167.24
16	12	SCX1	CROSSOVER PLATE 2-3/8" X 2-3/8"	6 in	3.71	44.50
17	15	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	90.32
18	6	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	0.78
19	6	X-254923	PLATFORM REINFORCEMENT KIT ANGLE	84 in	22.83	137.00
20	6	X-TBW	T-BRACKET WELDMENT		13.60	81.60
21	6	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.62
22	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	5 1/2 in	0.41	4.91
23	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
					TOTAL WT. #	2735.65



DETAIL B



DETAIL C



DETAIL D

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
B	RELOCATED MAST PIPE LOCATIONS	4488	KC8	5/26/2021
A	CHANGED X-253992 TO X-TBW	4488	CEK	9/20/2018

REVISION HISTORY

TOLERANCE NOTES

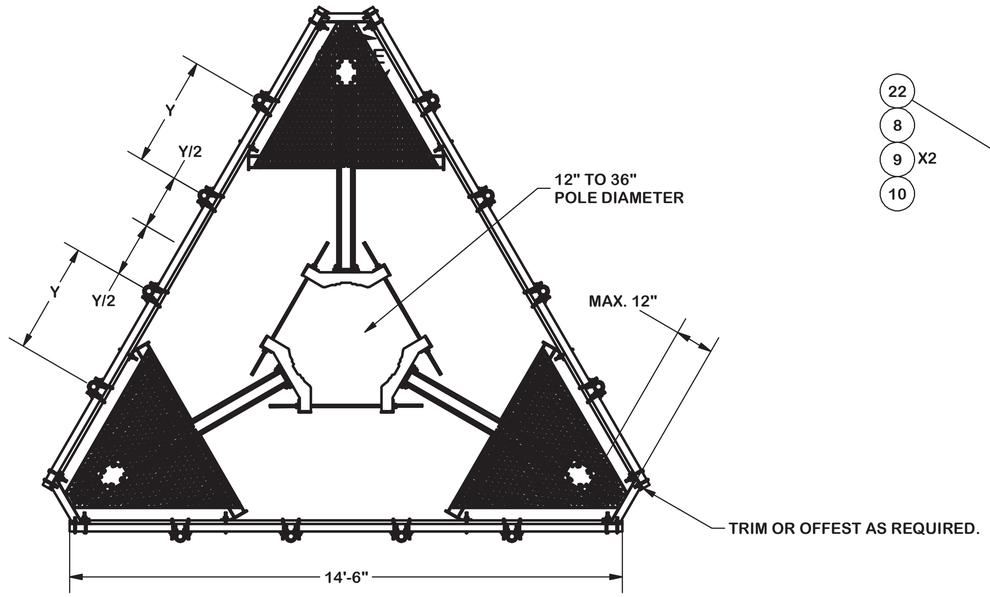
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES *(± 0.030")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

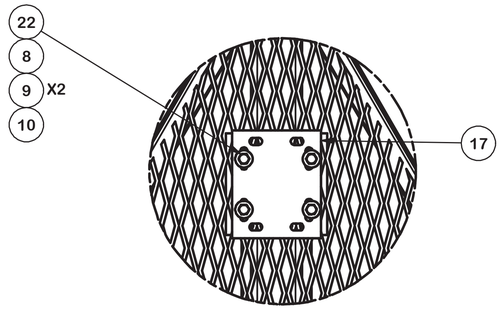
DESCRIPTION
14' 6" LOW PROFILE PLATFORM WITH TWELVE 2-3/8" ANTENNA MOUNTING PIPES, AND SUPPORT RAIL

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

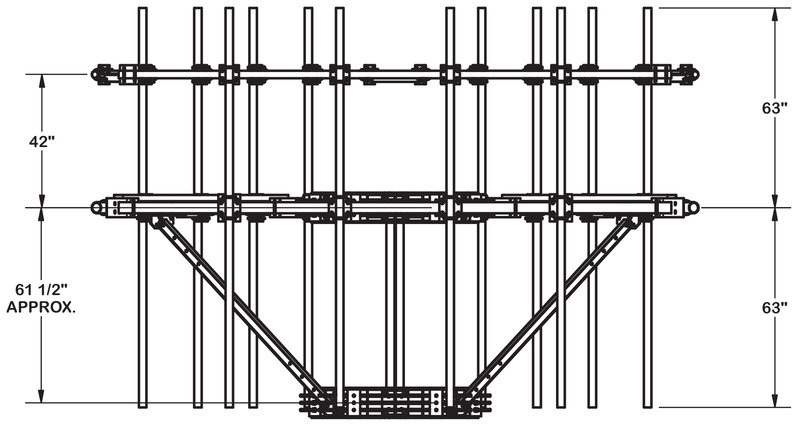
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4488	CEK 2/5/2018		RMQLP-4126-HK

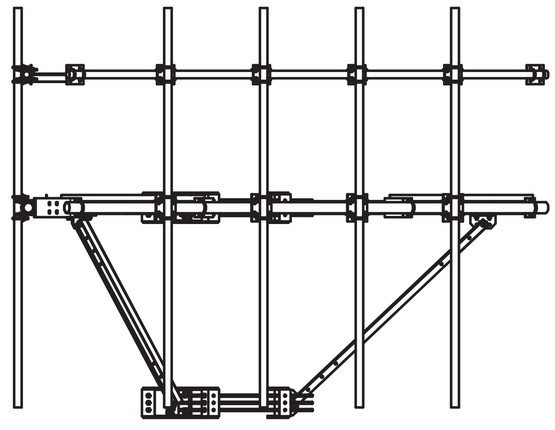
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 2/6/2018	RMQLP-4126-HK





DETAIL E





REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
B	RELOCATED MAST PIPE LOCATIONS	4488	KC8	5/26/2021
A	CHANGED X-253992 TO X-TBW	4488	CEK	9/20/2018

REVISION HISTORY

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14' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-3/8" ANTENNA MOUNTING
PIPES, AND SUPPORT RAIL

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4488	CEK 2/5/2018		RMQLP-4126-HK
CLASS / SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87 / 02	CUSTOMER	BMC 2/6/2018	RMQLP-4126-HK

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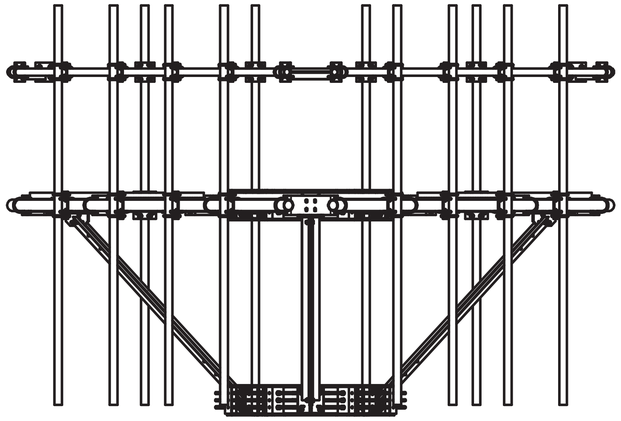

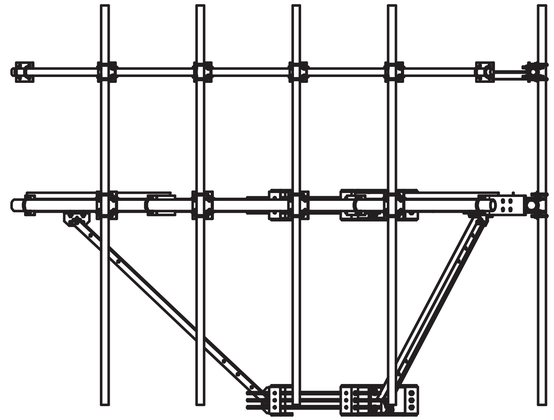

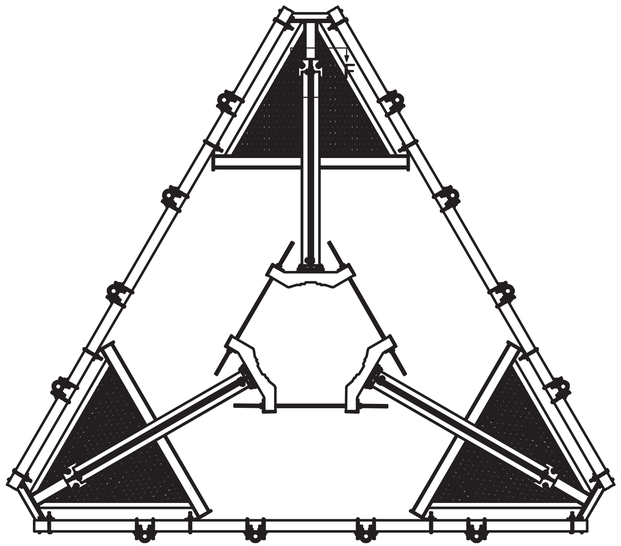

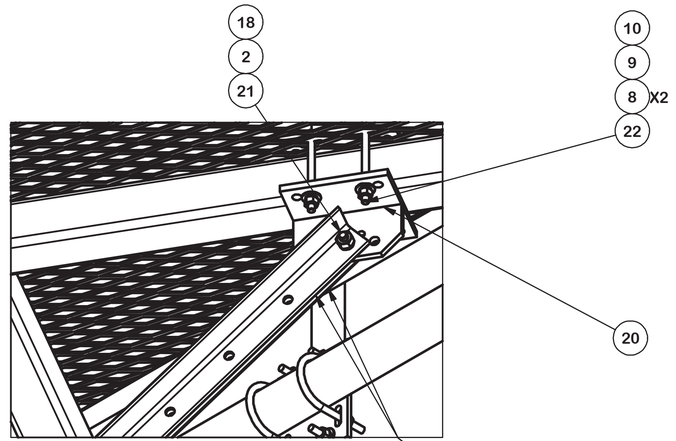

DETAIL F

TOLERANCE NOTES

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REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
B	RELOCATED MAST PIPE LOCATIONS	4488	KC8	5/26/2021
A	CHANGED X-253992 TO X-TBW	4488	CEK	9/20/2018

REVISION HISTORY

DESCRIPTION
14' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-3/8" ANTENNA MOUNTING
PIPES, AND SUPPORT RAIL

SITE PRO 1 — A valmont COMPANY

Engineering Support Team:
1-888-753-7446

Locations:
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Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4488	CEK 2/5/2018		RMQLP-4126-HK

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 2/6/2018	RMQLP-4126-HK