

August 15, 2022

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

**RE: Notice of Exempt Modification for ATT
Crown #5800059; ATT Site ID CTL01266
258 Ridge Road, Madison, CT 06433
Latitude: 41° 18' 33.30" / Longitude: -72° 36' 51.57"**

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 140-foot level of the existing 150-foot monopole tower at 258 Ridge Road, Madison, CT. The tower is owned by Crown Castle USA Inc. and the property is owned by the Town of Madison. AT&T now intends to replace nine (9) antennas, install twelve (12) new antennas and ancillary equipment at the 140-foot level. This modification may include B2, B5, B17, B14, B29, B30, B66 & n77 hardware that is 4G(LTE) and/or 5G NR capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:

Tower:

Installed New:

- (3) CCI-TPA65R-BU6DA-K Antennas
- (6) Ericsson-AIR6449 B77D + AIR6419 B77G Stacked Antennas
- (3) CCI-OPA65R-BU6DA Antennas
- (2) RAYCAP-DC6-48-60-18-8C-EV Squids
- (3) Ericsson-4478 B14 RRHs
- (3) Ericsson-4426 B66 RRHs
- (3) Ericsson-4449 B5/B12 RRHs
- (4) 7/8" 6AWG DC Cables
- (2) 3/8" 18-Pair Fiber Cables
- (6) Dual Radio Mounts
- (3) 2-3/8" O.D. SCH 40 x 6'-0" Long Mount Pipes w/SITEPRO1-BBPM-K1
- (3) Y CABLES

Remove:

- (6) POWERWAVE-7770 Antennas
- (3) CCI-HPA-65R-BUU-H6 Antennas
- (3) ERICSSON-RRUS-11-B12 RRHS
- (6) POWERWAVE-LGP-21401 TMAs
- (6) POWERWAVE-LGP-21901 Diplexers

The Foundation for a Wireless World.

CrownCastle.com

Ground:

Install New:

- (1) 6648 EBBU with XCEDE CABLE
- (1) 6630 EBBU with IDLE CABLE
- (1) RMDC12
- (10) Rectifiers
- (3) 170AH Battery Strings
- (1) NETSURE 7100 Power Plant

Remove:

- (12) POWERWAVE-LGP 21901 Diplexers
- (1) INFINITY POWER PLANT
- UMTS CABINET
- (6) 1-5/8" COAX CABLES

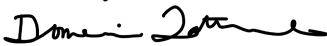
The facility was approved by the Connecticut Siting Council, Docket No. 363 on October 30, 2008. Please see attached.

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 Selectwoman Peggy Lyons as both the municipality and property owner, Town Planner Erin Mannix 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

Melanie A. Bachman

Page 3

Attachments

cc:

First Selectwoman Peggy Lyons (as municipality & property owner)
Town of Madison
8 Campus Drive
Madison, CT 06443
203-245-5602

Erin Mannix, Town Planner
Town of Madison
8 Campus Drive
Madison, CT 06443
203-245-5631

Crown Castle, Tower Owner

From: TrackingUpdates@fedex.com
To: [Tatasciore, Domenica](#)
Subject: FedEx Shipment 777633037290: Your package has been delivered
Date: Tuesday, August 16, 2022 10:17:18 AM

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FedEx



Hi. Your package was
delivered Tue, 08/16/2022 at
10:13am.



Delivered to 8 CAMPUS DR, MADISON, CT 06443
Received by C.CHAMPAGNE

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777633037290](#)

FROM Domenica Tatasciore
1800 West Park Drive

Suite 200
WESTBOROUGH, MA, US, 01581

TO Town of Madison
Peggy Lyons, First Selectwoman
8 Campus Drive
MADISON, CT, US, 06443

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Mon 8/15/2022 04:42 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

DESTINATION MADISON, CT, US, 06443

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 0.50 LB

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10:13am.



Delivered to 8 CAMPUS DR, MADISON, CT 06443
Received by C.CHAMPAGNE

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777633049238](#)

FROM Domenica Tatasciore
1800 West Park Drive

Suite 200
WESTBOROUGH, MA, US, 01581

TO Town of Madison
Erin Mannix, Town Planner
8 Campus Drive
MADISON, CT, US, 06443

REFERENCE 799001.7680

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Thank you for your business.

DOCKET NO. 363 – Crown Communications Inc. application } Connecticut
for a Certificate of Environmental Compatibility and Public Need }
for the construction, maintenance and operation of a } Siting
telecommunications facility located at 258 Ridge Road, Madison, }
Connecticut. } Council

October 30, 2008

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Crown Communications Inc., hereinafter referred to as the Certificate Holder, for a telecommunications facility at 258 Ridge Road, Madison, Connecticut

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Omnipoint Communications, Inc. and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level. The tower and compound shall be moved approximately 50 feet to the north to avoid tree clearing.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Madison for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
 - b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Madison public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Madison. Any proposed modifications to this Decision and Order shall likewise be so served.
9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the *New Haven Register* and *The Source*.

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

The parties and intervenors to this proceeding are:

Applicant

Crown Communications, Inc.

Its Representative

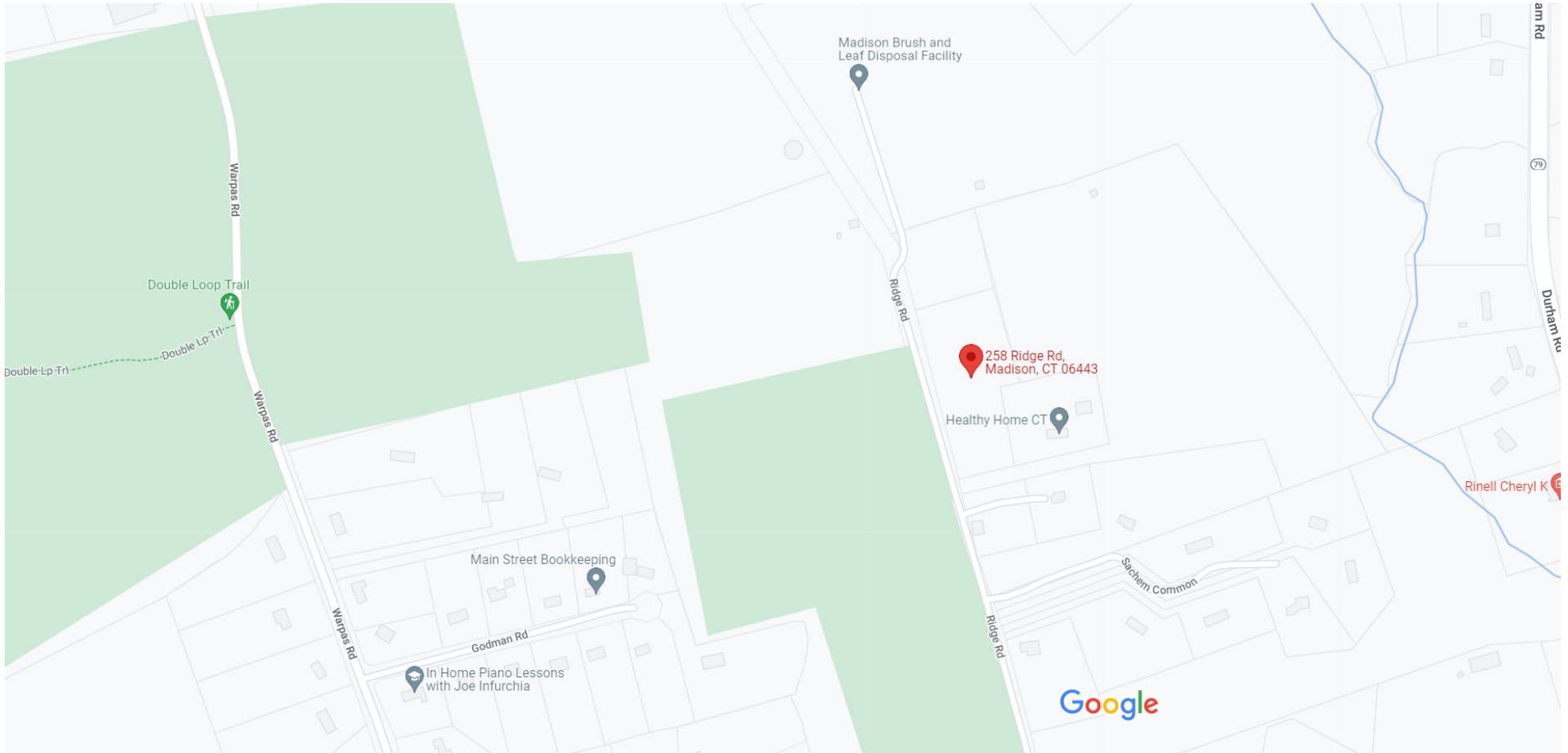
Christopher B. Fisher, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

Intervenor

Omnipoint Communications, Inc.

Its Representative

Julie Kohler, Esq.
Jesse Langer, Esq.
Cohen and Wolf, P.C.
1115 Broad Street
Bridgeport, CT 06604



Map data ©2022 200 ft





258 Ridge Rd

Madison, CT 06443



Directions



Save



Nearby



Send to
phone



Share

895P+6R Madison, Connecticut

258 RIDGE RD

Location 258 RIDGE RD

MBLU 78/ 3/ 11

Unique ID# 00453700

Owner TOWN OF MADISON

Assessment \$103,500

Appraisal \$147,900

PID 4717

Building Count 1

Dev. Map 2543, 3138

Current Value

Appraisal					
Valuation Year	Building	Extra Features	Outbuildings	Land	Total
2021	\$0	\$0	\$0	\$147,900	\$147,900

Assessment					
Valuation Year	Building	Extra Features	Outbuildings	Land	Total
2021	\$0	\$0	\$0	\$103,500	\$103,500

Owner of Record

Owner TOWN OF MADISON

Sale Price \$100,000

Co-Owner

Book & Page 0660/0162

Care Of

Sale Date 06/16/1995

Ownership History

Ownership History			
Owner	Sale Price	Book & Page	Sale Date
TOWN OF MADISON	\$100,000	0660/0162	06/16/1995

Building Information

Building 1 : Section 1

Year Built:

Living Area: 0

Building Attributes	
Field	Description
Style:	Vacant Land

Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Cndtn	
Fireplace(s)	
Xtra FPL Open	
Num Park	
Fireplaces	
Fndtn Cndtn	
Basement	

Building Photo



(<https://images.vgsi.com/photos/MadisonCTPhotos/\01\01\64\24.jpg>)

Building Sub-Areas (sq ft)
No Data for Building Sub-Areas

Extra Features

Extra Features
No Data for Extra Features

Land

Land Use

Use Code 9035
Description Municipal Town

Land Line Valuation

Size (Acres) 3
 lb|ndfront

Outbuildings

Outbuildings
No Data for Outbuildings

Radio Frequency Safety Survey Report Predictive (RFSSRP) Prepared For AT&T



Site Name:	MADISON CT RIDGE ROAD
FA#	10128137
USID:	101331
Site ID:	CTL01266
Address:	258 RIDGE ROAD MADISON, CT 06433
County:	NEW HAVEN
Latitude:	41.3091667
Longitude:	-72.6141167
Structure Type:	MONOPOLE
Property Owner:	STATE OF CONNECTICUT COPSE RD
Pace Job:	MRCTB054690
RFDS Technology:	5G NR 1SR CBAND

Report Information

Report Writer: Shekhar Kumar

Report Generated Date: 08-06-2022

Compliance Statement

AT&T Mobility Compliance Statement: Based on the information collected, AT&T Mobility will be Compliant when the remediation recommended in section 5 or appropriate remediation determined by AT&T is implemented



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1. Executive Summary

1.1 Site Summary

Max Predictive Spatial Average MPE% & Location on Site (General Public)	17620.20% on Antennas Centerline Level & at AT&T Sec-A antenna no. #A3-1
Max Predictive Spatial Average MPE% at Ground Level (General Public)	1.08%
AT&T Mobility Site Compliance	AT&T Mobility will be Compliant by implementing remediation recommended as per section 5 in this report.

TABLE 1: Site Summary

1.2 Signage Summary (Proposed)

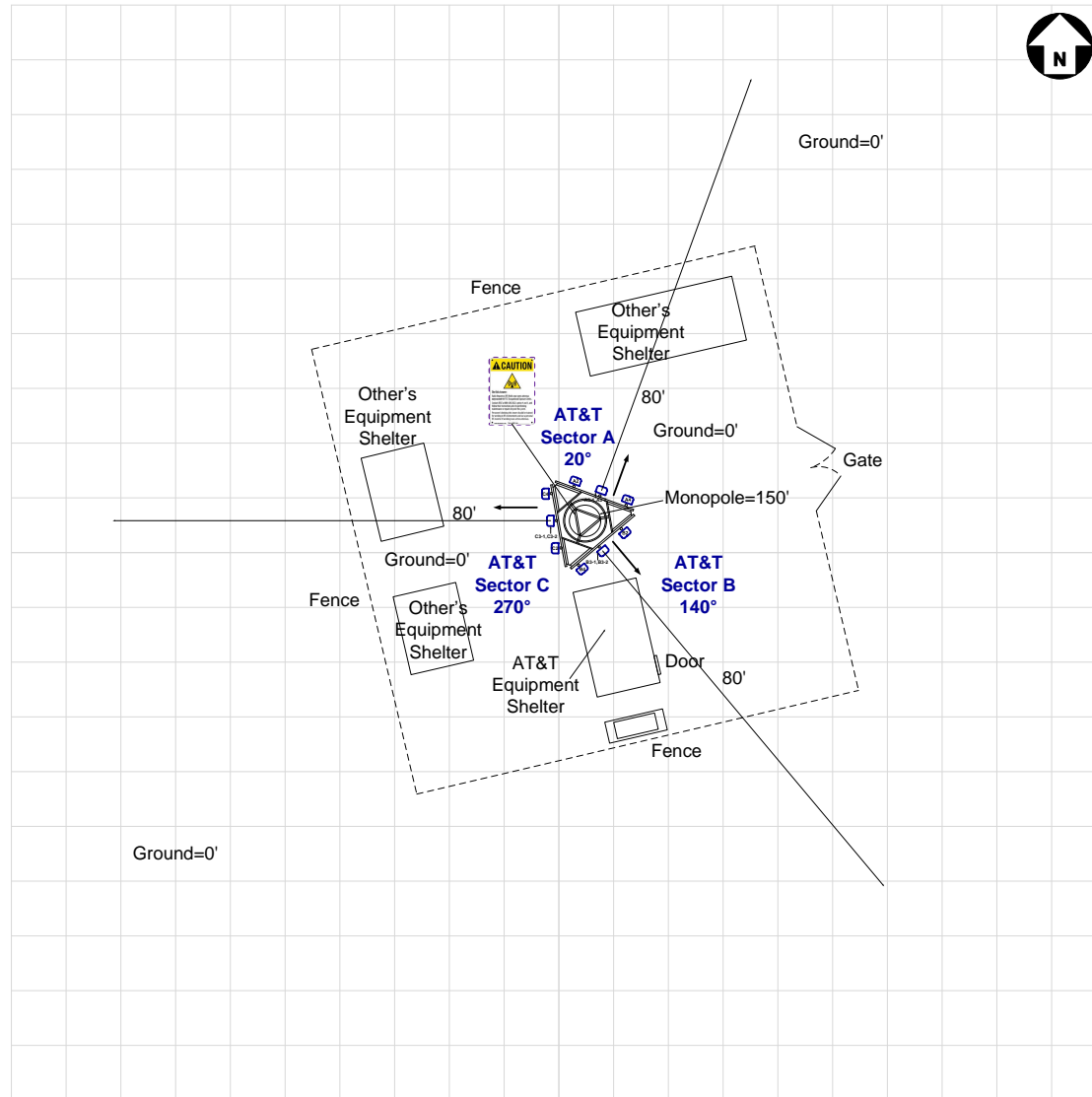
AT&T Signage Locations	Sign Type									
	Safety Instructions	Notice Sign 2	Caution Sign 2	Caution Sign 2B	Caution Sign 2C	Caution 7"x7"	Warning Sign 1B	RF Exposure Map	Lock	Barriers
Access Point(s)				1						
Alpha										
Beta										
Gamma										

TABLE 2: Signage Summary (Proposed)

1.3 List of Documents used to prepare this Report

- CD
- RFDS

2. Site Scale Map



AT&T Antenna		Proposed										Proposed Signage										Map Scale = 10 ft
	Panel	Barrier		Posts																		

3. Antenna Inventory

Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (0)	H B W (0)	Antenna Gain (dBd)	Antenna Aperture (ft)	Transmitter Power (Watts)	Total Loss (dB)	Total ERP (Watts)	Total EIRP (Watts)
A2	AT&T	CCI	TPA65R-BU6D	Panel	700	LTE(FN)	20	73	12.35	6	120.00	0.5	1837.30	3014.26
A2	AT&T	CCI	TPA65R-BU6D	Panel	1900	LTE/5G	20	66	15.95	6	120.00	0.5	4209.02	6905.28
A2	AT&T	CCI	TPA65R-BU6D	Panel	2100	LTE/5G	20	66	16.25	6	180.00	0.5	6765.07	11098.71
A3-1	AT&T	Ericsson	AIR 6419 B77G^	Panel	3450	5G	20	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
A3-2	AT&T	Ericsson	AIR 6449 B77D^	Panel	3840	5G	20	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
A4	AT&T	CCI	OPA65R-BU6D	Panel	700	LTE(B12)	20	73	12.15	6	120.00	0.5	1754.61	2878.60
A4	AT&T	CCI	OPA65R-BU6D	Panel	850	5G	20	64	13.05	6	120.00	0.5	2158.65	3541.45
B2	AT&T	CCI	TPA65R-BU6D	Panel	700	LTE(FN)	140	73	12.35	6	120.00	0.5	1837.30	3014.26
B2	AT&T	CCI	TPA65R-BU6D	Panel	1900	LTE/5G	140	66	15.95	6	120.00	0.5	4209.02	6905.28
B2	AT&T	CCI	TPA65R-BU6D	Panel	2100	LTE/5G	140	66	16.25	6	180.00	0.5	6765.07	11098.71
B3-1	AT&T	Ericsson	AIR 6419 B77G^	Panel	3450	5G	140	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
B3-2	AT&T	Ericsson	AIR 6449 B77D^	Panel	3840	5G	140	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
B4	AT&T	CCI	OPA65R-BU6D	Panel	700	LTE(B12)	140	73	12.15	6	120.00	0.5	1754.61	2878.60
B4	AT&T	CCI	OPA65R-BU6D	Panel	850	5G	140	64	13.05	6	120.00	0.5	2158.65	3541.45
C2	AT&T	CCI	TPA65R-BU6D	Panel	700	LTE(FN)	270	73	12.35	6	120.00	0.5	1837.30	3014.26
C2	AT&T	CCI	TPA65R-BU6D	Panel	1900	LTE/5G	270	66	15.95	6	120.00	0.5	4209.02	6905.28
C2	AT&T	CCI	TPA65R-BU6D	Panel	2100	LTE/5G	270	66	16.25	6	180.00	0.5	6765.07	11098.71
C3-1	AT&T	Ericsson	AIR 6419 B77G^	Panel	3450	5G	270	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
C3-2	AT&T	Ericsson	AIR 6449 B77D^	Panel	3840	5G	270	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
C4	AT&T	CCI	OPA65R-BU6D	Panel	700	LTE(B12)	270	73	12.15	6	120.00	0.5	1754.61	2878.60
C4	AT&T	CCI	OPA65R-BU6D	Panel	850	5G	270	64	13.05	6	120.00	0.5	2158.65	3541.45

Table 3.1: Antenna Inventory Table

Note: ^ **Mechanical Tilt value of "0°" MUST be retained for C-BAND and/or DoD AAS antenna(s) at all times to ensure that "EME (Predictive) Study" shall remain valid.**

* 75% TDD duty Cycle, 1.5dB Power Tolerance & 0.32 Power Reduction factor¹ are used to calculate Transmitter Power & ERP/EIRP

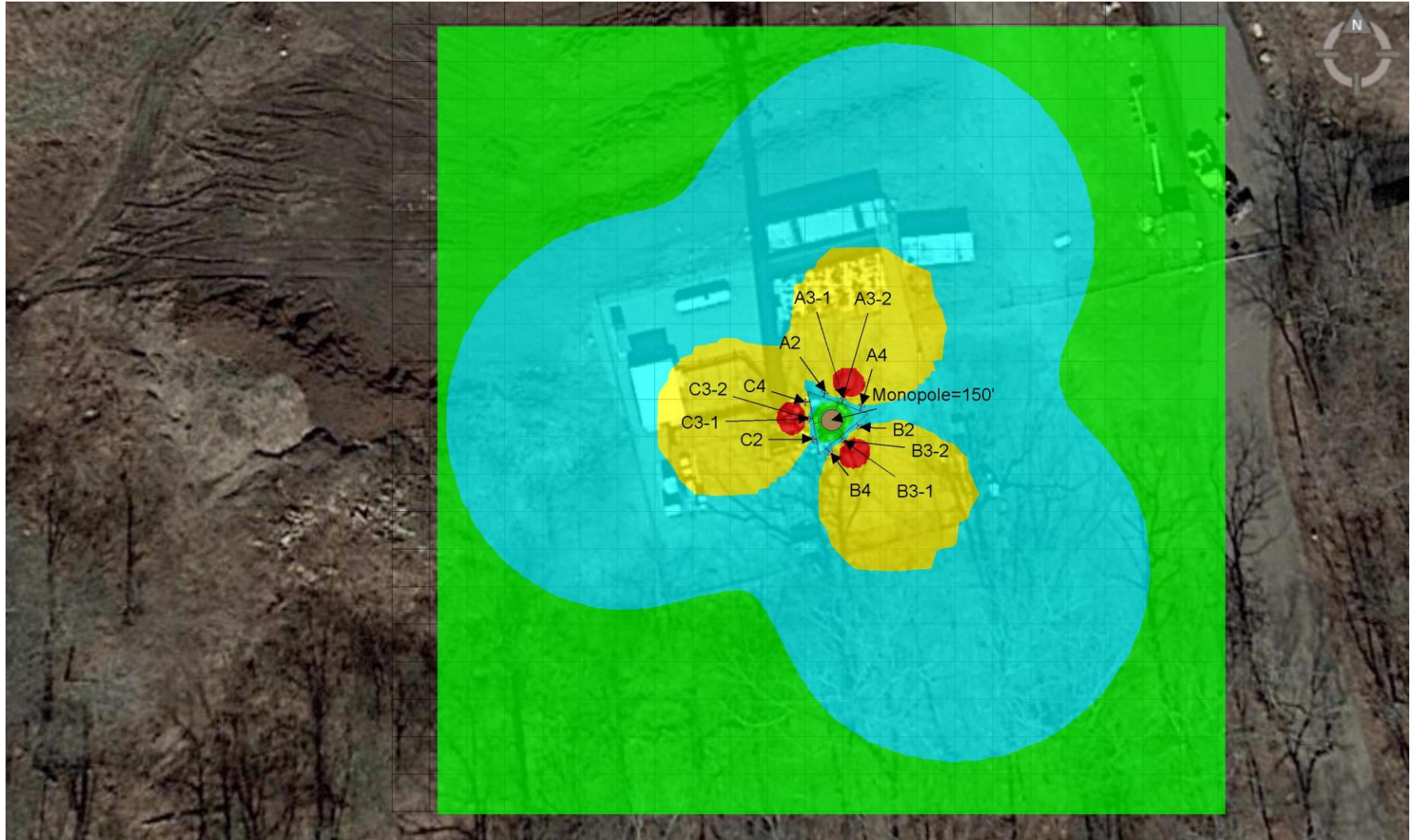
Antenna Heights (Z)

Ant ID	Operator	Antenna Radiation Centerline	Z-Height from Ground
A2	AT&T	140.00	137.00
A3-1	AT&T	141.67	140.40
A3-2	AT&T	138.25	136.98
A4	AT&T	140.00	137.00
B2	AT&T	140.00	137.00
B3-1	AT&T	141.67	140.40
B3-2	AT&T	138.25	136.98
B4	AT&T	140.00	137.00
C2	AT&T	140.00	137.00
C3-1	AT&T	141.67	140.40
C3-2	AT&T	138.25	136.98
C4	AT&T	140.00	137.00

Table 3.2: Antenna Height(s) Summary Table

4. Predicted Emission

4.1 Predictive Cumulative MPE Contribution from All Sources at Antennas Centerline Level (140 ft.)



Max. Predictive Spatial Average MPE% = 17620.20%

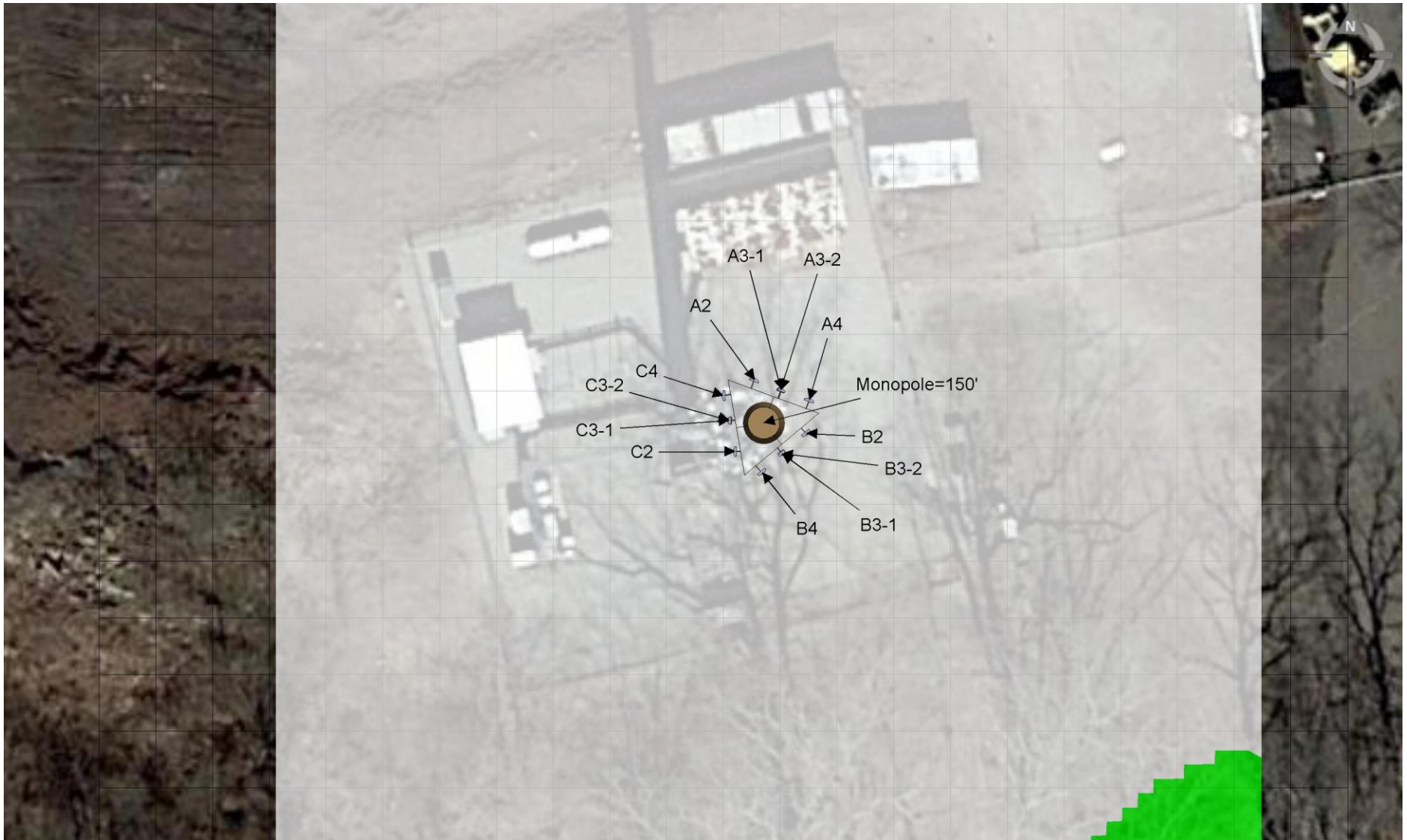
% of FCC General Public Exposure Limit (Predictive Spatial Average)

Proposed Barrier
 Proposed Posts

Non-Simulated	0-1	1-100	100-500	500-5000	>5000

Map Scale = 10 ft

4.2 Predictive Cumulative MPE Contribution from All Sources at Ground Level (0 ft.)



Max. Predictive Spatial Average MPE% = 1.08%

% of FCC General Public Exposure Limit (Predictive Spatial Average)

Proposed Barrier - - - - -
Proposed Posts ●

Non-Simulated	0-1	1-100	100-500	500-5000	>5000

Map Scale = 10 ft

5. Statement of Compliance

5.1 *Statement of AT&T Mobility Compliance*

At the time of our Analysis, AT&T Mobility is required to take action to fulfill their Obligations to comply with the FCC's mandate as defined in OET-65

Recommendations

AT&T Alpha Sector:

- No action required

AT&T Beta Sector:

- No action required

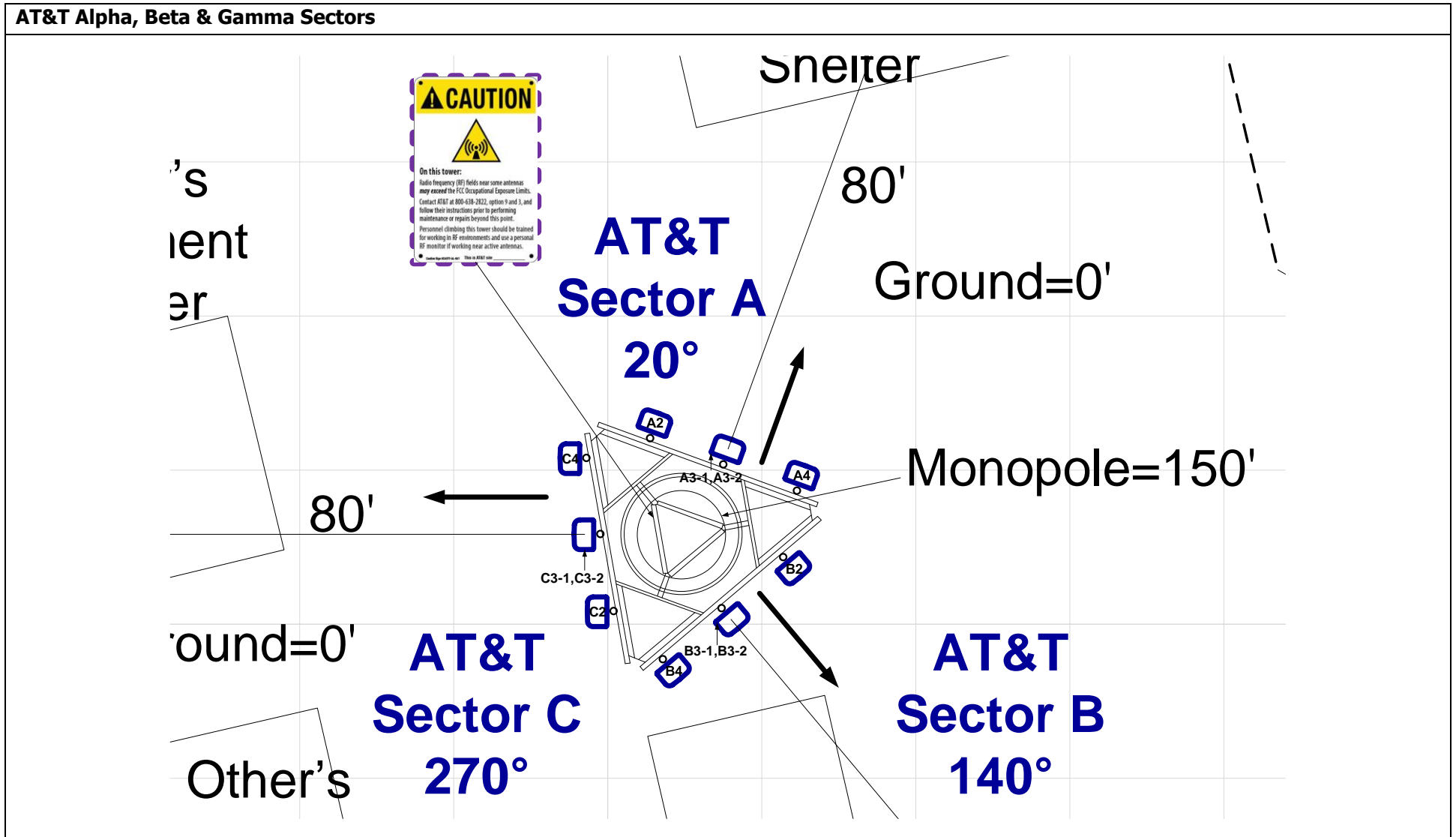
AT&T Gamma Sector:

- No action required

Monopole:

- One Caution 2B Sign to be posted on Monopole at climbing access, facing outwards so approaching people can see as shown in "Recommendations Map – Detailed View" on page 10. (1 Total Sign)

Recommendations Map – Detailed View



AT&T Antenna Panel OMNI		Proposed Barrier Posts		Proposed Signage Safety Instructions Notice 2 Caution 2 Caution 2B Caution 2C Caution 7"x7" Warning 1B RF Exposure Map Lock							Map Scale = 10 ft
--	--	-------------------------------------	--	---	--	--	--	--	--	--	--------------------------

Appendix A – Statement of Limiting Conditions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at full power at all times. AT&T has further recommended to assume a 75% duty cycle of maximum radiated power for all LTE & 5G carriers (& consider 100% duty cycle for all UMTS carriers).

In this site compliance report, it is assumed that Mechanical Tilt value of “0°” MUST be retained for C-BAND and/or DoD AAS^ antenna(s) at all times to ensure that “EME (Predictive) Study” shall remain valid.

AT&T recommended to consider - For C-BAND and/or DoD AAS^ antenna(s) 75% TDD duty Cycle, 1.5dB Power Tolerance & 0.32 Power Reduction factor¹ are used to calculate Transmitter Power & ERP/EIRP.

AT&T recommended to use worst-case tilts for the simulations.

Power Reduction Factor: IEC Standard 62232: 2017 allows for a statistically conservative power density model to more realistically define the RF exposure area. AT&T recommends a “0.32” factor to calculate the “Actual Maximum” (time averaged) power value, which accounts for “Beam Scanning,” “Scheduling,” and “RBS Utilization” This recommended value is a conservative figure modelled and supported by other vendors and through measurements published in scientific articles and white papers by IEEE and others. Those publication are listed below:

1. IEEE Access, *Time-Averaged Realistic Maximum Power Levels for the Assessment of RF Exposure for 5G Radio Base Stations Using Massive MIMO* (Published Sept. 18, 2017 / BJÖRN THORS, ANDERS FURUSKÅR, DAVIDE COLOMBI, AND CHRISTER TÖRNEVIK)
2. IEEE Explore, *A Statistical Approach for RF Exposure Compliance Boundary Assessment in Massive MIMO Systems* (Published Jan. 25, 2018 / Paolo Baracca, Andreas Weber, Thorsten Wild, Christophe Grangeat)
3. IEEE Access, *In-situ Measurement Methodology for the Assessment of 5G NR Massive MIMO Base Station Exposure at Sub-6 GHz Frequencies* (Published Dec. 20, 2019 / SAM AERTS, LEEN VERLOOCK, MATTHIAS VAN DEN BOSSCHE, DAVIDE COLOMBI, LUC MARTENS, CHRISTER TÖRNEVIK AND WOUT JOSEPH)
4. Applied Sciences, *Analysis of the Actual Power and EMF Exposure from Base Stations in a Commercial 5G Network* (Published July 30, 2020 / Davide Colombi, Paramananda Joshi, Bo Xu, Fatemeh Ghasemifard, Vignesh Narasaraju and Christer Törnevik)
5. Ofcom Technical Report, *Electromagnetic Field (EMF) measurements near 5G mobile phone base stations* (Published Feb. 21, 2020 / Davide Colombi, Paramananda Joshi, Bo Xu, Fatemeh Ghasemifard, Vignesh Narasaraju and Christer Törnevik)

MobileComm believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor). Thus, at any time, if power density measurements were made, we believe the real time measurements would indicate levels below those depicted in the RF emission diagram(s) in this report. By modelling in this way, MobileComm has conservatively shown exclusion areas – areas that should not be entered without the use of a personal monitor, carriers reducing power, or performing real-time measurements to indicate real-time exposure levels.

Use of Generic Antennas

For the purposes of this report, the use of “Generic” as an antenna model, or “Other Carrier” for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, MobileComm will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer’s published data regarding the antenna’s physical characteristics makes more conservative assumptions.

Where the frequency is unknown, MobileComm uses the closest frequency in the antenna’s range that corresponds to the highest Maximum Exposure Limit (MPE), resulting in a conservative analysis.

Appendix B – FCC Guidelines and Emissions Threshold Limits

All power density values used in this report were 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 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

General Population/Uncontrolled exposure limits apply to situations in which the general 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 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the 700 and 800 MHz Bands is approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively, and the general population exposure limit for the 1900 MHz PCS and 2100 MHz AWS bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/Controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure, have been properly trained in RF safety 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, have been trained in RF safety and can exercise control over his or her exposure by leaving the area or by some other appropriate means. The Occupational/Controlled exposure limits all utilized frequency bands is five (5) times the FCC's General Public / Uncontrolled exposure limit.

Additional details can be found in FCC OET 65.

Table 1: Limits for Maximum Permissible Exposure (MPE)				
(A) Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time [E] ² , [H] ² , or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Public/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time [E] ² , [H] ² , or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

Appendix C – Rules & Regulations

Explanation of Applicable Rules and Regulations

FCC has set forth guidelines in OET Bulletin 65 for human exposure to radio frequency electromagnetic fields. Currently, there are two different levels of MPE - General Public MPE and Occupational MPE. An individual classified as Occupational can be defined as an individual who has received appropriate RF training and meets the conditions outlined below. General Public is defined as anyone who does not meet the conditions of being Occupational. FCC Rules and Regulations define compliance in terms of total exposure to total RF energy, regardless of location of or proximity to the sources of energy.

It is the responsibility of all licensees to ensure these guidelines are maintained at all times. It is the ongoing responsibility of all licensees composing the site to maintain ongoing compliance with FCC rules and regulations.

A building owner or site manager can use this report as part of an overall RF Health and Safety Policy. It is important for building owners/site managers to identify areas in excess of the General Population MPE and ensure that only persons qualified as Occupational are granted access to those areas.

Occupational Environment Explained

The FCC definition of Occupational exposure limits apply to persons who:

- *are exposed to RF energy as a consequence of their employment;*
- *have been made aware of the possibility of exposure; and*
- *can exercise control over their exposure.*

FCC guidelines go further to state that persons must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

In order to consider this site an Occupational Environment, the site must be controlled to prevent access by any individuals classified as the General Public. Compliance is also maintained when any non-occupational individuals (the General Public) are prevented from accessing areas indicated as Red or Yellow in the attached RF Emissions diagram. In addition, a person must be aware of the RF environment into which they are entering. This can be accomplished by an RF Safety Awareness class, and by appropriate written documentation such as this Site Compliance Report.

Appendix D – General Safety Recommendations

The following are general recommendations appropriate for any site with accessible areas in excess of 100% General Public MPE. These recommendations are not specific to this site. These are safety recommendations appropriate for typical site management, building management, and other tenant operations.

- All individuals needing access to the main site should be instructed to read and obey all posted placards and signs.
- The site should be routinely inspected and this or similar report updated with the addition of any antennas or upon any changes to the RF environment including:
 - adding new antennas that may have been located on the site
 - removing of any existing antennas
 - changes in the radiating power or number of RF emitters
- Post the appropriate SAFETY INSTRUCTIONS, NOTICE, CAUTION & WARNING sign at the main site access point(s) and other locations as required. Note: Please refer to RF Exposure Diagrams in the report section above, to inform everyone who has access to this site that beyond posted signs there may be levels in excess of the limits prescribed by the FCC. The signs below are examples of signs meeting FCC guidelines.



- Ensure that the site door remains locked (or appropriately controlled) to deny access to the general public if deemed as policy by the building/site owner.
- For a General Public environment the five color levels identified in measured RF emission diagram can be interpreted in the following manner:
 - White represents areas predicted to be greater than or equal to 0% and less than 1% of the MPE general public limits
 - Green represents areas predicted to be greater than or equal to 1% and less than 100% of the MPE general public limits
 - Blue represents areas predicted to be greater than or equal to 100% and lesser than 500% of the MPE general public limits.
 - Yellow represents areas predicted to be greater than or equal to 500% and lesser than 5000% of the MPE general public limits.
 - Red areas indicates safety predicted levels greater than or equal to 5000% of the MPE general public limits.

Appendix E – References

1 - FCC Definition

FCC defines an Occupational or Controlled environment as one where persons are exposed to RF fields as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Typical criteria for an Occupational or Controlled environment is restricted access (i.e. locked doors, gates, etc.) to areas where antennas are located coupled with proper RF warning signage.

FCC defines a site as a General Public or Uncontrolled environment when human exposure to RF fields occurs to the general public or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over the exposure. Typical criteria for a General Public or Uncontrolled environment are unrestricted access (i.e. unlocked or no restrictions) to areas where antennas are located without proper RF warning signage being posted.

2 - Physical Testing measurement procedure and Tools

The Narda Broadband Field Meter NBM-550 can make rapid conformance measurements with evaluation in the time domain when used in conjunction EA5091 probe. This probe is a so-called Shaped Probe, i.e. it is frequency weighted so that it automatically takes account of the FCC Occupational limit values. To collect data, the probe is pointed towards the potential source(s) of EME radiation and moved slowly from ground level up to slightly above head height (approx. 6 ft).

Spatial Average Measurement A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy an average sized human body will absorb while present in an electromagnetic field of energy.

3 - Site Safety Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: *Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.*

Training and Qualification Verification: *All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).*

Physical Access Control: *Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:*

- *Locked door or gate*
- *Alarmed door*
- *Locked ladder access*
- *Restrictive Barrier at antenna locations (e.g. Chain link with posted RF Sign)*

RF Signage: *Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.*

Assume all antennas are active: *Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.*

Maintain a 3 foot clearance from all antennas: *There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.*

Rooftop RF Emissions Diagram: *Section 4 of this report contains an RF Emissions Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas on the rooftop. This analysis is all theoretical and assumes a duty cycle of 75% for each transmitting antenna at full power. This analysis is a worst case scenario. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.*

4 - Definitions

Compliance- *The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.*

Decibel (dB) – *A unit for measuring power or strength of a signal.*

Duty Cycle – *The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 75% corresponds to continuous operation.*

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – *The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna, this product is divided by the cable losses*

Effective Radiated Power (ERP) – *In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.*

Gain (of an antenna in dbd) – *The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from a reference dipole. Gain is a measure of the relative efficiency of a directional antennas as compared to a reference dipole.*

General Population/Uncontrolled Environment – *Defined by the FCC, as an area where RFR exposure may occur to persons who are unaware of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.*

Generic Antenna – *For the purposes of this report, the use of “Generic” as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, MobileComm will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.*

Isotropic Antenna – *An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.*

Maximum Measurement – *This measurement represents the single largest measurement recorded when performing a spatial average measurement.*

Maximum Exposure Limit (MPE) – *The RMS and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.*

Occupational/Controlled Environment – *Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are aware of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.*

Radio Frequency Radiation – *Electromagnetic waves that are propagated from antennas through space.*

Spatial Average Measurement – *A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy an average sized human body will absorb while present in an electromagnetic field of energy.*

Transmitter Power Output (TPO) – *The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.*

Appendix F – Proprietary Statement

This report was prepared for the use of AT&T Mobility, LLC to meet requirements specified in AT&T's corporate RF safety guidelines. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by MobileComm are based solely on the information provided by AT&T Mobility and all observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to MobileComm so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

Date: **June 8, 2022**



Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
(919) 661-6351
CrownMA@tepgroup.net

Subject: Mount Analysis - Conditional Passing Report

Carrier Designation:

AT&T Mobility Reconfiguration

Carrier Site Number: CT1266
Carrier Site Name: N/A
FA Location Code: 10128137

Crown Castle Designation:

Crown Castle BU Number: 5800059
Crown Castle Site Name: Ridge Road, Madison
Crown Castle JDE Job Number: 686305
Crown Castle Order Number: 586344 Rev. 1

Engineering Firm Designation:

TEP Project Number: 218006.707223

Site Data:

258 Ridge Road, Madison, New Haven County, CT 06433
Latitude 41° 18' 33.30", Longitude -72° 36' 51.57"

Structure Information:

Tower Height & Type: 150.0±ft Monopole
Mount Elevation: 140.0 ft
Mount Width & Type: 14.5 ft Platform w/ Support Rail

Tower Engineering Professionals is pleased to submit this “**Mount Analysis - Conditional Passing 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 stress level. Based on our analysis, we have determined the mount stress level to be:

Platform w/ Support Rail Mount

***Sufficient Capacity**

***Sufficient upon completion of the changes listed in the ‘Recommendations’ section of this report.**

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 123 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Gautam Sopal, E.I. / RAL

Respectfully submitted by:

Aaron T. Rucker, P.E.
Division Manager
(919) 661-6351
arucker@tepgroup.net



Electronic Copy

06/08/2022

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1) INTRODUCTION

This is an existing, 3-sector, 14.5' Platform w/ Support Rail mount, mapped by Tower Engineering Professionals. The mount is installed at the 140.0' elevation on the 150.0' Monopole.

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	123 mph
Exposure Category:	B
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.206
Seismic S₁:	0.054
Live Loading Wind Speed:	30 mph
Live Loading at Mid/End-Points:	250 lb
Man Live Loading at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
140.0	142.0	3	Ericsson	AIR 6419 B77G_CCIV3	Platform w/ Support Rail Mount
	140.0	3	CCI Antennas	OPA65R-BU6D	
		3	CCI Antennas	TPA65R-BU6DA-K	
		3	Ericsson	RRUS 32 B2	
		3	Ericsson	RRUS 4426 B66	
		3	Ericsson	RRUS 4449 B5/B12	
		3	Ericsson	RRUS 4478 B14_CCIV2	
		3	Raycap	DC6-48-60-18-8F	
	138.0	3	Ericsson	AIR 6449 B77D_CCVI2	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Mount Mapping	Tower Engineering Professionals	10051095	CCIsites
Loading Application	AT&T Mobility	Order 586344 Rev. 1	CCIsites
Previous Mount Analysis	Tower Engineering Professionals	10262752	CCIsites

3.1) Analysis Method

RISA-3D (Version 17.0.4), 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 TEP, using Microsoft Excel, was used to calculate wind and seismic loading on all appurtenances, dishes, and mount members for various load cases. Selected output from the analysis is included in Appendix B "Software Input Calculations".

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 Guidance - R16*.

3.2) Assumptions

- 1) The mount was built in accordance with the manufacturer's specifications.
- 2) The mount has been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, mounts and other appurtenances are as specified in Table 1. All mount components have been assumed to be in sufficient condition to carry their full design capacity for this analysis. Refer to the issued mapping for any structural and/or maintenance issues found during our site visit if applicable.
- 4) All mount components are in sufficient condition to carry their full design capacity.
- 5) TEP did not analyze the collar mount connection to the pole and assumes it to have sufficient structural capacity to transfer the applied forces from the mount to the tower.
- 6) All material grades used for this analysis, unless verified by mount manufacturer design, were assumed per AISC Table 2-4, 15th Edition. See RISA-3D output for confirmation on grades used in this analysis.

This analysis may be affected if any assumptions are not valid or have been made in error. Tower Engineering Professionals 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 w/ Support Rail Mount)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1	Face Horizontals	FF-TH	140.0	23.5	Pass
1	Support Arm	SA-2	140.0	62.1	Pass
1	Mount Pipes	MP-1	140.0	55.3	Pass
1	Support Rail	FF-HR	140.0	37.6	Pass
1	Internal	GSI-2B	140.0	28.6	Pass
2	Connection Bolts	-	140.0	31.4	Pass
2	Connection Plate	-	140.0	62.2	Pass

Structure Rating (max from all components) =	62.2%
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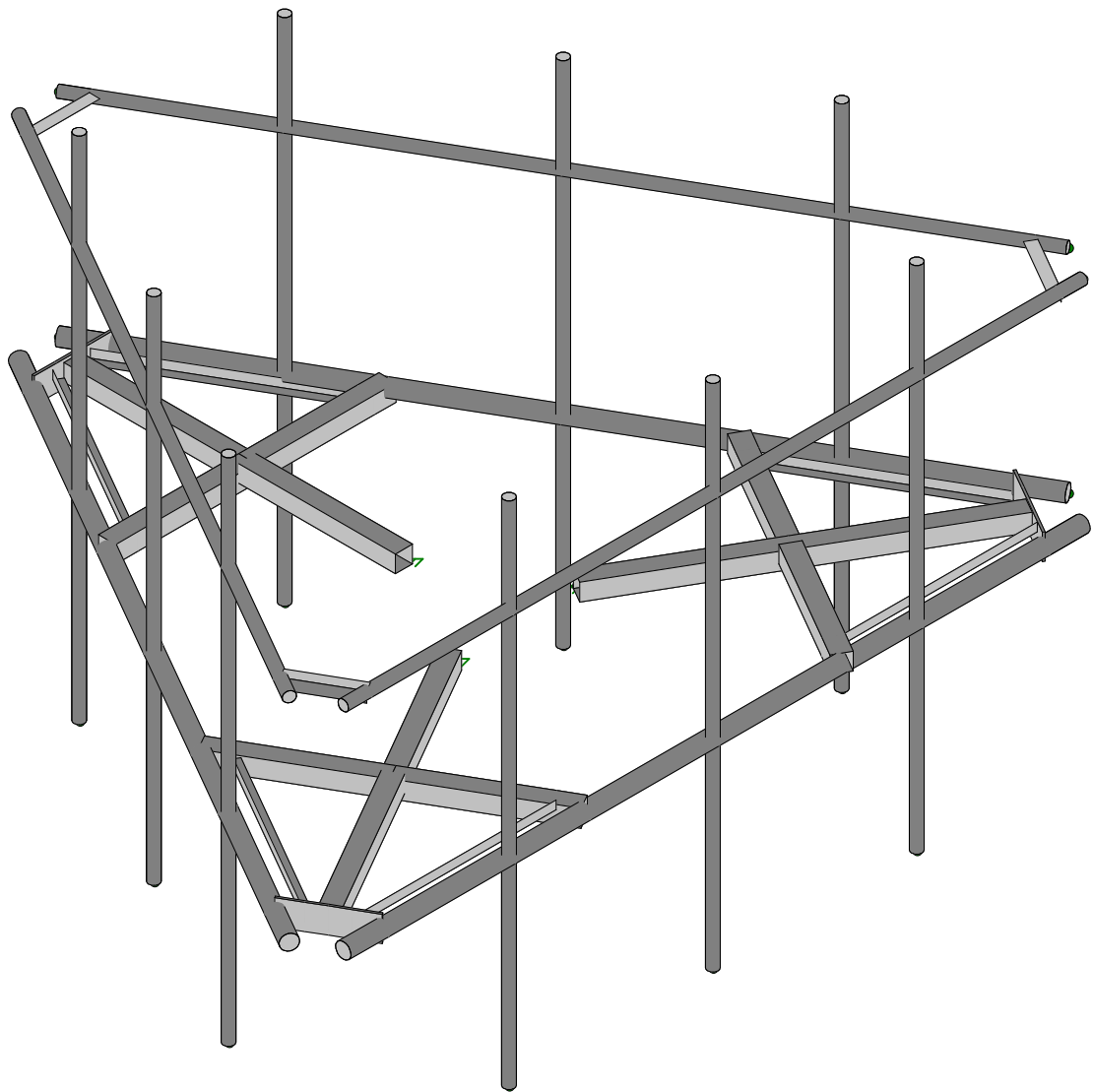
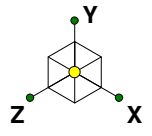
Notes:

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

4.1) Recommendations

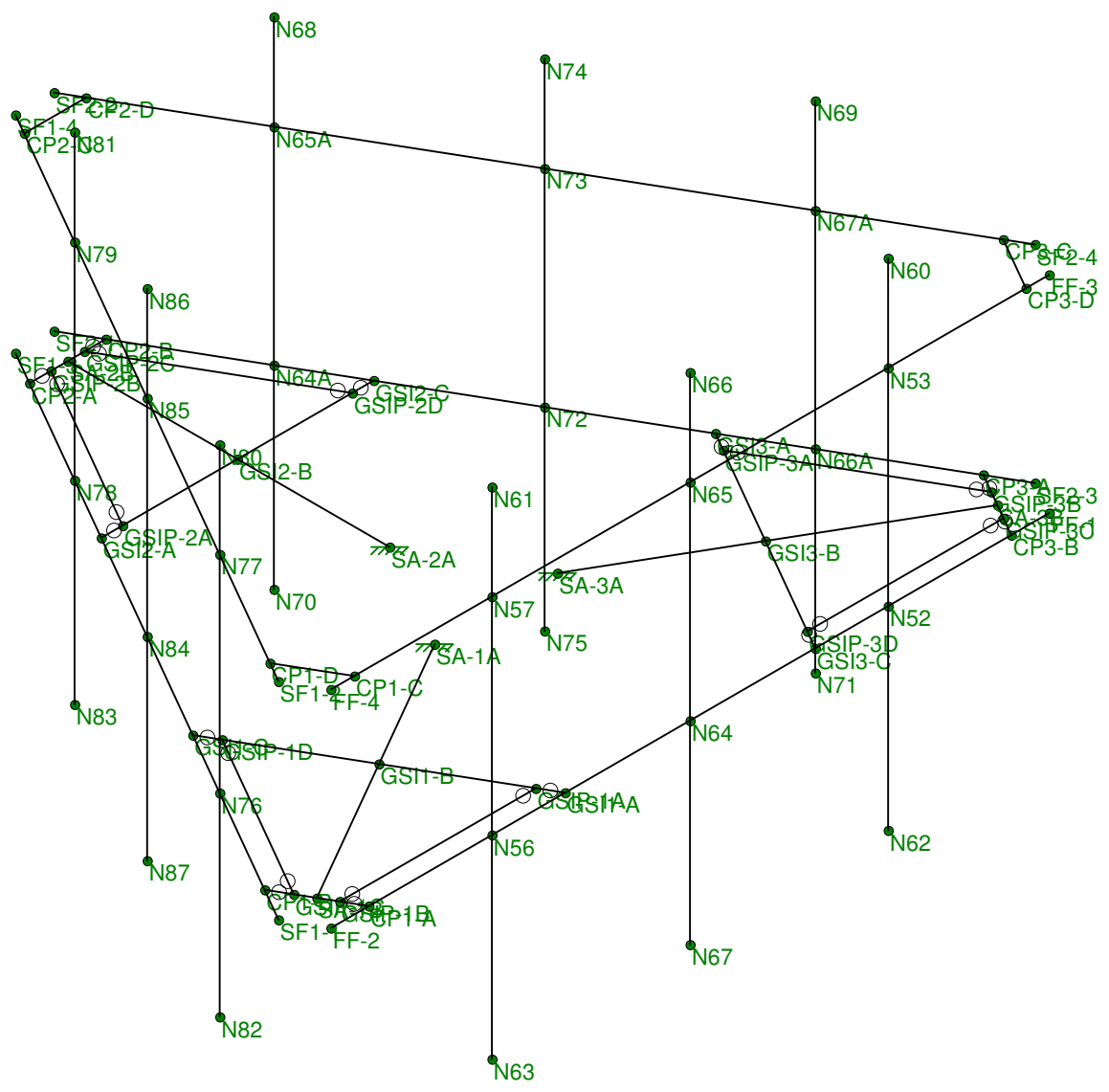
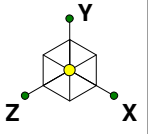
- 1) If the load differs from that described in Table 1 of this report or the provisions of this analysis are found to be invalid, another structural analysis should be performed.
- 2) The mount and its connection have sufficient capacity to carry the proposed loading configuration. In order for the results of this analysis to be valid, the mount modifications listed below must be completed:
 - a) Each platform sector to have (3) 10' Mount pipes spaced 4 feet apart and centered about the sector face to accommodate antenna spacing.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



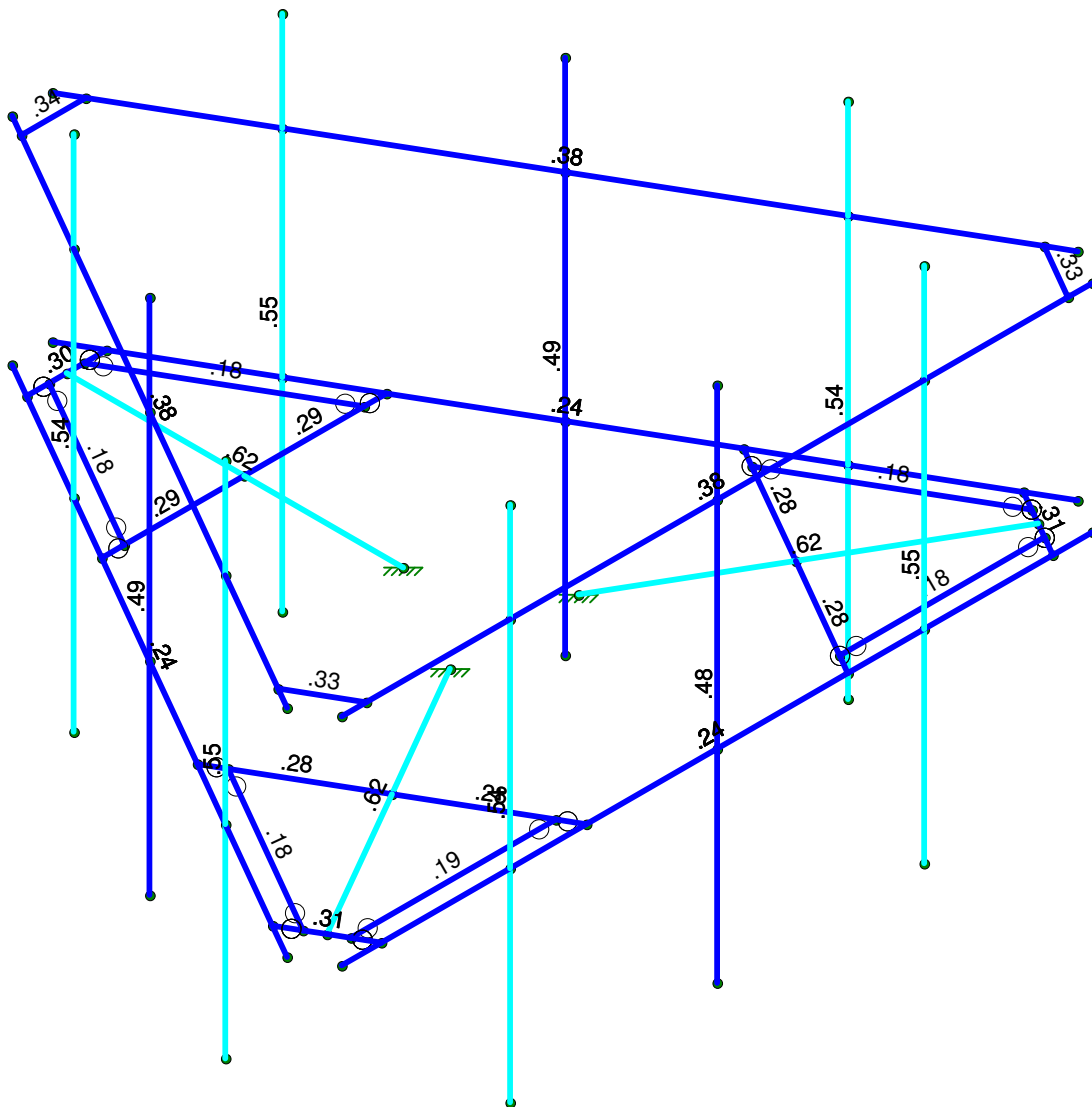
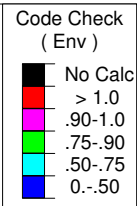
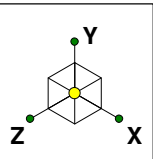
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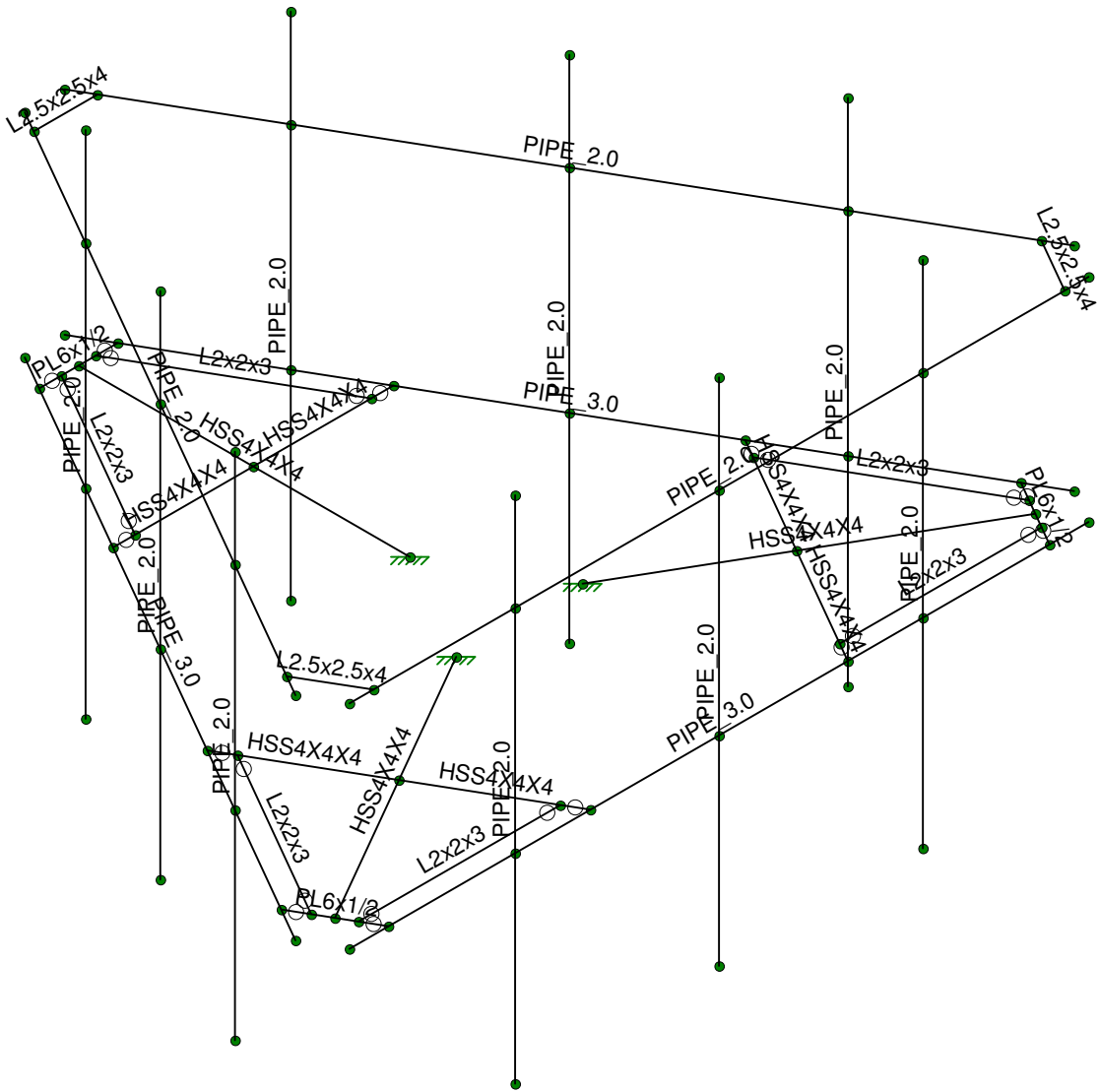
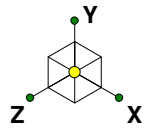
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Envelope Only Solution

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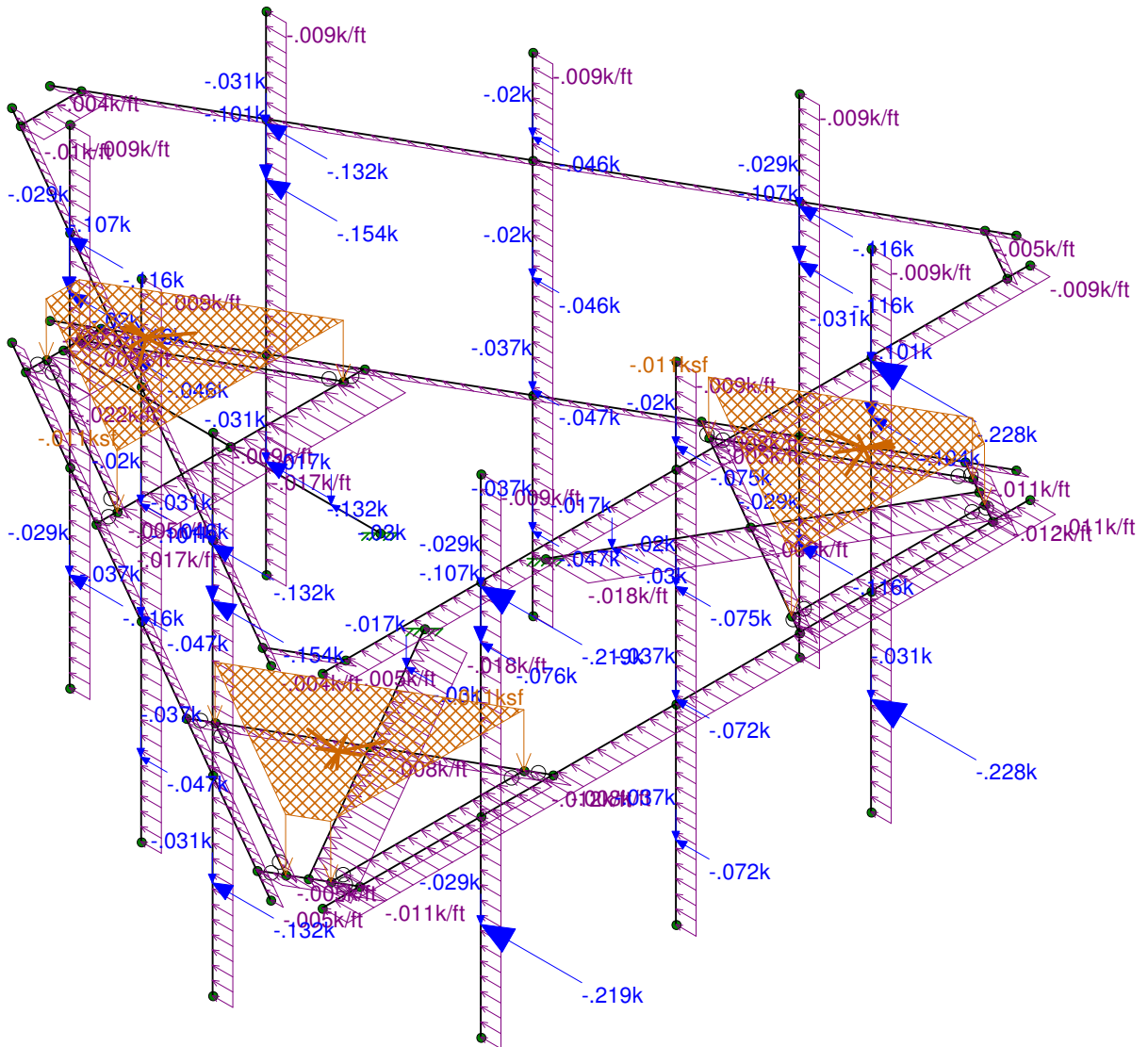
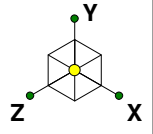


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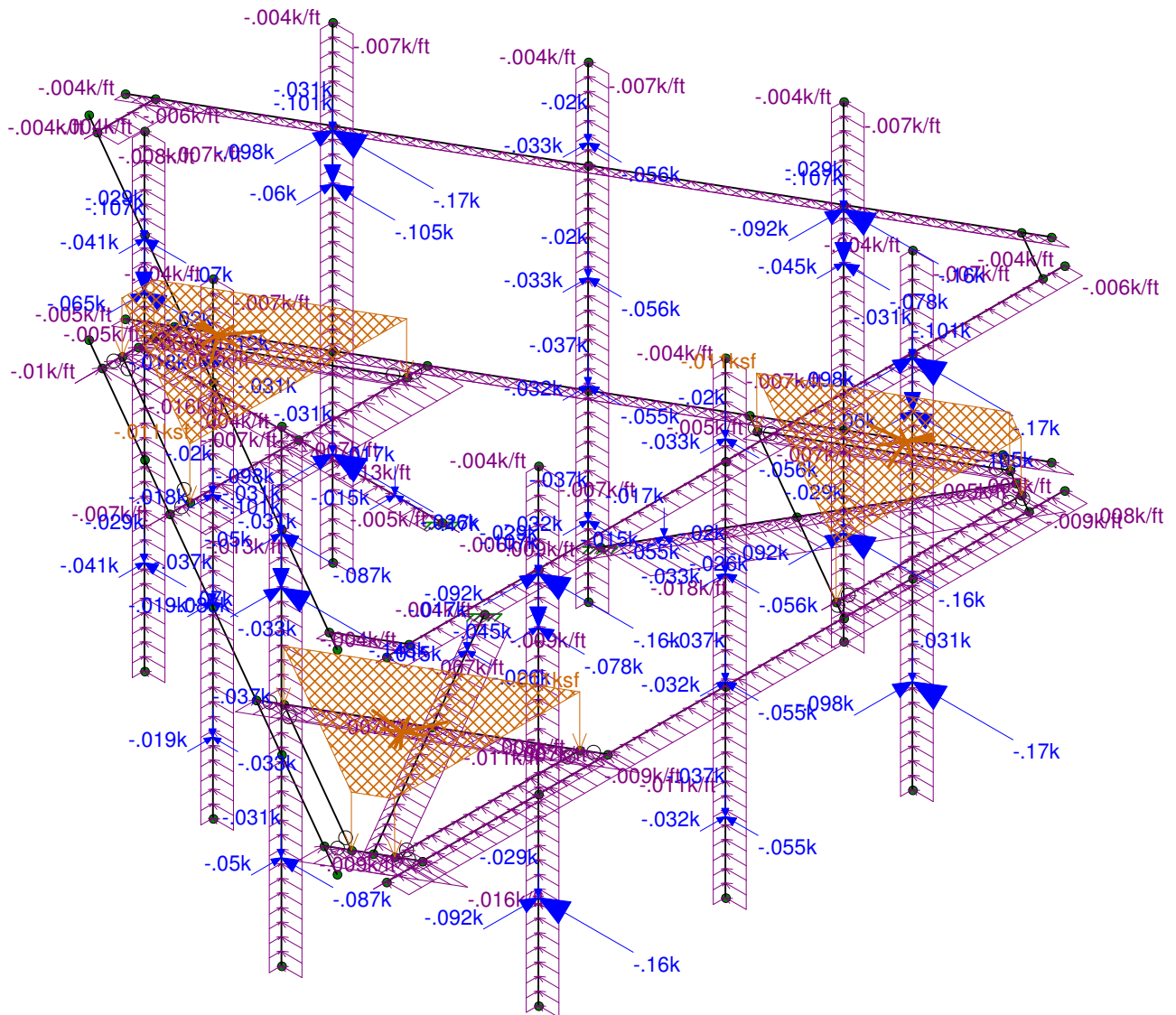
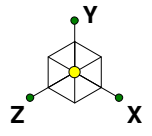
Ridge Road, Madison (BU 5800059)

SK - 4
 June 8, 2022 at 11:18 AM
 Mount.r3d



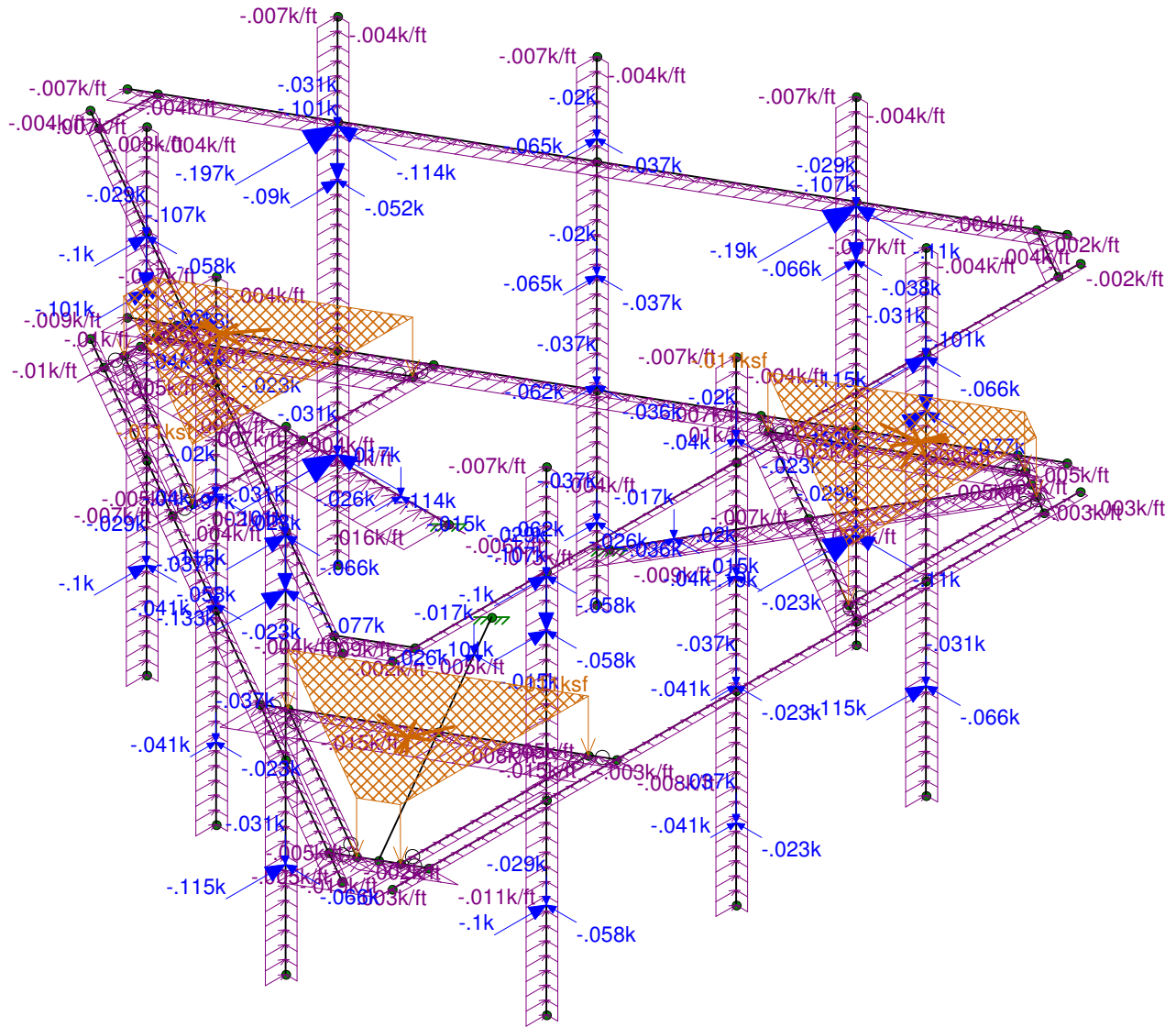
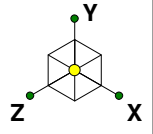
Loads: LC 2, 0.9D+1.0 0-Wind
Envelope Only Solution

Tower Engineering Profes...	Ridge Road, Madison (BU 5800059)	SK - 5
GJS		June 8, 2022 at 11:19 AM
TEP No. 218006.707223		Mount.r3d



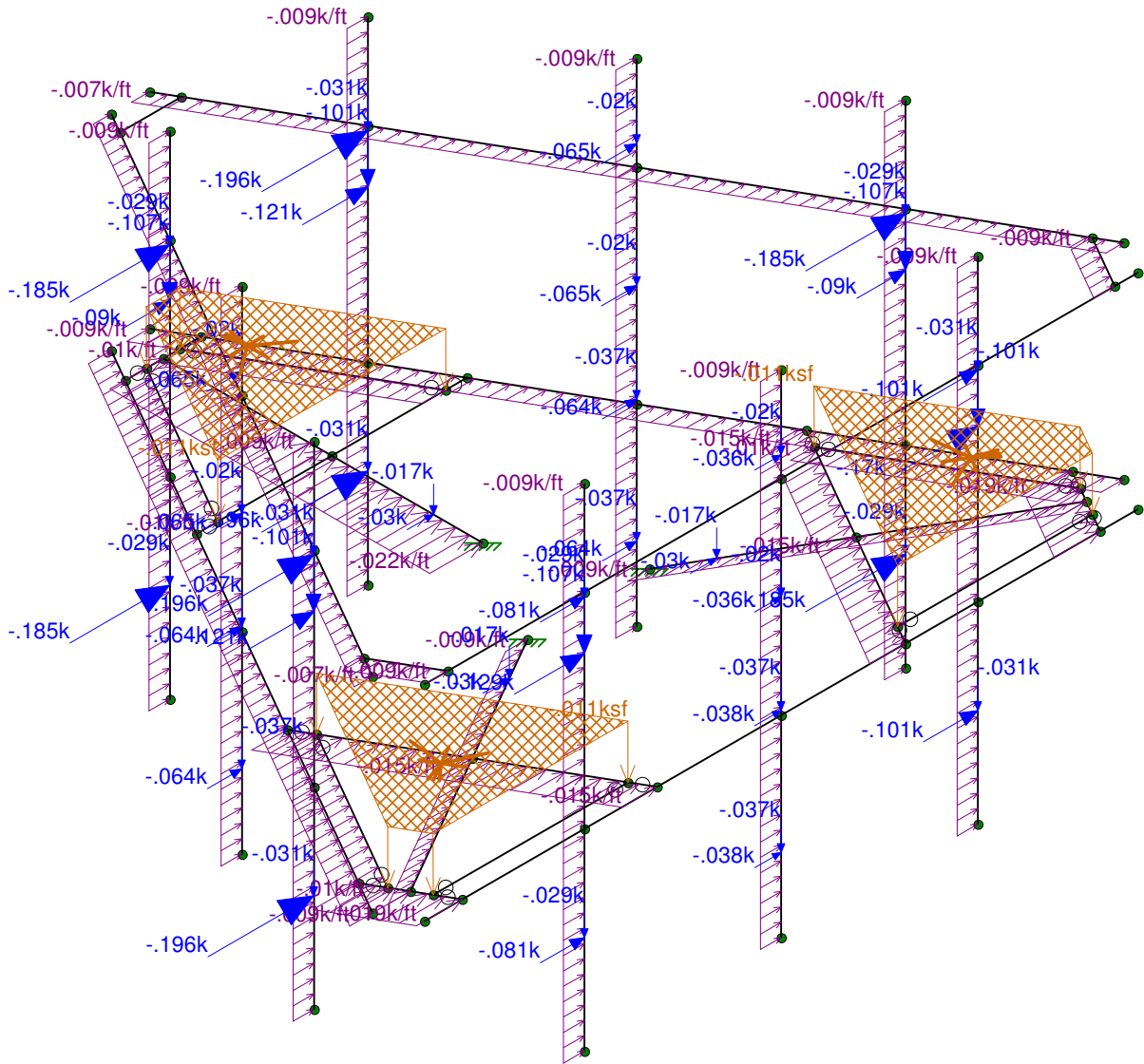
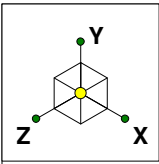
Loads: LC 3, 0.9D+1.0 30-Wind
Envelope Only Solution

Tower Engineering Profes...	Ridge Road, Madison (BU 5800059)	SK - 6
GJS		June 8, 2022 at 11:20 AM
TEP No. 218006.707223		Mount.r3d



Loads: LC 5, 0.9D+1.0 60-Wind
Envelope Only Solution

Tower Engineering Profes...	Ridge Road, Madison (BU 580059)	SK - 7
GJS		June 8, 2022 at 11:21 AM
TEP No. 218006.707223		Mount.r3d



Loads: LC 6, 0.9D+1.0 90-Wind
Envelope Only Solution

Tower Engineering Profes...	Ridge Road, Madison (BU 5800059)	SK - 8
GJS		June 8, 2022 at 11:21 AM
TEP No. 218006.707223		Mount.r3d

APPENDIX B
SOFTWARE INPUT CALCULATIONS



Ridge Road, Madison (BU 5800059)

TEP No. 218006.707223

Analysis By: GJS 6/8/2022

Checked By: RAL 6/8/2022

Code Revisions:	TIA-222-H	IBC 2018
Tower Type:	Monopole	

Wind Inputs:

Ult. Wind Velocity:	123.0	mph
Live Load Velocity:	30.0	mph
Ice Wind Velocity:	50.0	mph
Base Ice Thickness:	1.00	inches
Mount Centerline:	140.0	ft
Antenna Centerline:	140.0	ft
Exposure Category:	B	
Topo Category:	1	
Risk Category:	II	
Ground Elevation:	133	ft

Wind Calculations:

K_{zt} :	1.000	Section 2.6.6
K_d :	0.950	
$K_{z-Mount}$:	1.088	Section 2.6.5.2
$K_{z-Antenna}$:	1.088	Section 2.6.5.2
K_{iz} :	1.155	Section 2.6.10
Ice Thickness:	1.155	inches - Section 2.6.10

Without Ice - (psf)		With Ice - (psf)	
$(q_z G_h)_{Mount}$:	39.84	$(q_z G_h)_{Mount}$:	6.58
$(q_z G_h)_{Antenna}$:	39.84	$(q_z G_h)_{Antenna}$:	6.58

Seismic Code Revisions:	TIA-222-H
Seismic Risk Category:	II

Seismic Input

S_{DS} :	0.220	Design Short Period Spectral Accel.
I_p :	1.0	Importance Factor
R_p :	2.0	Response Modification Factor
ρ :	1.0	
A_s :	1.0	Applification Factor - TIA-222-H Section 2.7.8.1
S_1 :	0.054	Spectral Acceleration at a Period of 1 Second

Seismic Design Force

Cs:	0.110	kips/kip	TIA-H Sec 2.7.7.1.1
Cs-min:	0.030	kips/kip	TIA-H Sec 2.7.7.1.1



Antenna Loads are Calculated in Accordance with TIA-222-H

Azimuth is the absolute angle measured clockwise from RISA-3D global X-axis.

MFR	Model	Height (in)	Width (in)	Depth (in)	Wt. (lbs)	Azimuth°	Qty	Shape	Member Label	Distance from start node of the member		
										Location #1 (ft,%)	Location #2 (ft,%)	Location #3 (ft,%)
CCI ANTENNAS	TPA65R-BU6DA-K	71.20	20.70	7.70	68.30	0.00	1	Flat	MP-1	2.00	8.00	
ERICSSON	AIR 6419 B77G_CCIV3	31.10	16.10	7.30	44.00	0.00	1	Flat	MP-2	1.50	4.00	
ERICSSON	AIR 6449 B77D_CCIV2	30.39	15.87	8.07	81.60	0.00	1	Flat	MP-2	6.00	8.50	
CCI ANTENNAS	OPA65R-BU6D	71.20	21.00	7.80	63.50	0.00	1	Flat	MP-3	2.00	8.00	
ERICSSON	RRUS 32 B2	27.20	12.05	7.00	52.90	90.00	1	Flat	MP-1	3.00		
ERICSSON	RRUS 4478 B14_CCIV2	18.10	13.40	8.26	59.40	90.00	1	Flat	MP-1	3.00		
ERICSSON	RRUS 4426 B66	14.96	13.19	5.80	48.40	90.00	1	Flat	MP-3	3.00		
ERICSSON	RRUS 4449 B5/B12	17.90	13.19	9.44	71.00	90.00	1	Flat	MP-3	3.00		
RAYCAP	DC6-48-60-18-8F	22.25	11.00	11.00	18.90	0.00	1	Round	SA-1	1.00		
CCI ANTENNAS	TPA65R-BU6DA-K	71.20	20.70	7.70	68.30	120.00	1	Flat	MP-4	2.00	8.00	
ERICSSON	AIR 6419 B77G_CCIV3	31.10	16.10	7.30	44.00	120.00	1	Flat	MP-5	1.50	4.00	
ERICSSON	AIR 6449 B77D_CCIV2	30.39	15.87	8.07	81.60	120.00	1	Flat	MP-5	6.00	8.50	
CCI ANTENNAS	OPA65R-BU6D	71.20	21.00	7.80	63.50	120.00	1	Flat	MP-6	2.00	8.00	
ERICSSON	RRUS 32 B2	27.20	12.05	7.00	52.90	210.00	1	Flat	MP-4	3.00		
ERICSSON	RRUS 4478 B14_CCIV2	18.10	13.40	8.26	59.40	210.00	1	Flat	MP-4	3.00		
ERICSSON	RRUS 4426 B66	14.96	13.19	5.80	48.40	210.00	1	Flat	MP-6	3.00		
ERICSSON	RRUS 4449 B5/B12	17.90	13.19	9.44	71.00	210.00	1	Flat	MP-6	3.00		
RAYCAP	DC6-48-60-18-8F	22.25	11.00	11.00	18.90	0.00	1	Round	SA-2	1.00		
CCI ANTENNAS	TPA65R-BU6DA-K	71.20	20.70	7.70	68.30	240.00	1	Flat	MP-7	2.00	8.00	
ERICSSON	AIR 6419 B77G_CCIV3	31.10	16.10	7.30	44.00	240.00	1	Flat	MP-8	1.50	4.00	
ERICSSON	AIR 6449 B77D_CCIV2	30.39	15.87	8.07	81.60	240.00	1	Flat	MP-8	6.00	8.50	
CCI ANTENNAS	OPA65R-BU6D	71.20	21.00	7.80	63.50	240.00	1	Flat	MP-9	2.00	8.00	
ERICSSON	RRUS 32 B2	27.20	12.05	7.00	52.90	330.00	1	Flat	MP-7	3.00		
ERICSSON	RRUS 4478 B14_CCIV2	18.10	13.40	8.26	59.40	330.00	1	Flat	MP-7	3.00		
ERICSSON	RRUS 4426 B66	14.96	13.19	5.80	48.40	330.00	1	Flat	MP-9	3.00		
ERICSSON	RRUS 4449 B5/B12	17.90	13.19	9.44	71.00	330.00	1	Flat	MP-9	3.00		
RAYCAP	DC6-48-60-18-8F	22.25	11.00	11.00	18.90	0.00	1	Round	SA-3	1.00		



Ridge Road, Madison (BU 5800059)

TEP No. 218006.707223

Analysis By: GJS 6/8/2022

Checked By: RAL 6/8/2022

Member Forces are Calculated in Accordance with TIA-222-H

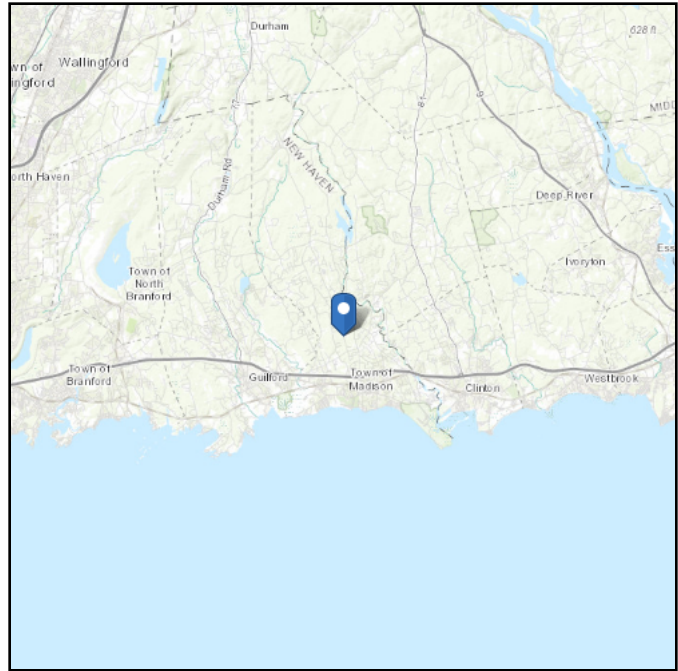
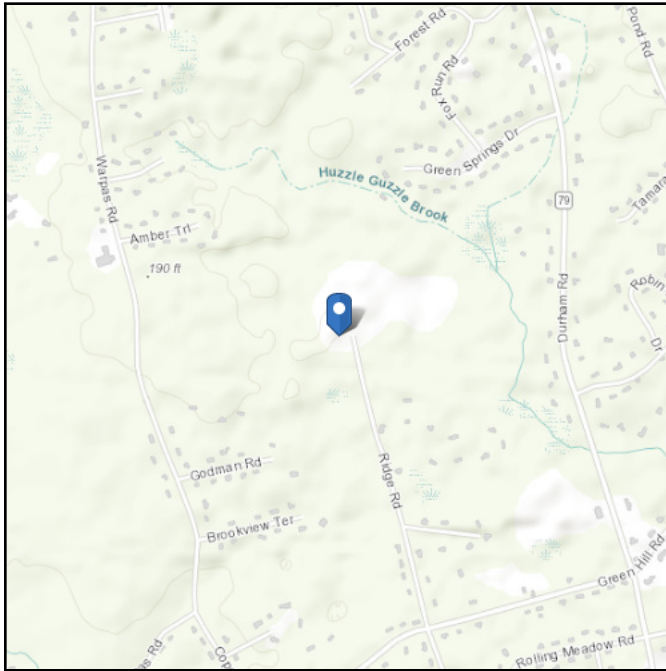
Member Name	Wind Proj. (in)	Length (in)	Shape	θ (°)	Perimeter (in)
FF-TH	3.500	174.00	Round	90.00	11.00
FF-HR	2.375	174.00	Round	90.00	7.46
SF1-TH	3.500	174.00	Round	-30.00	11.00
SF1-HR	2.375	174.00	Round	-30.00	7.46
SF2-TH	3.500	174.00	Round	30.00	11.00
SF2-HR	2.375	174.00	Round	30.00	7.46
SA-1	4.000	78.00	Flat	-60.00	16.00
SA-2	4.000	78.00	Flat	0.00	16.00
SA-3	4.000	78.00	Flat	60.00	16.00
GSI-1A	4.000	33.00	Flat	30.00	16.00
GSI-1B	4.000	33.00	Flat	30.00	16.00
GSI-2A	4.000	33.00	Flat	90.00	16.00
GSI-2B	4.000	33.00	Flat	90.00	16.00
GSI-3A	4.000	33.00	Flat	-30.00	16.00
GSI-3B	4.000	33.00	Flat	-30.00	16.00
GSIP-1A	2.000	47.50	Flat	90.00	8.00
GSIP-1B	2.000	47.50	Flat	-30.00	8.00
GSIP-2A	2.000	47.50	Flat	-30.00	8.00
GSIP-2B	2.000	47.50	Flat	30.00	8.00
GSIP-3A	2.000	47.50	Flat	30.00	8.00
GSIP-3B	2.000	47.50	Flat	90.00	8.00
CP-1	6.000	18.50	Flat	30.00	24.00
CP-2	6.000	18.50	Flat	90.00	24.00
CP-3	6.000	18.50	Flat	-30.00	24.00
CP-1U	2.500	14.98	Flat	30.00	10.00
CP-2U	2.500	14.98	Flat	90.00	10.00
CP-3U	2.500	14.98	Flat	-30.00	10.00
MP-3	2.375	120.00	Round		7.46
MP-1	2.375	120.00	Round		7.46
MP-2	2.375	120.00	Round		7.46
MP-9	2.375	120.00	Round		7.46
MP-7	2.375	120.00	Round		7.46
MP-8	2.375	120.00	Round		7.46
MP-6	2.375	120.00	Round		7.46
MP-4	2.375	120.00	Round		7.46
MP-5	2.375	120.00	Round		7.46

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)

Elevation: 132.55 ft (NAVD 88)
Latitude: 41.30925
Longitude: -72.614325



Wind

Results:

Wind Speed	123 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	94 Vmph
100-year MRI	100 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: Thu Jun 02 2022

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

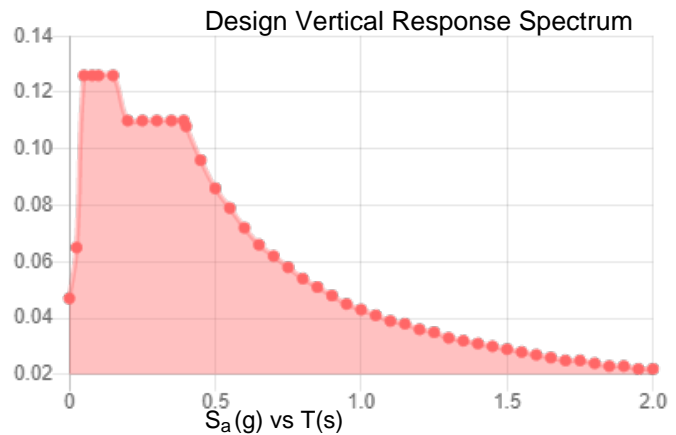
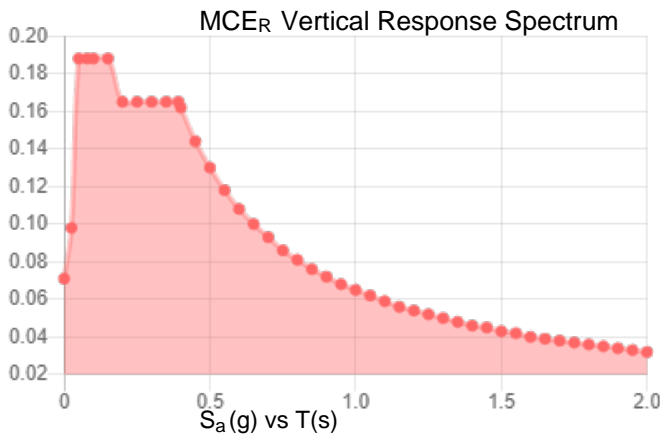
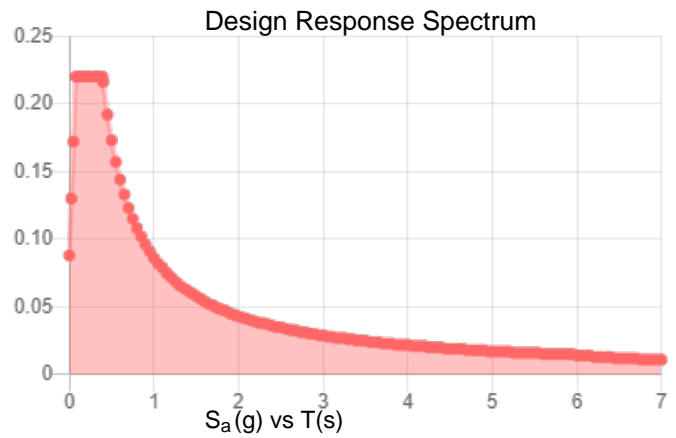
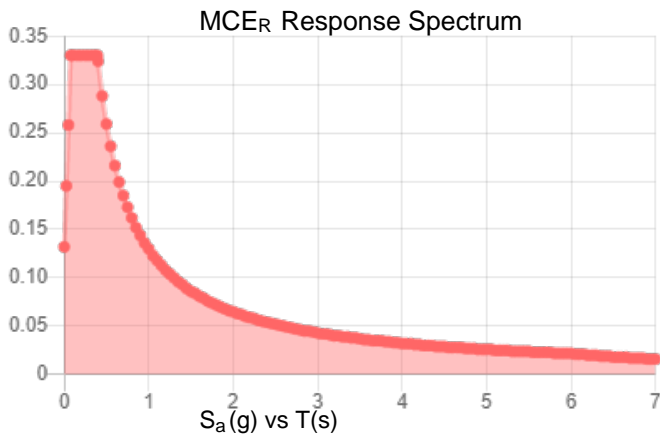
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.206	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.116
F_v :	2.4	PGA _M :	0.181
S_{MS} :	0.33	F_{PGA} :	1.569
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.22	C_v :	0.713

Seismic Design Category B



Data Accessed: Thu Jun 02 2022

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Thu Jun 02 2022

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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

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APPENDIX C
SOFTWARE ANALYSIS OUTPUT



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

June 8, 2022
 11:24 AM
 Checked By: RAL

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	No
RISACONNECTION CODE	None
Cold Formed Steel Code	None
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

June 8, 2022
 11:24 AM
 Checked By: RAL

(Global) Model Settings, Continued

Seismic Code	None
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm /1...	Density[k/f...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
3	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.42	29000	11154	.3	.65	.49	42	1.4	58	1.3
5	A500 Gr.46	29000	11154	.3	.65	.49	46	1.4	58	1.3
6	A53-B-35	29000	11154	.3	.65	.49	35	1.5	60	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Ru...	A [in2]	Iy [in4]	Izz [in4]	J [in4]
1	Face Horizontal	PIPE 3.0	None	None	A53-B-35	Typical	2.07	2.85	2.85	5.69
2	Support Arm	HSS4X4X4	None	None	A53-B-35	Typical	3.37	7.8	7.8	12.8
3	Support Rail	PIPE 2.0	None	None	A53-B-35	Typical	1.02	.627	.627	1.25
4	Internal	HSS4X4X4	None	None	A53-B-35	Typical	3.37	7.8	7.8	12.8
5	Grating Support	L2x2x3	None	None	A53-B-35	Typical	.722	.271	.271	.009
6	Corner Plate	PL6x1/2	None	None	A53-B-35	Typical	3	.063	9	.237
7	Support Rail Connection	L2.5x2.5x4	None	None	A36 Gr.36	Typical	1.19	.692	.692	.026
8	Mount Pipe	PIPE 2.0	None	None	A53-B-35	Typical	1.02	.627	.627	1.25

Material Takeoff

	Material	Size	Pieces	Length[ft]	Weight[K]
1	Hot Rolled Steel				
2	A36 Gr.36	L2.5x2.5x4	3	3.7	.015
3	A53-B-35	HSS4X4X4	9	.36	.413
4	A53-B-35	L2x2x3	6	23.8	.058
5	A53-B-35	PIPE 2.0	12	133.5	.463
6	A53-B-35	PIPE 3.0	3	43.5	.306
7	A53-B-35	PL6x1/2	3	4.6	.047
8	Total HR Steel		36	245.1	1.303

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	SA-1A	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	SA-2A	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	SA-3A	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

June 8, 2022
 11:24 AM
 Checked By: RAL

Load Combinations (Continued)

Description	Sol.	P.	S.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.
62	1.2D+1.5Lm+1...	Yes	Y	1	1.2	13	.059	35	1.5		
63	1.2D+1.5Lm+1...	Yes	Y	1	1.2	14	.059	35	1.5		
64	1.2D+1.5Lm+1...	Yes	Y	1	1.2	15	.059	35	1.5		
65	1.2D+1.5Lm+1...	Yes	Y	1	1.2	16	.059	35	1.5		
66	1.2D+1.5Lm+1...	Yes	Y	1	1.2	17	.059	35	1.5		
67	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	.11	0			
68	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	.095	ELZ	.055		
69	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	.078	ELZ	.078		
70	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	.055	ELZ	.095		
71	(1.2+0.2Sds)D...	Yes	Y	1	1.244	0		ELZ	.11		
72	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	-.055	ELZ	.095		
73	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	-.078	ELZ	.078		
74	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	-.095	ELZ	.055		
75	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	-.11	0			
76	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	-.095	ELZ	-.055		
77	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	-.078	ELZ	-.078		
78	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	-.055	ELZ	-.095		
79	(1.2+0.2Sds)D...	Yes	Y	1	1.244	0		ELZ	-.11		
80	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	.055	ELZ	-.095		
81	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	.078	ELZ	-.078		
82	(1.2+0.2Sds)D...	Yes	Y	1	1.244	ELX	.095	ELZ	-.055		
83	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	.11	0			
84	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	.095	ELZ	.055		
85	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	.078	ELZ	.078		
86	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	.055	ELZ	.095		
87	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	0		ELZ	.11		
88	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	-.055	ELZ	.095		
89	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	-.078	ELZ	.078		
90	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	-.095	ELZ	.055		
91	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	-.11	0			
92	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	-.095	ELZ	-.055		
93	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	-.078	ELZ	-.078		
94	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	-.055	ELZ	-.095		
95	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	0		ELZ	-.11		
96	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	.055	ELZ	-.095		
97	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	.078	ELZ	-.078		
98	(0.9-0.2Sds)*D...	Yes	Y	1	1.856	ELX	.095	ELZ	-.055		

Joint Loads and Enforced Displacements (BLC 35 : Lm)

Joint Label	L,D,M	Direction	Magnitude[(k.k-ft), (in.rad), (k*s^2/ft...)]	
1	N52	L	Y	-5

Joint Loads and Enforced Displacements (BLC 36 : Lv)

Joint Label	L,D,M	Direction	Magnitude[(k.k-ft), (in.rad), (k*s^2/ft...)]	
1	FF-1	L	Y	-.25

Member Point Loads (BLC 1 : Dead)

Member Label	Direction	Magnitude[(k.k-ft)]	Location[ft.%]	
1	MP-1	Y	-.034	2
2	MP-2	Y	-.022	1.5
3	MP-2	Y	-.041	6
4	MP-3	Y	-.032	2
5	MP-1	Y	-.053	3



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

Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]	
6	MP-1	Y	-.059	3
7	MP-3	Y	-.048	3
8	MP-3	Y	-.071	3
9	SA-1	Y	-.019	1
10	MP-4	Y	-.034	2
11	MP-5	Y	-.022	1.5
12	MP-5	Y	-.041	6
13	MP-6	Y	-.032	2
14	MP-4	Y	-.053	3
15	MP-4	Y	-.059	3
16	MP-6	Y	-.048	3
17	MP-6	Y	-.071	3
18	SA-2	Y	-.019	1
19	MP-7	Y	-.034	2
20	MP-8	Y	-.022	1.5
21	MP-8	Y	-.041	6
22	MP-9	Y	-.032	2
23	MP-7	Y	-.053	3
24	MP-7	Y	-.059	3
25	MP-9	Y	-.048	3
26	MP-9	Y	-.071	3
27	SA-3	Y	-.019	1
28	MP-1	Y	-.034	8
29	MP-2	Y	-.022	4
30	MP-2	Y	-.041	8.5
31	MP-3	Y	-.032	8
32	MP-4	Y	-.034	8
33	MP-5	Y	-.022	4
34	MP-5	Y	-.041	8.5
35	MP-6	Y	-.032	8
36	MP-7	Y	-.034	8
37	MP-8	Y	-.022	4
38	MP-8	Y	-.041	8.5
39	MP-9	Y	-.032	8

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

Member Label	Direction	Magnitude[(k.k-ft)]	Location[ft.%]	
1	MP-1	X	-.228	2
2	MP-2	X	-.075	1.5
3	MP-2	X	-.072	6
4	MP-3	X	-.219	2
5	MP-1	X	-.06	3
6	MP-1	X	-.045	3
7	MP-3	X	-.026	3
8	MP-3	X	-.05	3
9	SA-1	X	-.03	1
10	MP-4	X	-.132	2
11	MP-5	X	-.046	1.5
12	MP-5	X	-.047	6
13	MP-6	X	-.116	2
14	MP-4	X	-.088	3
15	MP-4	X	-.066	3
16	MP-6	X	-.051	3
17	MP-6	X	-.066	3
18	SA-2	X	-.03	1
19	MP-7	X	-.132	2



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
20	MP-8	X	-0.46	1.5
21	MP-8	X	-0.47	6
22	MP-9	X	-1.16	2
23	MP-7	X	-0.88	3
24	MP-7	X	-0.66	3
25	MP-9	X	-0.51	3
26	MP-9	X	-0.66	3
27	SA-3	X	-0.03	1
28	MP-1	X	-2.28	8
29	MP-2	X	-0.75	4
30	MP-2	X	-0.72	8.5
31	MP-3	X	-2.19	8
32	MP-4	X	-1.32	8
33	MP-5	X	-0.46	4
34	MP-5	X	-0.47	8.5
35	MP-6	X	-1.16	8
36	MP-7	X	-1.32	8
37	MP-8	X	-0.46	4
38	MP-8	X	-0.47	8.5
39	MP-9	X	-1.16	8

Member Point Loads (BLC 3 : 30 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-1.17	2
2	MP-2	X	-0.56	1.5
3	MP-2	X	-0.55	6
4	MP-3	X	-1.16	2
5	MP-1	X	-0.6	3
6	MP-1	X	-0.45	3
7	MP-3	X	-0.3	3
8	MP-3	X	-0.48	3
9	SA-1	X	-0.26	1
10	MP-4	X	-0.87	2
11	MP-5	X	-0.31	1.5
12	MP-5	X	-0.33	6
13	MP-6	X	-0.7	2
14	MP-4	X	-0.85	3
15	MP-4	X	-0.63	3
16	MP-6	X	-0.51	3
17	MP-6	X	-0.61	3
18	SA-2	X	-0.26	1
19	MP-7	X	-1.17	2
20	MP-8	X	-0.56	1.5
21	MP-8	X	-0.55	6
22	MP-9	X	-1.16	2
23	MP-7	X	-0.6	3
24	MP-7	X	-0.45	3
25	MP-9	X	-0.3	3
26	MP-9	X	-0.48	3
27	SA-3	X	-0.26	1
28	MP-1	X	-1.17	8
29	MP-2	X	-0.56	4
30	MP-2	X	-0.55	8.5
31	MP-3	X	-1.16	8
32	MP-4	X	-0.87	8
33	MP-5	X	-0.31	4



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Member Point Loads (BLC 3 : 30 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
34	MP-5	X	-0.33	8.5
35	MP-6	X	-0.7	8
36	MP-7	X	-1.17	8
37	MP-8	X	-0.56	4
38	MP-8	X	-0.55	8.5
39	MP-9	X	-1.16	8
40	MP-1	Z	-0.98	2
41	MP-2	Z	-0.33	1.5
42	MP-2	Z	-0.32	6
43	MP-3	Z	-0.92	2
44	MP-1	Z	-0.35	3
45	MP-1	Z	-0.26	3
46	MP-3	Z	-0.17	3
47	MP-3	Z	-0.28	3
48	SA-1	Z	-0.15	1
49	MP-4	Z	-0.5	2
50	MP-5	Z	-0.18	1.5
51	MP-5	Z	-0.19	6
52	MP-6	Z	-0.41	2
53	MP-4	Z	-0.49	3
54	MP-4	Z	-0.36	3
55	MP-6	Z	-0.29	3
56	MP-6	Z	-0.35	3
57	SA-2	Z	-0.15	1
58	MP-7	Z	-0.98	2
59	MP-8	Z	-0.33	1.5
60	MP-8	Z	-0.32	6
61	MP-9	Z	-0.92	2
62	MP-7	Z	-0.35	3
63	MP-7	Z	-0.26	3
64	MP-9	Z	-0.17	3
65	MP-9	Z	-0.28	3
66	SA-3	Z	-0.15	1
67	MP-1	Z	-0.98	8
68	MP-2	Z	-0.33	4
69	MP-2	Z	-0.32	8.5
70	MP-3	Z	-0.92	8
71	MP-4	Z	-0.5	8
72	MP-5	Z	-0.18	4
73	MP-5	Z	-0.19	8.5
74	MP-6	Z	-0.41	8
75	MP-7	Z	-0.98	8
76	MP-8	Z	-0.33	4
77	MP-8	Z	-0.32	8.5
78	MP-9	Z	-0.92	8

Member Point Loads (BLC 4 : 45 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-1.16	2
2	MP-2	X	-0.39	1.5
3	MP-2	X	-0.39	6
4	MP-3	X	-1.06	2
5	MP-1	X	-0.56	3
6	MP-1	X	-0.41	3
7	MP-3	X	-0.3	3
8	MP-3	X	-0.43	3



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Member Point Loads (BLC 4 : 45 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
9	SA-1	X	-0.22	1
10	MP-4	X	-0.77	2
11	MP-5	X	-0.27	1.5
12	MP-5	X	-0.29	6
13	MP-6	X	-0.64	2
14	MP-4	X	-0.67	3
15	MP-4	X	-0.05	3
16	MP-6	X	-0.04	3
17	MP-6	X	-0.49	3
18	SA-2	X	-0.22	1
19	MP-7	X	-1.55	2
20	MP-8	X	-0.51	1.5
21	MP-8	X	-0.49	6
22	MP-9	X	-1.48	2
23	MP-7	X	-0.44	3
24	MP-7	X	-0.33	3
25	MP-9	X	-0.02	3
26	MP-9	X	-0.37	3
27	SA-3	X	-0.22	1
28	MP-1	X	-1.16	8
29	MP-2	X	-0.39	4
30	MP-2	X	-0.39	8.5
31	MP-3	X	-1.06	8
32	MP-4	X	-0.77	8
33	MP-5	X	-0.27	4
34	MP-5	X	-0.29	8.5
35	MP-6	X	-0.64	8
36	MP-7	X	-1.55	8
37	MP-8	X	-0.51	4
38	MP-8	X	-0.49	8.5
39	MP-9	X	-1.48	8
40	MP-1	Z	-1.16	2
41	MP-2	Z	-0.39	1.5
42	MP-2	Z	-0.39	6
43	MP-3	Z	-1.06	2
44	MP-1	Z	-0.56	3
45	MP-1	Z	-0.41	3
46	MP-3	Z	-0.03	3
47	MP-3	Z	-0.43	3
48	SA-1	Z	-0.22	1
49	MP-4	Z	-0.77	2
50	MP-5	Z	-0.27	1.5
51	MP-5	Z	-0.29	6
52	MP-6	Z	-0.64	2
53	MP-4	Z	-0.67	3
54	MP-4	Z	-0.05	3
55	MP-6	Z	-0.04	3
56	MP-6	Z	-0.49	3
57	SA-2	Z	-0.22	1
58	MP-7	Z	-1.55	2
59	MP-8	Z	-0.51	1.5
60	MP-8	Z	-0.49	6
61	MP-9	Z	-1.48	2
62	MP-7	Z	-0.44	3
63	MP-7	Z	-0.33	3
64	MP-9	Z	-0.02	3
65	MP-9	Z	-0.37	3



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Member Point Loads (BLC 4 : 45 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
66	SA-3	Z	-0.22	1
67	MP-1	Z	-1.16	8
68	MP-2	Z	-0.39	4
69	MP-2	Z	-0.39	8.5
70	MP-3	Z	-1.06	8
71	MP-4	Z	-0.77	8
72	MP-5	Z	-0.27	4
73	MP-5	Z	-0.29	8.5
74	MP-6	Z	-0.64	8
75	MP-7	Z	-1.55	8
76	MP-8	Z	-0.51	4
77	MP-8	Z	-0.49	8.5
78	MP-9	Z	-1.48	8

Member Point Loads (BLC 5 : 60 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-0.66	2
2	MP-2	X	-0.23	1.5
3	MP-2	X	-0.23	6
4	MP-3	X	-0.58	2
5	MP-1	X	-0.44	3
6	MP-1	X	-0.33	3
7	MP-3	X	-0.25	3
8	MP-3	X	-0.33	3
9	SA-1	X	-0.15	1
10	MP-4	X	-0.66	2
11	MP-5	X	-0.23	1.5
12	MP-5	X	-0.23	6
13	MP-6	X	-0.58	2
14	MP-4	X	-0.44	3
15	MP-4	X	-0.33	3
16	MP-6	X	-0.25	3
17	MP-6	X	-0.33	3
18	SA-2	X	-0.15	1
19	MP-7	X	-1.14	2
20	MP-8	X	-0.37	1.5
21	MP-8	X	-0.36	6
22	MP-9	X	-0.11	2
23	MP-7	X	-0.03	3
24	MP-7	X	-0.22	3
25	MP-9	X	-0.13	3
26	MP-9	X	-0.25	3
27	SA-3	X	-0.15	1
28	MP-1	X	-0.66	8
29	MP-2	X	-0.23	4
30	MP-2	X	-0.23	8.5
31	MP-3	X	-0.58	8
32	MP-4	X	-0.66	8
33	MP-5	X	-0.23	4
34	MP-5	X	-0.23	8.5
35	MP-6	X	-0.58	8
36	MP-7	X	-1.14	8
37	MP-8	X	-0.37	4
38	MP-8	X	-0.36	8.5
39	MP-9	X	-0.11	8
40	MP-1	Z	-1.15	2



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Member Point Loads (BLC 5 : 60 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
41	MP-2	Z	-.04	1.5
42	MP-2	Z	-.041	6
43	MP-3	Z	-.1	2
44	MP-1	Z	-.077	3
45	MP-1	Z	-.057	3
46	MP-3	Z	-.044	3
47	MP-3	Z	-.057	3
48	SA-1	Z	-.026	1
49	MP-4	Z	-.115	2
50	MP-5	Z	-.04	1.5
51	MP-5	Z	-.041	6
52	MP-6	Z	-.1	2
53	MP-4	Z	-.077	3
54	MP-4	Z	-.057	3
55	MP-6	Z	-.044	3
56	MP-6	Z	-.057	3
57	SA-2	Z	-.026	1
58	MP-7	Z	-.197	2
59	MP-8	Z	-.065	1.5
60	MP-8	Z	-.062	6
61	MP-9	Z	-.19	2
62	MP-7	Z	-.052	3
63	MP-7	Z	-.039	3
64	MP-9	Z	-.023	3
65	MP-9	Z	-.044	3
66	SA-3	Z	-.026	1
67	MP-1	Z	-.115	8
68	MP-2	Z	-.04	4
69	MP-2	Z	-.041	8.5
70	MP-3	Z	-.1	8
71	MP-4	Z	-.115	8
72	MP-5	Z	-.04	4
73	MP-5	Z	-.041	8.5
74	MP-6	Z	-.1	8
75	MP-7	Z	-.197	8
76	MP-8	Z	-.065	4
77	MP-8	Z	-.062	8.5
78	MP-9	Z	-.19	8

Member Point Loads (BLC 6 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	Z	-.101	2
2	MP-2	Z	-.036	1.5
3	MP-2	Z	-.038	6
4	MP-3	Z	-.081	2
5	MP-1	Z	-.098	3
6	MP-1	Z	-.072	3
7	MP-3	Z	-.059	3
8	MP-3	Z	-.071	3
9	SA-1	Z	-.03	1
10	MP-4	Z	-.196	2
11	MP-5	Z	-.065	1.5
12	MP-5	Z	-.064	6
13	MP-6	Z	-.185	2
14	MP-4	Z	-.069	3
15	MP-4	Z	-.052	3



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Member Point Loads (BLC 6 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
16	MP-6	Z	-.034	3
17	MP-6	Z	-.056	3
18	SA-2	Z	-.03	1
19	MP-7	Z	-.196	2
20	MP-8	Z	-.065	1.5
21	MP-8	Z	-.064	6
22	MP-9	Z	-.185	2
23	MP-7	Z	-.069	3
24	MP-7	Z	-.052	3
25	MP-9	Z	-.034	3
26	MP-9	Z	-.056	3
27	SA-3	Z	-.03	1
28	MP-1	Z	-.101	8
29	MP-2	Z	-.036	4
30	MP-2	Z	-.038	8.5
31	MP-3	Z	-.081	8
32	MP-4	Z	-.196	8
33	MP-5	Z	-.065	4
34	MP-5	Z	-.064	8.5
35	MP-6	Z	-.185	8
36	MP-7	Z	-.196	8
37	MP-8	Z	-.065	4
38	MP-8	Z	-.064	8.5
39	MP-9	Z	-.185	8

Member Point Loads (BLC 7 : 120 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	.066	2
2	MP-2	X	.023	1.5
3	MP-2	X	.023	6
4	MP-3	X	.058	2
5	MP-1	X	.044	3
6	MP-1	X	.033	3
7	MP-3	X	.025	3
8	MP-3	X	.033	3
9	SA-1	X	.015	1
10	MP-4	X	.114	2
11	MP-5	X	.037	1.5
12	MP-5	X	.036	6
13	MP-6	X	.11	2
14	MP-4	X	.03	3
15	MP-4	X	.022	3
16	MP-6	X	.013	3
17	MP-6	X	.025	3
18	SA-2	X	.015	1
19	MP-7	X	.066	2
20	MP-8	X	.023	1.5
21	MP-8	X	.023	6
22	MP-9	X	.058	2
23	MP-7	X	.044	3
24	MP-7	X	.033	3
25	MP-9	X	.025	3
26	MP-9	X	.033	3
27	SA-3	X	.015	1
28	MP-1	X	.066	8
29	MP-2	X	.023	4



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Member Point Loads (BLC 7 : 120 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
30	MP-2	X	.023	8.5
31	MP-3	X	.058	8
32	MP-4	X	.114	8
33	MP-5	X	.037	4
34	MP-5	X	.036	8.5
35	MP-6	X	.11	8
36	MP-7	X	.066	8
37	MP-8	X	.023	4
38	MP-8	X	.023	8.5
39	MP-9	X	.058	8
40	MP-1	Z	-.115	2
41	MP-2	Z	-.04	1.5
42	MP-2	Z	-.041	6
43	MP-3	Z	-.1	2
44	MP-1	Z	-.077	3
45	MP-1	Z	-.057	3
46	MP-3	Z	-.044	3
47	MP-3	Z	-.057	3
48	SA-1	Z	-.026	1
49	MP-4	Z	-.197	2
50	MP-5	Z	-.065	1.5
51	MP-5	Z	-.062	6
52	MP-6	Z	-.19	2
53	MP-4	Z	-.052	3
54	MP-4	Z	-.039	3
55	MP-6	Z	-.023	3
56	MP-6	Z	-.044	3
57	SA-2	Z	-.026	1
58	MP-7	Z	-.115	2
59	MP-8	Z	-.04	1.5
60	MP-8	Z	-.041	6
61	MP-9	Z	-.1	2
62	MP-7	Z	-.077	3
63	MP-7	Z	-.057	3
64	MP-9	Z	-.044	3
65	MP-9	Z	-.057	3
66	SA-3	Z	-.026	1
67	MP-1	Z	-.115	8
68	MP-2	Z	-.04	4
69	MP-2	Z	-.041	8.5
70	MP-3	Z	-.1	8
71	MP-4	Z	-.197	8
72	MP-5	Z	-.065	4
73	MP-5	Z	-.062	8.5
74	MP-6	Z	-.19	8
75	MP-7	Z	-.115	8
76	MP-8	Z	-.04	4
77	MP-8	Z	-.041	8.5
78	MP-9	Z	-.1	8

Member Point Loads (BLC 8 : 135 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	.116	2
2	MP-2	X	.039	1.5
3	MP-2	X	.039	6
4	MP-3	X	.106	2



Company : Tower Engineering Professionals
 Designer : GJS
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Member Point Loads (BLC 8 : 135 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
5	MP-1	X	.056	3
6	MP-1	X	.041	3
7	MP-3	X	.03	3
8	MP-3	X	.043	3
9	SA-1	X	.022	1
10	MP-4	X	.155	2
11	MP-5	X	.051	1.5
12	MP-5	X	.049	6
13	MP-6	X	.148	2
14	MP-4	X	.044	3
15	MP-4	X	.033	3
16	MP-6	X	.02	3
17	MP-6	X	.037	3
18	SA-2	X	.022	1
19	MP-7	X	.077	2
20	MP-8	X	.027	1.5
21	MP-8	X	.029	6
22	MP-9	X	.064	2
23	MP-7	X	.067	3
24	MP-7	X	.05	3
25	MP-9	X	.04	3
26	MP-9	X	.049	3
27	SA-3	X	.022	1
28	MP-1	X	.116	8
29	MP-2	X	.039	4
30	MP-2	X	.039	8.5
31	MP-3	X	.106	8
32	MP-4	X	.155	8
33	MP-5	X	.051	4
34	MP-5	X	.049	8.5
35	MP-6	X	.148	8
36	MP-7	X	.077	8
37	MP-8	X	.027	4
38	MP-8	X	.029	8.5
39	MP-9	X	.064	8
40	MP-1	Z	-.116	2
41	MP-2	Z	-.039	1.5
42	MP-2	Z	-.039	6
43	MP-3	Z	-.106	2
44	MP-1	Z	-.056	3
45	MP-1	Z	-.041	3
46	MP-3	Z	-.03	3
47	MP-3	Z	-.043	3
48	SA-1	Z	-.022	1
49	MP-4	Z	-.155	2
50	MP-5	Z	-.051	1.5
51	MP-5	Z	-.049	6
52	MP-6	Z	-.148	2
53	MP-4	Z	-.044	3
54	MP-4	Z	-.033	3
55	MP-6	Z	-.02	3
56	MP-6	Z	-.037	3
57	SA-2	Z	-.022	1
58	MP-7	Z	-.077	2
59	MP-8	Z	-.027	1.5
60	MP-8	Z	-.029	6
61	MP-9	Z	-.064	2



Member Point Loads (BLC 8 : 135 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
62	MP-7	Z	-.067	3
63	MP-7	Z	-.05	3
64	MP-9	Z	-.04	3
65	MP-9	Z	-.049	3
66	SA-3	Z	-.022	1
67	MP-1	Z	-.116	8
68	MP-2	Z	-.039	4
69	MP-2	Z	-.039	8.5
70	MP-3	Z	-.106	8
71	MP-4	Z	-.155	8
72	MP-5	Z	-.051	4
73	MP-5	Z	-.049	8.5
74	MP-6	Z	-.148	8
75	MP-7	Z	-.077	8
76	MP-8	Z	-.027	4
77	MP-8	Z	-.029	8.5
78	MP-9	Z	-.064	8

Member Point Loads (BLC 9 : 150 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	.17	2
2	MP-2	X	.056	1.5
3	MP-2	X	.055	6
4	MP-3	X	.16	2
5	MP-1	X	.06	3
6	MP-1	X	.045	3
7	MP-3	X	.03	3
8	MP-3	X	.048	3
9	SA-1	X	.026	1
10	MP-4	X	.17	2
11	MP-5	X	.056	1.5
12	MP-5	X	.055	6
13	MP-6	X	.16	2
14	MP-4	X	.06	3
15	MP-4	X	.045	3
16	MP-6	X	.03	3
17	MP-6	X	.048	3
18	SA-2	X	.026	1
19	MP-7	X	.087	2
20	MP-8	X	.031	1.5
21	MP-8	X	.033	6
22	MP-9	X	.07	2
23	MP-7	X	.085	3
24	MP-7	X	.063	3
25	MP-9	X	.051	3
26	MP-9	X	.061	3
27	SA-3	X	.026	1
28	MP-1	X	.17	8
29	MP-2	X	.056	4
30	MP-2	X	.055	8.5
31	MP-3	X	.16	8
32	MP-4	X	.17	8
33	MP-5	X	.056	4
34	MP-5	X	.055	8.5
35	MP-6	X	.16	8
36	MP-7	X	.087	8



Member Point Loads (BLC 9 : 150 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
37	MP-8	X	.031	4
38	MP-8	X	.033	8.5
39	MP-9	X	.07	8
40	MP-1	Z	-.098	2
41	MP-2	Z	-.033	1.5
42	MP-2	Z	-.032	6
43	MP-3	Z	-.092	2
44	MP-1	Z	-.035	3
45	MP-1	Z	-.026	3
46	MP-3	Z	-.017	3
47	MP-3	Z	-.028	3
48	SA-1	Z	-.015	1
49	MP-4	Z	-.098	2
50	MP-5	Z	-.033	1.5
51	MP-5	Z	-.032	6
52	MP-6	Z	-.092	2
53	MP-4	Z	-.035	3
54	MP-4	Z	-.026	3
55	MP-6	Z	-.017	3
56	MP-6	Z	-.028	3
57	SA-2	Z	-.015	1
58	MP-7	Z	-.05	2
59	MP-8	Z	-.018	1.5
60	MP-8	Z	-.019	6
61	MP-9	Z	-.041	2
62	MP-7	Z	-.049	3
63	MP-7	Z	-.036	3
64	MP-9	Z	-.029	3
65	MP-9	Z	-.035	3
66	SA-3	Z	-.015	1
67	MP-1	Z	-.098	8
68	MP-2	Z	-.033	4
69	MP-2	Z	-.032	8.5
70	MP-3	Z	-.092	8
71	MP-4	Z	-.098	8
72	MP-5	Z	-.033	4
73	MP-5	Z	-.032	8.5
74	MP-6	Z	-.092	8
75	MP-7	Z	-.05	8
76	MP-8	Z	-.018	4
77	MP-8	Z	-.019	8.5
78	MP-9	Z	-.041	8

Member Point Loads (BLC 10 : 180 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	.228	2
2	MP-2	X	.075	1.5
3	MP-2	X	.072	6
4	MP-3	X	.219	2
5	MP-1	X	.06	3
6	MP-1	X	.045	3
7	MP-3	X	.026	3
8	MP-3	X	.05	3
9	SA-1	X	.03	1
10	MP-4	X	.132	2
11	MP-5	X	.046	1.5



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Member Point Loads (BLC 10 : 180 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
12	MP-5	X	.047	6
13	MP-6	X	.116	2
14	MP-4	X	.088	3
15	MP-4	X	.066	3
16	MP-6	X	.051	3
17	MP-6	X	.066	3
18	SA-2	X	.03	1
19	MP-7	X	.132	2
20	MP-8	X	.046	1.5
21	MP-8	X	.047	6
22	MP-9	X	.116	2
23	MP-7	X	.088	3
24	MP-7	X	.066	3
25	MP-9	X	.051	3
26	MP-9	X	.066	3
27	SA-3	X	.03	1
28	MP-1	X	.228	8
29	MP-2	X	.075	4
30	MP-2	X	.072	8.5
31	MP-3	X	.219	8
32	MP-4	X	.132	8
33	MP-5	X	.046	4
34	MP-5	X	.047	8.5
35	MP-6	X	.116	8
36	MP-7	X	.132	8
37	MP-8	X	.046	4
38	MP-8	X	.047	8.5
39	MP-9	X	.116	8

Member Point Loads (BLC 11 : 210 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	.17	2
2	MP-2	X	.056	1.5
3	MP-2	X	.055	6
4	MP-3	X	.16	2
5	MP-1	X	.06	3
6	MP-1	X	.045	3
7	MP-3	X	.03	3
8	MP-3	X	.048	3
9	SA-1	X	.026	1
10	MP-4	X	.087	2
11	MP-5	X	.031	1.5
12	MP-5	X	.033	6
13	MP-6	X	.07	2
14	MP-4	X	.085	3
15	MP-4	X	.063	3
16	MP-6	X	.051	3
17	MP-6	X	.061	3
18	SA-2	X	.026	1
19	MP-7	X	.17	2
20	MP-8	X	.056	1.5
21	MP-8	X	.055	6
22	MP-9	X	.16	2
23	MP-7	X	.06	3
24	MP-7	X	.045	3
25	MP-9	X	.03	3



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Member Point Loads (BLC 11 : 210 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
26	MP-9	X	.048	3
27	SA-3	X	.026	1
28	MP-1	X	.17	8
29	MP-2	X	.056	4
30	MP-2	X	.055	8.5
31	MP-3	X	.16	8
32	MP-4	X	.087	8
33	MP-5	X	.031	4
34	MP-5	X	.033	8.5
35	MP-6	X	.07	8
36	MP-7	X	.17	8
37	MP-8	X	.056	4
38	MP-8	X	.055	8.5
39	MP-9	X	.16	8
40	MP-1	Z	.098	2
41	MP-2	Z	.033	1.5
42	MP-2	Z	.032	6
43	MP-3	Z	.092	2
44	MP-1	Z	.035	3
45	MP-1	Z	.026	3
46	MP-3	Z	.017	3
47	MP-3	Z	.028	3
48	SA-1	Z	.015	1
49	MP-4	Z	.05	2
50	MP-5	Z	.018	1.5
51	MP-5	Z	.019	6
52	MP-6	Z	.041	2
53	MP-4	Z	.049	3
54	MP-4	Z	.036	3
55	MP-6	Z	.029	3
56	MP-6	Z	.035	3
57	SA-2	Z	.015	1
58	MP-7	Z	.098	2
59	MP-8	Z	.033	1.5
60	MP-8	Z	.032	6
61	MP-9	Z	.092	2
62	MP-7	Z	.035	3
63	MP-7	Z	.026	3
64	MP-9	Z	.017	3
65	MP-9	Z	.028	3
66	SA-3	Z	.015	1
67	MP-1	Z	.098	8
68	MP-2	Z	.033	4
69	MP-2	Z	.032	8.5
70	MP-3	Z	.092	8
71	MP-4	Z	.05	8
72	MP-5	Z	.018	4
73	MP-5	Z	.019	8.5
74	MP-6	Z	.041	8
75	MP-7	Z	.098	8
76	MP-8	Z	.033	4
77	MP-8	Z	.032	8.5
78	MP-9	Z	.092	8

Member Point Loads (BLC 12 : 225 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
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Member Point Loads (BLC 12 : 225 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	.116	2
2	MP-2	X	.039	1.5
3	MP-2	X	.039	6
4	MP-3	X	.106	2
5	MP-1	X	.056	3
6	MP-1	X	.041	3
7	MP-3	X	.03	3
8	MP-3	X	.043	3
9	SA-1	X	.022	1
10	MP-4	X	.077	2
11	MP-5	X	.027	1.5
12	MP-5	X	.029	6
13	MP-6	X	.064	2
14	MP-4	X	.067	3
15	MP-4	X	.05	3
16	MP-6	X	.04	3
17	MP-6	X	.049	3
18	SA-2	X	.022	1
19	MP-7	X	.155	2
20	MP-8	X	.051	1.5
21	MP-8	X	.049	6
22	MP-9	X	.148	2
23	MP-7	X	.044	3
24	MP-7	X	.033	3
25	MP-9	X	.02	3
26	MP-9	X	.037	3
27	SA-3	X	.022	1
28	MP-1	X	.116	8
29	MP-2	X	.039	4
30	MP-2	X	.039	8.5
31	MP-3	X	.106	8
32	MP-4	X	.077	8
33	MP-5	X	.027	4
34	MP-5	X	.029	8.5
35	MP-6	X	.064	8
36	MP-7	X	.155	8
37	MP-8	X	.051	4
38	MP-8	X	.049	8.5
39	MP-9	X	.148	8
40	MP-1	Z	.116	2
41	MP-2	Z	.039	1.5
42	MP-2	Z	.039	6
43	MP-3	Z	.106	2
44	MP-1	Z	.056	3
45	MP-1	Z	.041	3
46	MP-3	Z	.03	3
47	MP-3	Z	.043	3
48	SA-1	Z	.022	1
49	MP-4	Z	.077	2
50	MP-5	Z	.027	1.5
51	MP-5	Z	.029	6
52	MP-6	Z	.064	2
53	MP-4	Z	.067	3
54	MP-4	Z	.05	3
55	MP-6	Z	.04	3
56	MP-6	Z	.049	3
57	SA-2	Z	.022	1



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Member Point Loads (BLC 12 : 225 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
58	MP-7	Z	.155	2
59	MP-8	Z	.051	1.5
60	MP-8	Z	.049	6
61	MP-9	Z	.148	2
62	MP-7	Z	.044	3
63	MP-7	Z	.033	3
64	MP-9	Z	.02	3
65	MP-9	Z	.037	3
66	SA-3	Z	.022	1
67	MP-1	Z	.116	8
68	MP-2	Z	.039	4
69	MP-2	Z	.039	8.5
70	MP-3	Z	.106	8
71	MP-4	Z	.077	8
72	MP-5	Z	.027	4
73	MP-5	Z	.029	8.5
74	MP-6	Z	.064	8
75	MP-7	Z	.155	8
76	MP-8	Z	.051	4
77	MP-8	Z	.049	8.5
78	MP-9	Z	.148	8

Member Point Loads (BLC 13 : 240 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	.066	2
2	MP-2	X	.023	1.5
3	MP-2	X	.023	6
4	MP-3	X	.058	2
5	MP-1	X	.044	3
6	MP-1	X	.033	3
7	MP-3	X	.025	3
8	MP-3	X	.033	3
9	SA-1	X	.015	1
10	MP-4	X	.066	2
11	MP-5	X	.023	1.5
12	MP-5	X	.023	6
13	MP-6	X	.058	2
14	MP-4	X	.044	3
15	MP-4	X	.033	3
16	MP-6	X	.025	3
17	MP-6	X	.033	3
18	SA-2	X	.015	1
19	MP-7	X	.114	2
20	MP-8	X	.037	1.5
21	MP-8	X	.036	6
22	MP-9	X	.11	2
23	MP-7	X	.03	3
24	MP-7	X	.022	3
25	MP-9	X	.013	3
26	MP-9	X	.025	3
27	SA-3	X	.015	1
28	MP-1	X	.066	8
29	MP-2	X	.023	4
30	MP-2	X	.023	8.5
31	MP-3	X	.058	8
32	MP-4	X	.066	8



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Member Point Loads (BLC 13 : 240 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
33	MP-5	X	.023	4
34	MP-5	X	.023	8.5
35	MP-6	X	.058	8
36	MP-7	X	.114	8
37	MP-8	X	.037	4
38	MP-8	X	.036	8.5
39	MP-9	X	.11	8
40	MP-1	Z	.115	2
41	MP-2	Z	.04	1.5
42	MP-2	Z	.041	6
43	MP-3	Z	.1	2
44	MP-1	Z	.077	3
45	MP-1	Z	.057	3
46	MP-3	Z	.044	3
47	MP-3	Z	.057	3
48	SA-1	Z	.026	1
49	MP-4	Z	.115	2
50	MP-5	Z	.04	1.5
51	MP-5	Z	.041	6
52	MP-6	Z	.1	2
53	MP-4	Z	.077	3
54	MP-4	Z	.057	3
55	MP-6	Z	.044	3
56	MP-6	Z	.057	3
57	SA-2	Z	.026	1
58	MP-7	Z	.197	2
59	MP-8	Z	.065	1.5
60	MP-8	Z	.062	6
61	MP-9	Z	.19	2
62	MP-7	Z	.052	3
63	MP-7	Z	.039	3
64	MP-9	Z	.023	3
65	MP-9	Z	.044	3
66	SA-3	Z	.026	1
67	MP-1	Z	.115	8
68	MP-2	Z	.04	4
69	MP-2	Z	.041	8.5
70	MP-3	Z	.1	8
71	MP-4	Z	.115	8
72	MP-5	Z	.04	4
73	MP-5	Z	.041	8.5
74	MP-6	Z	.1	8
75	MP-7	Z	.197	8
76	MP-8	Z	.065	4
77	MP-8	Z	.062	8.5
78	MP-9	Z	.19	8

Member Point Loads (BLC 14 : 270 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	Z	.101	2
2	MP-2	Z	.036	1.5
3	MP-2	Z	.038	6
4	MP-3	Z	.081	2
5	MP-1	Z	.098	3
6	MP-1	Z	.072	3
7	MP-3	Z	.059	3



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Member Point Loads (BLC 14 : 270 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
8	MP-3	Z	.071	3
9	SA-1	Z	.03	1
10	MP-4	Z	.196	2
11	MP-5	Z	.065	1.5
12	MP-5	Z	.064	6
13	MP-6	Z	.185	2
14	MP-4	Z	.069	3
15	MP-4	Z	.052	3
16	MP-6	Z	.034	3
17	MP-6	Z	.056	3
18	SA-2	Z	.03	1
19	MP-7	Z	.196	2
20	MP-8	Z	.065	1.5
21	MP-8	Z	.064	6
22	MP-9	Z	.185	2
23	MP-7	Z	.069	3
24	MP-7	Z	.052	3
25	MP-9	Z	.034	3
26	MP-9	Z	.056	3
27	SA-3	Z	.03	1
28	MP-1	Z	.101	8
29	MP-2	Z	.036	4
30	MP-2	Z	.038	8.5
31	MP-3	Z	.081	8
32	MP-4	Z	.196	8
33	MP-5	Z	.065	4
34	MP-5	Z	.064	8.5
35	MP-6	Z	.185	8
36	MP-7	Z	.196	8
37	MP-8	Z	.065	4
38	MP-8	Z	.064	8.5
39	MP-9	Z	.185	8

Member Point Loads (BLC 15 : 300 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-.066	2
2	MP-2	X	-.023	1.5
3	MP-2	X	-.023	6
4	MP-3	X	-.058	2
5	MP-1	X	-.044	3
6	MP-1	X	-.033	3
7	MP-3	X	-.025	3
8	MP-3	X	-.033	3
9	SA-1	X	-.015	1
10	MP-4	X	-.114	2
11	MP-5	X	-.037	1.5
12	MP-5	X	-.036	6
13	MP-6	X	-.11	2
14	MP-4	X	-.03	3
15	MP-4	X	-.022	3
16	MP-6	X	-.013	3
17	MP-6	X	-.025	3
18	SA-2	X	-.015	1
19	MP-7	X	-.066	2
20	MP-8	X	-.023	1.5
21	MP-8	X	-.023	6



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Member Point Loads (BLC 15 : 300 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
22	MP-9	X	-058	2
23	MP-7	X	-044	3
24	MP-7	X	-033	3
25	MP-9	X	-025	3
26	MP-9	X	-033	3
27	SA-3	X	-015	1
28	MP-1	X	-066	8
29	MP-2	X	-023	4
30	MP-2	X	-023	8.5
31	MP-3	X	-058	8
32	MP-4	X	-114	8
33	MP-5	X	-037	4
34	MP-5	X	-036	8.5
35	MP-6	X	-11	8
36	MP-7	X	-066	8
37	MP-8	X	-023	4
38	MP-8	X	-023	8.5
39	MP-9	X	-058	8
40	MP-1	Z	-115	2
41	MP-2	Z	.04	1.5
42	MP-2	Z	.041	6
43	MP-3	Z	.1	2
44	MP-1	Z	.077	3
45	MP-1	Z	.057	3
46	MP-3	Z	.044	3
47	MP-3	Z	.057	3
48	SA-1	Z	.026	1
49	MP-4	Z	.197	2
50	MP-5	Z	.065	1.5
51	MP-5	Z	.062	6
52	MP-6	Z	.19	2
53	MP-4	Z	.052	3
54	MP-4	Z	.039	3
55	MP-6	Z	.023	3
56	MP-6	Z	.044	3
57	SA-2	Z	.026	1
58	MP-7	Z	.115	2
59	MP-8	Z	.04	1.5
60	MP-8	Z	.041	6
61	MP-9	Z	.1	2
62	MP-7	Z	.077	3
63	MP-7	Z	.057	3
64	MP-9	Z	.044	3
65	MP-9	Z	.057	3
66	SA-3	Z	.026	1
67	MP-1	Z	.115	8
68	MP-2	Z	.04	4
69	MP-2	Z	.041	8.5
70	MP-3	Z	.1	8
71	MP-4	Z	.197	8
72	MP-5	Z	.065	4
73	MP-5	Z	.062	8.5
74	MP-6	Z	.19	8
75	MP-7	Z	.115	8
76	MP-8	Z	.04	4
77	MP-8	Z	.041	8.5
78	MP-9	Z	.1	8



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Member Point Loads (BLC 16 : 315 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-116	2
2	MP-2	X	-039	1.5
3	MP-2	X	-039	6
4	MP-3	X	-106	2
5	MP-1	X	-056	3
6	MP-1	X	-041	3
7	MP-3	X	-03	3
8	MP-3	X	-043	3
9	SA-1	X	-022	1
10	MP-4	X	-155	2
11	MP-5	X	-051	1.5
12	MP-5	X	-049	6
13	MP-6	X	-148	2
14	MP-4	X	-044	3
15	MP-4	X	-033	3
16	MP-6	X	-02	3
17	MP-6	X	-037	3
18	SA-2	X	-022	1
19	MP-7	X	-077	2
20	MP-8	X	-027	1.5
21	MP-8	X	-029	6
22	MP-9	X	-064	2
23	MP-7	X	-067	3
24	MP-7	X	-05	3
25	MP-9	X	-04	3
26	MP-9	X	-049	3
27	SA-3	X	-022	1
28	MP-1	X	-116	8
29	MP-2	X	-039	4
30	MP-2	X	-039	8.5
31	MP-3	X	-106	8
32	MP-4	X	-155	8
33	MP-5	X	-051	4
34	MP-5	X	-049	8.5
35	MP-6	X	-148	8
36	MP-7	X	-077	8
37	MP-8	X	-027	4
38	MP-8	X	-029	8.5
39	MP-9	X	-064	8
40	MP-1	Z	-116	2
41	MP-2	Z	.039	1.5
42	MP-2	Z	.039	6
43	MP-3	Z	.106	2
44	MP-1	Z	.056	3
45	MP-1	Z	.041	3
46	MP-3	Z	.03	3
47	MP-3	Z	.043	3
48	SA-1	Z	.022	1
49	MP-4	Z	.155	2
50	MP-5	Z	.051	1.5
51	MP-5	Z	.049	6
52	MP-6	Z	.148	2
53	MP-4	Z	.044	3
54	MP-4	Z	.033	3
55	MP-6	Z	.02	3
56	MP-6	Z	.037	3
57	SA-2	Z	.022	1



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Member Point Loads (BLC 16 : 315 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
58	MP-7	Z	.077	2
59	MP-8	Z	.027	1.5
60	MP-8	Z	.029	6
61	MP-9	Z	.064	2
62	MP-7	Z	.067	3
63	MP-7	Z	.05	3
64	MP-9	Z	.04	3
65	MP-9	Z	.049	3
66	SA-3	Z	.022	1
67	MP-1	Z	.116	8
68	MP-2	Z	.039	4
69	MP-2	Z	.039	8.5
70	MP-3	Z	.106	8
71	MP-4	Z	.155	8
72	MP-5	Z	.051	4
73	MP-5	Z	.049	8.5
74	MP-6	Z	.148	8
75	MP-7	Z	.077	8
76	MP-8	Z	.027	4
77	MP-8	Z	.029	8.5
78	MP-9	Z	.064	8

Member Point Loads (BLC 17 : 330 Wind - No Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-.17	2
2	MP-2	X	-.056	1.5
3	MP-2	X	-.055	6
4	MP-3	X	-.16	2
5	MP-1	X	-.06	3
6	MP-1	X	-.045	3
7	MP-3	X	-.03	3
8	MP-3	X	-.048	3
9	SA-1	X	-.026	1
10	MP-4	X	-.17	2
11	MP-5	X	-.056	1.5
12	MP-5	X	-.055	6
13	MP-6	X	-.16	2
14	MP-4	X	-.06	3
15	MP-4	X	-.045	3
16	MP-6	X	-.03	3
17	MP-6	X	-.048	3
18	SA-2	X	-.026	1
19	MP-7	X	-.087	2
20	MP-8	X	-.031	1.5
21	MP-8	X	-.033	6
22	MP-9	X	-.07	2
23	MP-7	X	-.085	3
24	MP-7	X	-.063	3
25	MP-9	X	-.051	3
26	MP-9	X	-.061	3
27	SA-3	X	-.026	1
28	MP-1	X	-.17	8
29	MP-2	X	-.056	4
30	MP-2	X	-.055	8.5
31	MP-3	X	-.16	8
32	MP-4	X	-.17	8



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Member Point Loads (BLC 17 : 330 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
33	MP-5	X	-.056	4
34	MP-5	X	-.055	8.5
35	MP-6	X	-.16	8
36	MP-7	X	-.087	8
37	MP-8	X	-.031	4
38	MP-8	X	-.033	8.5
39	MP-9	X	-.07	8
40	MP-1	Z	.098	2
41	MP-2	Z	.033	1.5
42	MP-2	Z	.032	6
43	MP-3	Z	.092	2
44	MP-1	Z	.035	3
45	MP-1	Z	.026	3
46	MP-3	Z	.017	3
47	MP-3	Z	.028	3
48	SA-1	Z	.015	1
49	MP-4	Z	.098	2
50	MP-5	Z	.033	1.5
51	MP-5	Z	.032	6
52	MP-6	Z	.092	2
53	MP-4	Z	.035	3
54	MP-4	Z	.026	3
55	MP-6	Z	.017	3
56	MP-6	Z	.028	3
57	SA-2	Z	.015	1
58	MP-7	Z	.05	2
59	MP-8	Z	.018	1.5
60	MP-8	Z	.019	6
61	MP-9	Z	.041	2
62	MP-7	Z	.049	3
63	MP-7	Z	.036	3
64	MP-9	Z	.029	3
65	MP-9	Z	.035	3
66	SA-3	Z	.015	1
67	MP-1	Z	.098	8
68	MP-2	Z	.033	4
69	MP-2	Z	.032	8.5
70	MP-3	Z	.092	8
71	MP-4	Z	.098	8
72	MP-5	Z	.033	4
73	MP-5	Z	.032	8.5
74	MP-6	Z	.092	8
75	MP-7	Z	.05	8
76	MP-8	Z	.018	4
77	MP-8	Z	.019	8.5
78	MP-9	Z	.041	8

Member Point Loads (BLC 18 : Ice Weight)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	Y	-.091	2
2	MP-2	Y	-.037	1.5
3	MP-2	Y	-.037	6
4	MP-3	Y	-.092	2
5	MP-1	Y	-.054	3
6	MP-1	Y	-.045	3
7	MP-3	Y	-.033	3



Member Point Loads (BLC 18 : Ice Weight) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
8	MP-3	Y	-0.47	3
9	SA-1	Y	-0.35	1
10	MP-4	Y	-0.91	2
11	MP-5	Y	-0.37	1.5
12	MP-5	Y	-0.37	6
13	MP-6	Y	-0.92	2
14	MP-4	Y	-0.54	3
15	MP-4	Y	-0.45	3
16	MP-6	Y	-0.33	3
17	MP-6	Y	-0.47	3
18	SA-2	Y	-0.35	1
19	MP-7	Y	-0.91	2
20	MP-8	Y	-0.37	1.5
21	MP-8	Y	-0.37	6
22	MP-9	Y	-0.92	2
23	MP-7	Y	-0.54	3
24	MP-7	Y	-0.45	3
25	MP-9	Y	-0.33	3
26	MP-9	Y	-0.47	3
27	SA-3	Y	-0.35	1
28	MP-1	Y	-0.91	8
29	MP-2	Y	-0.37	4
30	MP-2	Y	-0.37	8.5
31	MP-3	Y	-0.92	8
32	MP-4	Y	-0.91	8
33	MP-5	Y	-0.37	4
34	MP-5	Y	-0.37	8.5
35	MP-6	Y	-0.92	8
36	MP-7	Y	-0.91	8
37	MP-8	Y	-0.37	4
38	MP-8	Y	-0.37	8.5
39	MP-9	Y	-0.92	8

Member Point Loads (BLC 19 : 0 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-0.43	2
2	MP-2	X	-0.15	1.5
3	MP-2	X	-0.15	6
4	MP-3	X	-0.41	2
5	MP-1	X	-0.21	3
6	MP-1	X	-0.16	3
7	MP-3	X	-0.13	3
8	MP-3	X	-0.15	3
9	SA-1	X	-0.07	1
10	MP-4	X	-0.43	2
11	MP-5	X	-0.15	1.5
12	MP-5	X	-0.15	6
13	MP-6	X	-0.41	2
14	MP-4	X	-0.21	3
15	MP-4	X	-0.16	3
16	MP-6	X	-0.13	3
17	MP-6	X	-0.15	3
18	SA-2	X	-0.07	1
19	MP-7	X	-0.43	2
20	MP-8	X	-0.15	1.5
21	MP-8	X	-0.15	6
22	MP-9	X	-0.03	2
23	MP-7	X	-0.14	3
24	MP-7	X	-0.1	3
25	MP-9	X	-0.07	3
26	MP-9	X	-0.11	3
27	SA-3	X	-0.06	1
28	MP-1	X	-0.32	8
29	MP-2	X	-0.12	4
30	MP-2	X	-0.11	8.5
31	MP-3	X	-0.3	8
32	MP-4	X	-0.19	8
33	MP-5	X	-0.07	4
34	MP-5	X	-0.07	8.5
35	MP-6	X	-0.15	8



Member Point Loads (BLC 19 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
22	MP-9	X	-0.41	2
23	MP-7	X	-0.21	3
24	MP-7	X	-0.16	3
25	MP-9	X	-0.13	3
26	MP-9	X	-0.15	3
27	SA-3	X	-0.07	1
28	MP-1	X	-0.43	8
29	MP-2	X	-0.15	4
30	MP-2	X	-0.15	8.5
31	MP-3	X	-0.41	8
32	MP-4	X	-0.43	8
33	MP-5	X	-0.15	4
34	MP-5	X	-0.15	8.5
35	MP-6	X	-0.41	8
36	MP-7	X	-0.43	8
37	MP-8	X	-0.15	4
38	MP-8	X	-0.15	8.5
39	MP-9	X	-0.41	8

Member Point Loads (BLC 20 : 30 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-0.32	2
2	MP-2	X	-0.12	1.5
3	MP-2	X	-0.11	6
4	MP-3	X	-0.3	2
5	MP-1	X	-0.14	3
6	MP-1	X	-0.1	3
7	MP-3	X	-0.07	3
8	MP-3	X	-0.11	3
9	SA-1	X	-0.06	1
10	MP-4	X	-0.19	2
11	MP-5	X	-0.07	1.5
12	MP-5	X	-0.07	6
13	MP-6	X	-0.15	2
14	MP-4	X	-0.18	3
15	MP-4	X	-0.14	3
16	MP-6	X	-0.11	3
17	MP-6	X	-0.13	3
18	SA-2	X	-0.06	1
19	MP-7	X	-0.32	2
20	MP-8	X	-0.12	1.5
21	MP-8	X	-0.11	6
22	MP-9	X	-0.3	2
23	MP-7	X	-0.14	3
24	MP-7	X	-0.1	3
25	MP-9	X	-0.07	3
26	MP-9	X	-0.11	3
27	SA-3	X	-0.06	1
28	MP-1	X	-0.32	8
29	MP-2	X	-0.12	4
30	MP-2	X	-0.11	8.5
31	MP-3	X	-0.3	8
32	MP-4	X	-0.19	8
33	MP-5	X	-0.07	4
34	MP-5	X	-0.07	8.5
35	MP-6	X	-0.15	8



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Member Point Loads (BLC 20 : 30 Wind - Ice) (Continued)

Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
36	MP-7	-032	8
37	MP-8	-012	4
38	MP-8	-011	8.5
39	MP-9	-.03	8
40	MP-1	-019	2
41	MP-2	-007	1.5
42	MP-2	-007	6
43	MP-3	-017	2
44	MP-1	-008	3
45	MP-1	-006	3
46	MP-3	-004	3
47	MP-3	-006	3
48	SA-1	-003	1
49	MP-4	-011	2
50	MP-5	-004	1.5
51	MP-5	-004	6
52	MP-6	-009	2
53	MP-4	-.01	3
54	MP-4	-008	3
55	MP-6	-007	3
56	MP-6	-008	3
57	SA-2	-003	1
58	MP-7	-019	2
59	MP-8	-007	1.5
60	MP-8	-007	6
61	MP-9	-017	2
62	MP-7	-008	3
63	MP-7	-006	3
64	MP-9	-004	3
65	MP-9	-006	3
66	SA-3	-003	1
67	MP-1	-019	8
68	MP-2	-007	4
69	MP-2	-007	8.5
70	MP-3	-017	8
71	MP-4	-011	8
72	MP-5	-004	4
73	MP-5	-004	8.5
74	MP-6	-009	8
75	MP-7	-019	8
76	MP-8	-007	4
77	MP-8	-007	8.5
78	MP-9	-017	8

Member Point Loads (BLC 21 : 45 Wind - Ice)

Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	-.023	2
2	MP-2	-008	1.5
3	MP-2	-008	6
4	MP-3	-021	2
5	MP-1	-012	3
6	MP-1	-009	3
7	MP-3	-007	3
8	MP-3	-.01	3
9	SA-1	-005	1
10	MP-4	-016	2



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Member Point Loads (BLC 21 : 45 Wind - Ice) (Continued)

Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
11	MP-5	-006	1.5
12	MP-5	-006	6
13	MP-6	-013	2
14	MP-4	-014	3
15	MP-4	-011	3
16	MP-6	-009	3
17	MP-6	-011	3
18	SA-2	-005	1
19	MP-7	-029	2
20	MP-8	-.01	1.5
21	MP-8	-.01	6
22	MP-9	-028	2
23	MP-7	-.01	3
24	MP-7	-008	3
25	MP-9	-005	3
26	MP-9	-008	3
27	SA-3	-005	1
28	MP-1	-023	8
29	MP-2	-008	4
30	MP-2	-008	8.5
31	MP-3	-021	8
32	MP-4	-016	8
33	MP-5	-006	4
34	MP-5	-006	8.5
35	MP-6	-013	8
36	MP-7	-029	8
37	MP-8	-.01	4
38	MP-8	-.01	8.5
39	MP-9	-028	8
40	MP-1	-023	2
41	MP-2	-008	1.5
42	MP-2	-008	6
43	MP-3	-021	2
44	MP-1	-012	3
45	MP-1	-009	3
46	MP-3	-007	3
47	MP-3	-.01	3
48	SA-1	-005	1
49	MP-4	-016	2
50	MP-5	-006	1.5
51	MP-5	-006	6
52	MP-6	-013	2
53	MP-4	-014	3
54	MP-4	-011	3
55	MP-6	-009	3
56	MP-6	-011	3
57	SA-2	-005	1
58	MP-7	-029	2
59	MP-8	-.01	1.5
60	MP-8	-.01	6
61	MP-9	-028	2
62	MP-7	-.01	3
63	MP-7	-008	3
64	MP-9	-005	3
65	MP-9	-008	3
66	SA-3	-005	1
67	MP-1	-023	8



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Member Point Loads (BLC 21 : 45 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
68	MP-2	Z	-0.08	4
69	MP-2	Z	-0.08	8.5
70	MP-3	Z	-0.21	8
71	MP-4	Z	-0.16	8
72	MP-5	Z	-0.06	4
73	MP-5	Z	-0.06	8.5
74	MP-6	Z	-0.13	8
75	MP-7	Z	-0.29	8
76	MP-8	Z	-0.1	4
77	MP-8	Z	-0.1	8.5
78	MP-9	Z	-0.28	8

Member Point Loads (BLC 22 : 60 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-0.13	2
2	MP-2	X	-0.05	1.5
3	MP-2	X	-0.05	6
4	MP-3	X	-0.12	2
5	MP-1	X	-0.1	3
6	MP-1	X	-0.07	3
7	MP-3	X	-0.06	3
8	MP-3	X	-0.07	3
9	SA-1	X	-0.03	1
10	MP-4	X	-0.13	2
11	MP-5	X	-0.05	1.5
12	MP-5	X	-0.05	6
13	MP-6	X	-0.12	2
14	MP-4	X	-0.1	3
15	MP-4	X	-0.07	3
16	MP-6	X	-0.06	3
17	MP-6	X	-0.07	3
18	SA-2	X	-0.03	1
19	MP-7	X	-0.21	2
20	MP-8	X	-0.08	1.5
21	MP-8	X	-0.07	6
22	MP-9	X	-0.2	2
23	MP-7	X	-0.07	3
24	MP-7	X	-0.05	3
25	MP-9	X	-0.03	3
26	MP-9	X	-0.06	3
27	SA-3	X	-0.03	1
28	MP-1	X	-0.13	8
29	MP-2	X	-0.05	4
30	MP-2	X	-0.05	8.5
31	MP-3	X	-0.12	8
32	MP-4	X	-0.13	8
33	MP-5	X	-0.05	4
34	MP-5	X	-0.05	8.5
35	MP-6	X	-0.12	8
36	MP-7	X	-0.21	8
37	MP-8	X	-0.08	4
38	MP-8	X	-0.07	8.5
39	MP-9	X	-0.2	8
40	MP-1	Z	-0.23	2
41	MP-2	Z	-0.09	1.5
42	MP-2	Z	-0.09	6



Company : Tower Engineering Professionals
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Member Point Loads (BLC 22 : 60 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
43	MP-3	Z	-0.2	2
44	MP-1	Z	-0.17	3
45	MP-1	Z	-0.13	3
46	MP-3	Z	-0.1	3
47	MP-3	Z	-0.13	3
48	SA-1	Z	-0.06	1
49	MP-4	Z	-0.23	2
50	MP-5	Z	-0.09	1.5
51	MP-5	Z	-0.09	6
52	MP-6	Z	-0.2	2
53	MP-4	Z	-0.17	3
54	MP-4	Z	-0.13	3
55	MP-6	Z	-0.1	3
56	MP-6	Z	-0.13	3
57	SA-2	Z	-0.06	1
58	MP-7	Z	-0.37	2
59	MP-8	Z	-0.13	1.5
60	MP-8	Z	-0.13	6
61	MP-9	Z	-0.35	2
62	MP-7	Z	-0.12	3
63	MP-7	Z	-0.09	3
64	MP-9	Z	-0.06	3
65	MP-9	Z	-0.1	3
66	SA-3	Z	-0.06	1
67	MP-1	Z	-0.23	8
68	MP-2	Z	-0.09	4
69	MP-2	Z	-0.09	8.5
70	MP-3	Z	-0.2	8
71	MP-4	Z	-0.23	8
72	MP-5	Z	-0.09	4
73	MP-5	Z	-0.09	8.5
74	MP-6	Z	-0.2	8
75	MP-7	Z	-0.37	8
76	MP-8	Z	-0.13	4
77	MP-8	Z	-0.13	8.5
78	MP-9	Z	-0.35	8

Member Point Loads (BLC 23 : 90 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	Z	-0.21	2
2	MP-2	Z	-0.08	1.5
3	MP-2	Z	-0.09	6
4	MP-3	Z	-0.17	2
5	MP-1	Z	-0.14	3
6	MP-1	Z	-0.11	3
7	MP-3	Z	-0.07	3
8	MP-3	Z	-0.12	3
9	SA-1	Z	-0.07	1
10	MP-4	Z	-0.21	2
11	MP-5	Z	-0.08	1.5
12	MP-5	Z	-0.09	6
13	MP-6	Z	-0.17	2
14	MP-4	Z	-0.14	3
15	MP-4	Z	-0.11	3
16	MP-6	Z	-0.07	3
17	MP-6	Z	-0.12	3



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
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Member Point Loads (BLC 23 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location(ft.%)
18	SA-2	Z	-0.07	1
19	MP-7	Z	-0.21	2
20	MP-8	Z	-0.08	1.5
21	MP-8	Z	-0.09	6
22	MP-9	Z	-0.17	2
23	MP-7	Z	-0.14	3
24	MP-7	Z	-0.11	3
25	MP-9	Z	-0.07	3
26	MP-9	Z	-0.12	3
27	SA-3	Z	-0.07	1
28	MP-1	Z	-0.21	8
29	MP-2	Z	-0.08	4
30	MP-2	Z	-0.09	8.5
31	MP-3	Z	-0.17	8
32	MP-4	Z	-0.21	8
33	MP-5	Z	-0.08	4
34	MP-5	Z	-0.09	8.5
35	MP-6	Z	-0.17	8
36	MP-7	Z	-0.21	8
37	MP-8	Z	-0.08	4
38	MP-8	Z	-0.09	8.5
39	MP-9	Z	-0.17	8

Member Point Loads (BLC 24 : 120 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location(ft.%)
1	MP-1	X	.013	2
2	MP-2	X	.005	1.5
3	MP-2	X	.005	6
4	MP-3	X	.012	2
5	MP-1	X	.01	3
6	MP-1	X	.007	3
7	MP-3	X	.006	3
8	MP-3	X	.007	3
9	SA-1	X	.003	1
10	MP-4	X	.021	2
11	MP-5	X	.008	1.5
12	MP-5	X	.007	6
13	MP-6	X	.02	2
14	MP-4	X	.007	3
15	MP-4	X	.005	3
16	MP-6	X	.003	3
17	MP-6	X	.006	3
18	SA-2	X	.003	1
19	MP-7	X	.013	2
20	MP-8	X	.005	1.5
21	MP-8	X	.005	6
22	MP-9	X	.012	2
23	MP-7	X	.01	3
24	MP-7	X	.007	3
25	MP-9	X	.006	3
26	MP-9	X	.007	3
27	SA-3	X	.003	1
28	MP-1	X	.013	8
29	MP-2	X	.005	4
30	MP-2	X	.005	8.5
31	MP-3	X	.012	8



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Member Point Loads (BLC 24 : 120 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location(ft.%)
32	MP-4	X	.021	8
33	MP-5	X	.008	4
34	MP-5	X	.007	8.5
35	MP-6	X	.02	8
36	MP-7	X	.013	8
37	MP-8	X	.005	4
38	MP-8	X	.005	8.5
39	MP-9	X	.012	8
40	MP-1	Z	-.023	2
41	MP-2	Z	-.009	1.5
42	MP-2	Z	-.009	6
43	MP-3	Z	-.02	2
44	MP-1	Z	-.017	3
45	MP-1	Z	-.013	3
46	MP-3	Z	-.01	3
47	MP-3	Z	-.013	3
48	SA-1	Z	-.006	1
49	MP-4	Z	-.037	2
50	MP-5	Z	-.013	1.5
51	MP-5	Z	-.013	6
52	MP-6	Z	-.035	2
53	MP-4	Z	-.012	3
54	MP-4	Z	-.009	3
55	MP-6	Z	-.006	3
56	MP-6	Z	-.01	3
57	SA-2	Z	-.006	1
58	MP-7	Z	-.023	2
59	MP-8	Z	-.009	1.5
60	MP-8	Z	-.009	6
61	MP-9	Z	-.02	2
62	MP-7	Z	-.017	3
63	MP-7	Z	-.013	3
64	MP-9	Z	-.01	3
65	MP-9	Z	-.013	3
66	SA-3	Z	-.006	1
67	MP-1	Z	-.023	8
68	MP-2	Z	-.009	4
69	MP-2	Z	-.009	8.5
70	MP-3	Z	-.02	8
71	MP-4	Z	-.037	8
72	MP-5	Z	-.013	4
73	MP-5	Z	-.013	8.5
74	MP-6	Z	-.035	8
75	MP-7	Z	-.023	8
76	MP-8	Z	-.009	4
77	MP-8	Z	-.009	8.5
78	MP-9	Z	-.02	8

Member Point Loads (BLC 25 : 135 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location(ft.%)
1	MP-1	X	.023	2
2	MP-2	X	.008	1.5
3	MP-2	X	.008	6
4	MP-3	X	.021	2
5	MP-1	X	.012	3
6	MP-1	X	.009	3



Member Point Loads (BLC 25 : 135 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location(ft.%)
7	MP-3	X	.007	3
8	MP-3	X	.01	3
9	SA-1	X	.005	1
10	MP-4	X	.029	2
11	MP-5	X	.01	1.5
12	MP-5	X	.01	6
13	MP-6	X	.028	2
14	MP-4	X	.01	3
15	MP-4	X	.008	3
16	MP-6	X	.005	3
17	MP-6	X	.008	3
18	SA-2	X	.005	1
19	MP-7	X	.016	2
20	MP-8	X	.006	1.5
21	MP-8	X	.006	6
22	MP-9	X	.013	2
23	MP-7	X	.014	3
24	MP-7	X	.011	3
25	MP-9	X	.009	3
26	MP-9	X	.011	3
27	SA-3	X	.005	1
28	MP-1	X	.023	8
29	MP-2	X	.008	4
30	MP-2	X	.008	8.5
31	MP-3	X	.021	8
32	MP-4	X	.029	8
33	MP-5	X	.01	4
34	MP-5	X	.01	8.5
35	MP-6	X	.028	8
36	MP-7	X	.016	8
37	MP-8	X	.006	4
38	MP-8	X	.006	8.5
39	MP-9	X	.013	8
40	MP-1	Z	-.023	2
41	MP-2	Z	-.008	1.5
42	MP-2	Z	-.008	6
43	MP-3	Z	-.021	2
44	MP-1	Z	-.012	3
45	MP-1	Z	-.009	3
46	MP-3	Z	-.007	3
47	MP-3	Z	-.01	3
48	SA-1	Z	-.005	1
49	MP-4	Z	-.029	2
50	MP-5	Z	-.01	1.5
51	MP-5	Z	-.01	6
52	MP-6	Z	-.028	2
53	MP-4	Z	-.01	3
54	MP-4	Z	-.008	3
55	MP-6	Z	-.005	3
56	MP-6	Z	-.008	3
57	SA-2	Z	-.005	1
58	MP-7	Z	-.016	2
59	MP-8	Z	-.006	1.5
60	MP-8	Z	-.006	6
61	MP-9	Z	-.013	2
62	MP-7	Z	-.014	3
63	MP-7	Z	-.011	3



Member Point Loads (BLC 25 : 135 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location(ft.%)
64	MP-9	Z	-.009	3
65	MP-9	Z	-.011	3
66	SA-3	Z	-.005	1
67	MP-1	Z	-.023	8
68	MP-2	Z	-.008	4
69	MP-2	Z	-.008	8.5
70	MP-3	Z	-.021	8
71	MP-4	Z	-.029	8
72	MP-5	Z	-.01	4
73	MP-5	Z	-.01	8.5
74	MP-6	Z	-.028	8
75	MP-7	Z	-.016	8
76	MP-8	Z	-.006	4
77	MP-8	Z	-.006	8.5
78	MP-9	Z	-.013	8

Member Point Loads (BLC 26 : 150 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location(ft.%)
1	MP-1	X	.032	2
2	MP-2	X	.012	1.5
3	MP-2	X	.011	6
4	MP-3	X	.03	2
5	MP-1	X	.014	3
6	MP-1	X	.01	3
7	MP-3	X	.007	3
8	MP-3	X	.011	3
9	SA-1	X	.006	1
10	MP-4	X	.032	2
11	MP-5	X	.012	1.5
12	MP-5	X	.011	6
13	MP-6	X	.03	2
14	MP-4	X	.014	3
15	MP-4	X	.01	3
16	MP-6	X	.007	3
17	MP-6	X	.011	3
18	SA-2	X	.006	1
19	MP-7	X	.019	2
20	MP-8	X	.007	1.5
21	MP-8	X	.007	6
22	MP-9	X	.015	2
23	MP-7	X	.018	3
24	MP-7	X	.014	3
25	MP-9	X	.011	3
26	MP-9	X	.013	3
27	SA-3	X	.006	1
28	MP-1	X	.032	8
29	MP-2	X	.012	4
30	MP-2	X	.011	8.5
31	MP-3	X	.03	8
32	MP-4	X	.032	8
33	MP-5	X	.012	4
34	MP-5	X	.011	8.5
35	MP-6	X	.03	8
36	MP-7	X	.019	8
37	MP-8	X	.007	4
38	MP-8	X	.007	8.5



Member Point Loads (BLC 26 : 150 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
39	MP-9	X	.015	8
40	MP-1	Z	-.019	2
41	MP-2	Z	-.007	1.5
42	MP-2	Z	-.007	6
43	MP-3	Z	-.017	2
44	MP-1	Z	-.008	3
45	MP-1	Z	-.006	3
46	MP-3	Z	-.004	3
47	MP-3	Z	-.006	3
48	SA-1	Z	-.003	1
49	MP-4	Z	-.019	2
50	MP-5	Z	-.007	1.5
51	MP-5	Z	-.007	6
52	MP-6	Z	-.017	2
53	MP-4	Z	-.008	3
54	MP-4	Z	-.006	3
55	MP-6	Z	-.004	3
56	MP-6	Z	-.006	3
57	SA-2	Z	-.003	1
58	MP-7	Z	-.011	2
59	MP-8	Z	-.004	1.5
60	MP-8	Z	-.004	6
61	MP-9	Z	-.009	2
62	MP-7	Z	-.01	3
63	MP-7	Z	-.008	3
64	MP-9	Z	-.007	3
65	MP-9	Z	-.008	3
66	SA-3	Z	-.003	1
67	MP-1	Z	-.019	8
68	MP-2	Z	-.007	4
69	MP-2	Z	-.007	8.5
70	MP-3	Z	-.017	8
71	MP-4	Z	-.019	8
72	MP-5	Z	-.007	4
73	MP-5	Z	-.007	8.5
74	MP-6	Z	-.017	8
75	MP-7	Z	-.011	8
76	MP-8	Z	-.004	4
77	MP-8	Z	-.004	8.5
78	MP-9	Z	-.009	8

Member Point Loads (BLC 27 : 180 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	.043	2
2	MP-2	X	.015	1.5
3	MP-2	X	.015	6
4	MP-3	X	.041	2
5	MP-1	X	.021	3
6	MP-1	X	.016	3
7	MP-3	X	.013	3
8	MP-3	X	.015	3
9	SA-1	X	.007	1
10	MP-4	X	.043	2
11	MP-5	X	.015	1.5
12	MP-5	X	.015	6
13	MP-6	X	.041	2



Member Point Loads (BLC 27 : 180 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
14	MP-4	X	.021	3
15	MP-4	X	.016	3
16	MP-6	X	.013	3
17	MP-6	X	.015	3
18	SA-2	X	.007	1
19	MP-7	X	.043	2
20	MP-8	X	.015	1.5
21	MP-8	X	.015	6
22	MP-9	X	.041	2
23	MP-7	X	.021	3
24	MP-7	X	.016	3
25	MP-9	X	.013	3
26	MP-9	X	.015	3
27	SA-3	X	.007	1
28	MP-1	X	.043	8
29	MP-2	X	.015	4
30	MP-2	X	.015	8.5
31	MP-3	X	.041	8
32	MP-4	X	.043	8
33	MP-5	X	.015	4
34	MP-5	X	.015	8.5
35	MP-6	X	.041	8
36	MP-7	X	.043	8
37	MP-8	X	.015	4
38	MP-8	X	.015	8.5
39	MP-9	X	.041	8

Member Point Loads (BLC 28 : 210 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	.032	2
2	MP-2	X	.012	1.5
3	MP-2	X	.011	6
4	MP-3	X	.03	2
5	MP-1	X	.014	3
6	MP-1	X	.01	3
7	MP-3	X	.007	3
8	MP-3	X	.011	3
9	SA-1	X	.006	1
10	MP-4	X	.019	2
11	MP-5	X	.007	1.5
12	MP-5	X	.007	6
13	MP-6	X	.015	2
14	MP-4	X	.018	3
15	MP-4	X	.014	3
16	MP-6	X	.011	3
17	MP-6	X	.013	3
18	SA-2	X	.006	1
19	MP-7	X	.032	2
20	MP-8	X	.012	1.5
21	MP-8	X	.011	6
22	MP-9	X	.03	2
23	MP-7	X	.014	3
24	MP-7	X	.01	3
25	MP-9	X	.007	3
26	MP-9	X	.011	3
27	SA-3	X	.006	1



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Member Point Loads (BLC 28 : 210 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
28	MP-1	X	.032	8
29	MP-2	X	.012	4
30	MP-2	X	.011	8.5
31	MP-3	X	.03	8
32	MP-4	X	.019	8
33	MP-5	X	.007	4
34	MP-5	X	.007	8.5
35	MP-6	X	.015	8
36	MP-7	X	.032	8
37	MP-8	X	.012	4
38	MP-8	X	.011	8.5
39	MP-9	X	.03	8
40	MP-1	Z	.019	2
41	MP-2	Z	.007	1.5
42	MP-2	Z	.007	6
43	MP-3	Z	.017	2
44	MP-1	Z	.008	3
45	MP-1	Z	.006	3
46	MP-3	Z	.004	3
47	MP-3	Z	.006	3
48	SA-1	Z	.003	1
49	MP-4	Z	.011	2
50	MP-5	Z	.004	1.5
51	MP-5	Z	.004	6
52	MP-6	Z	.009	2
53	MP-4	Z	.01	3
54	MP-4	Z	.008	3
55	MP-6	Z	.007	3
56	MP-6	Z	.008	3
57	SA-2	Z	.003	1
58	MP-7	Z	.019	2
59	MP-8	Z	.007	1.5
60	MP-8	Z	.007	6
61	MP-9	Z	.017	2
62	MP-7	Z	.008	3
63	MP-7	Z	.006	3
64	MP-9	Z	.004	3
65	MP-9	Z	.006	3
66	SA-3	Z	.003	1
67	MP-1	Z	.019	8
68	MP-2	Z	.007	4
69	MP-2	Z	.007	8.5
70	MP-3	Z	.017	8
71	MP-4	Z	.011	8
72	MP-5	Z	.004	4
73	MP-5	Z	.004	8.5
74	MP-6	Z	.009	8
75	MP-7	Z	.019	8
76	MP-8	Z	.007	4
77	MP-8	Z	.007	8.5
78	MP-9	Z	.017	8

Member Point Loads (BLC 29 : 225 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	.023	2
2	MP-2	X	.008	1.5



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Member Point Loads (BLC 29 : 225 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
3	MP-2	X	.008	6
4	MP-3	X	.021	2
5	MP-1	X	.012	3
6	MP-1	X	.009	3
7	MP-3	X	.007	3
8	MP-3	X	.01	3
9	SA-1	X	.005	1
10	MP-4	X	.016	2
11	MP-5	X	.006	1.5
12	MP-5	X	.006	6
13	MP-6	X	.013	2
14	MP-4	X	.014	3
15	MP-4	X	.011	3
16	MP-6	X	.009	3
17	MP-6	X	.011	3
18	SA-2	X	.005	1
19	MP-7	X	.029	2
20	MP-8	X	.01	1.5
21	MP-8	X	.01	6
22	MP-9	X	.028	2
23	MP-7	X	.01	3
24	MP-7	X	.008	3
25	MP-9	X	.005	3
26	MP-9	X	.008	3
27	SA-3	X	.005	1
28	MP-1	X	.023	8
29	MP-2	X	.008	4
30	MP-2	X	.008	8.5
31	MP-3	X	.021	8
32	MP-4	X	.016	8
33	MP-5	X	.006	4
34	MP-5	X	.006	8.5
35	MP-6	X	.013	8
36	MP-7	X	.029	8
37	MP-8	X	.01	4
38	MP-8	X	.01	8.5
39	MP-9	X	.028	8
40	MP-1	Z	.023	2
41	MP-2	Z	.008	1.5
42	MP-2	Z	.008	6
43	MP-3	Z	.021	2
44	MP-1	Z	.012	3
45	MP-1	Z	.009	3
46	MP-3	Z	.007	3
47	MP-3	Z	.01	3
48	SA-1	Z	.005	1
49	MP-4	Z	.016	2
50	MP-5	Z	.006	1.5
51	MP-5	Z	.006	6
52	MP-6	Z	.013	2
53	MP-4	Z	.014	3
54	MP-4	Z	.011	3
55	MP-6	Z	.009	3
56	MP-6	Z	.011	3
57	SA-2	Z	.005	1
58	MP-7	Z	.029	2
59	MP-8	Z	.01	1.5



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

June 8, 2022
 11:24 AM
 Checked By: RAL

Member Point Loads (BLC 29 : 225 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
60	MP-8	Z	.01	6
61	MP-9	Z	.028	2
62	MP-7	Z	.01	3
63	MP-7	Z	.008	3
64	MP-9	Z	.005	3
65	MP-9	Z	.008	3
66	SA-3	Z	.005	1
67	MP-1	Z	.023	8
68	MP-2	Z	.008	4
69	MP-2	Z	.008	8.5
70	MP-3	Z	.021	8
71	MP-4	Z	.016	8
72	MP-5	Z	.006	4
73	MP-5	Z	.006	8.5
74	MP-6	Z	.013	8
75	MP-7	Z	.029	8
76	MP-8	Z	.01	4
77	MP-8	Z	.01	8.5
78	MP-9	Z	.028	8

Member Point Loads (BLC 30 : 240 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	.013	2
2	MP-2	X	.005	1.5
3	MP-2	X	.005	6
4	MP-3	X	.012	2
5	MP-1	X	.01	3
6	MP-1	X	.007	3
7	MP-3	X	.006	3
8	MP-3	X	.007	3
9	SA-1	X	.003	1
10	MP-4	X	.013	2
11	MP-5	X	.005	1.5
12	MP-5	X	.005	6
13	MP-6	X	.012	2
14	MP-4	X	.01	3
15	MP-4	X	.007	3
16	MP-6	X	.006	3
17	MP-6	X	.007	3
18	SA-2	X	.003	1
19	MP-7	X	.021	2
20	MP-8	X	.008	1.5
21	MP-8	X	.007	6
22	MP-9	X	.02	2
23	MP-7	X	.007	3
24	MP-7	X	.005	3
25	MP-9	X	.003	3
26	MP-9	X	.006	3
27	SA-3	X	.003	1
28	MP-1	X	.013	8
29	MP-2	X	.005	4
30	MP-2	X	.005	8.5
31	MP-3	X	.012	8
32	MP-4	X	.013	8
33	MP-5	X	.005	4
34	MP-5	X	.005	8.5



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

June 8, 2022
 11:24 AM
 Checked By: RAL

Member Point Loads (BLC 30 : 240 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
35	MP-6	X	.012	8
36	MP-7	X	.021	8
37	MP-8	X	.008	4
38	MP-8	X	.007	8.5
39	MP-9	X	.02	8
40	MP-1	Z	.023	2
41	MP-2	Z	.009	1.5
42	MP-2	Z	.009	6
43	MP-3	Z	.02	2
44	MP-1	Z	.017	3
45	MP-1	Z	.013	3
46	MP-3	Z	.01	3
47	MP-3	Z	.013	3
48	SA-1	Z	.006	1
49	MP-4	Z	.023	2
50	MP-5	Z	.009	1.5
51	MP-5	Z	.009	6
52	MP-6	Z	.02	2
53	MP-4	Z	.017	3
54	MP-4	Z	.013	3
55	MP-6	Z	.01	3
56	MP-6	Z	.013	3
57	SA-2	Z	.006	1
58	MP-7	Z	.037	2
59	MP-8	Z	.013	1.5
60	MP-8	Z	.013	6
61	MP-9	Z	.035	2
62	MP-7	Z	.012	3
63	MP-7	Z	.009	3
64	MP-9	Z	.006	3
65	MP-9	Z	.01	3
66	SA-3	Z	.006	1
67	MP-1	Z	.023	8
68	MP-2	Z	.009	4
69	MP-2	Z	.009	8.5
70	MP-3	Z	.02	8
71	MP-4	Z	.023	8
72	MP-5	Z	.009	4
73	MP-5	Z	.009	8.5
74	MP-6	Z	.02	8
75	MP-7	Z	.037	8
76	MP-8	Z	.013	4
77	MP-8	Z	.013	8.5
78	MP-9	Z	.035	8

Member Point Loads (BLC 31 : 270 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	Z	.021	2
2	MP-2	Z	.008	1.5
3	MP-2	Z	.009	6
4	MP-3	Z	.017	2
5	MP-1	Z	.014	3
6	MP-1	Z	.011	3
7	MP-3	Z	.007	3
8	MP-3	Z	.012	3
9	SA-1	Z	.007	1



Member Point Loads (BLC 31 : 270 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location(ft.%)
10	MP-4	Z	.021	2
11	MP-5	Z	.008	1.5
12	MP-5	Z	.009	6
13	MP-6	Z	.017	2
14	MP-4	Z	.014	3
15	MP-4	Z	.011	3
16	MP-6	Z	.007	3
17	MP-6	Z	.012	3
18	SA-2	Z	.007	1
19	MP-7	Z	.021	2
20	MP-8	Z	.008	1.5
21	MP-8	Z	.009	6
22	MP-9	Z	.017	2
23	MP-7	Z	.014	3
24	MP-7	Z	.011	3
25	MP-9	Z	.007	3
26	MP-9	Z	.012	3
27	SA-3	Z	.007	1
28	MP-1	Z	.021	8
29	MP-2	Z	.008	4
30	MP-2	Z	.009	8.5
31	MP-3	Z	.017	8
32	MP-4	Z	.021	8
33	MP-5	Z	.008	4
34	MP-5	Z	.009	8.5
35	MP-6	Z	.017	8
36	MP-7	Z	.021	8
37	MP-8	Z	.008	4
38	MP-8	Z	.009	8.5
39	MP-9	Z	.017	8

Member Point Loads (BLC 32 : 300 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location(ft.%)
1	MP-1	X	-.013	2
2	MP-2	X	-.005	1.5
3	MP-2	X	-.005	6
4	MP-3	X	-.012	2
5	MP-1	X	-.01	3
6	MP-1	X	-.007	3
7	MP-3	X	-.006	3
8	MP-3	X	-.007	3
9	SA-1	X	-.003	1
10	MP-4	X	-.021	2
11	MP-5	X	-.008	1.5
12	MP-5	X	-.007	6
13	MP-6	X	-.02	2
14	MP-4	X	-.007	3
15	MP-4	X	-.005	3
16	MP-6	X	-.003	3
17	MP-6	X	-.006	3
18	SA-2	X	-.003	1
19	MP-7	X	-.013	2
20	MP-8	X	-.005	1.5
21	MP-8	X	-.005	6
22	MP-9	X	-.012	2
23	MP-7	X	-.01	3



Member Point Loads (BLC 32 : 300 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location(ft.%)
24	MP-7	X	-.007	3
25	MP-9	X	-.006	3
26	MP-9	X	-.007	3
27	SA-3	X	-.003	1
28	MP-1	X	-.013	8
29	MP-2	X	-.005	4
30	MP-2	X	-.005	8.5
31	MP-3	X	-.012	8
32	MP-4	X	-.021	8
33	MP-5	X	-.008	4
34	MP-5	X	-.007	8.5
35	MP-6	X	-.02	8
36	MP-7	X	-.013	8
37	MP-8	X	-.005	4
38	MP-8	X	-.005	8.5
39	MP-9	X	-.012	8
40	MP-1	Z	.023	2
41	MP-2	Z	.009	1.5
42	MP-2	Z	.009	6
43	MP-3	Z	.02	2
44	MP-1	Z	.017	3
45	MP-1	Z	.013	3
46	MP-3	Z	.01	3
47	MP-3	Z	.013	3
48	SA-1	Z	.006	1
49	MP-4	Z	.037	2
50	MP-5	Z	.013	1.5
51	MP-5	Z	.013	6
52	MP-6	Z	.035	2
53	MP-4	Z	.012	3
54	MP-4	Z	.009	3
55	MP-6	Z	.006	3
56	MP-6	Z	.01	3
57	SA-2	Z	.006	1
58	MP-7	Z	.023	2
59	MP-8	Z	.009	1.5
60	MP-8	Z	.009	6
61	MP-9	Z	.02	2
62	MP-7	Z	.017	3
63	MP-7	Z	.013	3
64	MP-9	Z	.01	3
65	MP-9	Z	.013	3
66	SA-3	Z	.006	1
67	MP-1	Z	.023	8
68	MP-2	Z	.009	4
69	MP-2	Z	.009	8.5
70	MP-3	Z	.02	8
71	MP-4	Z	.037	8
72	MP-5	Z	.013	4
73	MP-5	Z	.013	8.5
74	MP-6	Z	.035	8
75	MP-7	Z	.023	8
76	MP-8	Z	.009	4
77	MP-8	Z	.009	8.5
78	MP-9	Z	.02	8



Member Point Loads (BLC 33 : 315 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-0.23	2
2	MP-2	X	-0.008	1.5
3	MP-2	X	-0.008	6
4	MP-3	X	-0.021	2
5	MP-1	X	-0.12	3
6	MP-1	X	-0.009	3
7	MP-3	X	-0.007	3
8	MP-3	X	-0.01	3
9	SA-1	X	-0.005	1
10	MP-4	X	-0.029	2
11	MP-5	X	-0.01	1.5
12	MP-5	X	-0.01	6
13	MP-6	X	-0.028	2
14	MP-4	X	-0.01	3
15	MP-4	X	-0.008	3
16	MP-6	X	-0.005	3
17	MP-6	X	-0.008	3
18	SA-2	X	-0.005	1
19	MP-7	X	-0.16	2
20	MP-8	X	-0.006	1.5
21	MP-8	X	-0.006	6
22	MP-9	X	-0.013	2
23	MP-7	X	-0.014	3
24	MP-7	X	-0.011	3
25	MP-9	X	-0.009	3
26	MP-9	X	-0.011	3
27	SA-3	X	-0.005	1
28	MP-1	X	-0.023	8
29	MP-2	X	-0.008	4
30	MP-2	X	-0.008	8.5
31	MP-3	X	-0.021	8
32	MP-4	X	-0.029	8
33	MP-5	X	-0.01	4
34	MP-5	X	-0.01	8.5
35	MP-6	X	-0.028	8
36	MP-7	X	-0.016	8
37	MP-8	X	-0.006	4
38	MP-8	X	-0.006	8.5
39	MP-9	X	-0.013	8
40	MP-1	Z	.023	2
41	MP-2	Z	.008	1.5
42	MP-2	Z	.008	6
43	MP-3	Z	.021	2
44	MP-1	Z	.012	3
45	MP-1	Z	.009	3
46	MP-3	Z	.007	3
47	MP-3	Z	.01	3
48	SA-1	Z	.005	1
49	MP-4	Z	.029	2
50	MP-5	Z	.01	1.5
51	MP-5	Z	.01	6
52	MP-6	Z	.028	2
53	MP-4	Z	.01	3
54	MP-4	Z	.008	3
55	MP-6	Z	.005	3
56	MP-6	Z	.008	3
57	SA-2	Z	.005	1



Member Point Loads (BLC 33 : 315 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
58	MP-7	Z	.016	2
59	MP-8	Z	.006	1.5
60	MP-8	Z	.006	6
61	MP-9	Z	.013	2
62	MP-7	Z	.014	3
63	MP-7	Z	.011	3
64	MP-9	Z	.009	3
65	MP-9	Z	.011	3
66	SA-3	Z	.005	1
67	MP-1	Z	.023	8
68	MP-2	Z	.008	4
69	MP-2	Z	.008	8.5
70	MP-3	Z	.021	8
71	MP-4	Z	.029	8
72	MP-5	Z	.01	4
73	MP-5	Z	.01	8.5
74	MP-6	Z	.028	8
75	MP-7	Z	.016	8
76	MP-8	Z	.006	4
77	MP-8	Z	.006	8.5
78	MP-9	Z	.013	8

Member Point Loads (BLC 34 : 330 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-0.032	2
2	MP-2	X	-0.012	1.5
3	MP-2	X	-0.011	6
4	MP-3	X	-.03	2
5	MP-1	X	-0.014	3
6	MP-1	X	-.01	3
7	MP-3	X	-0.007	3
8	MP-3	X	-0.011	3
9	SA-1	X	-0.006	1
10	MP-4	X	-0.032	2
11	MP-5	X	-0.012	1.5
12	MP-5	X	-0.011	6
13	MP-6	X	-.03	2
14	MP-4	X	-0.014	3
15	MP-4	X	-.01	3
16	MP-6	X	-0.007	3
17	MP-6	X	-0.011	3
18	SA-2	X	-0.006	1
19	MP-7	X	-0.019	2
20	MP-8	X	-0.007	1.5
21	MP-8	X	-0.007	6
22	MP-9	X	-0.015	2
23	MP-7	X	-0.018	3
24	MP-7	X	-0.014	3
25	MP-9	X	-0.011	3
26	MP-9	X	-0.013	3
27	SA-3	X	-0.006	1
28	MP-1	X	-0.032	8
29	MP-2	X	-0.012	4
30	MP-2	X	-0.011	8.5
31	MP-3	X	-.03	8
32	MP-4	X	-0.032	8



Member Point Loads (BLC 34 : 330 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
33	MP-5	X	-0.12	4
34	MP-5	X	-0.11	8.5
35	MP-6	X	-0.03	8
36	MP-7	X	-0.19	8
37	MP-8	X	-0.07	4
38	MP-8	X	-0.07	8.5
39	MP-9	X	-0.15	8
40	MP-1	Z	0.19	2
41	MP-2	Z	0.07	1.5
42	MP-2	Z	0.07	6
43	MP-3	Z	0.17	2
44	MP-1	Z	0.08	3
45	MP-1	Z	0.06	3
46	MP-3	Z	0.04	3
47	MP-3	Z	0.06	3
48	SA-1	Z	0.03	1
49	MP-4	Z	0.19	2
50	MP-5	Z	0.07	1.5
51	MP-5	Z	0.07	6
52	MP-6	Z	0.17	2
53	MP-4	Z	0.08	3
54	MP-4	Z	0.06	3
55	MP-6	Z	0.04	3
56	MP-6	Z	0.06	3
57	SA-2	Z	0.03	1
58	MP-7	Z	0.11	2
59	MP-8	Z	0.04	1.5
60	MP-8	Z	0.04	6
61	MP-9	Z	0.09	2
62	MP-7	Z	0.1	3
63	MP-7	Z	0.08	3
64	MP-9	Z	0.07	3
65	MP-9	Z	0.08	3
66	SA-3	Z	0.03	1
67	MP-1	Z	0.19	8
68	MP-2	Z	0.07	4
69	MP-2	Z	0.07	8.5
70	MP-3	Z	0.17	8
71	MP-4	Z	0.19	8
72	MP-5	Z	0.07	4
73	MP-5	Z	0.07	8.5
74	MP-6	Z	0.17	8
75	MP-7	Z	0.11	8
76	MP-8	Z	0.04	4
77	MP-8	Z	0.04	8.5
78	MP-9	Z	0.09	8

Member Point Loads (BLC 37 : Seismic Load X)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	X	-0.34	2
2	MP-2	X	-0.22	1.5
3	MP-2	X	-0.41	6
4	MP-3	X	-0.32	2
5	MP-1	X	-0.53	3
6	MP-1	X	-0.59	3
7	MP-3	X	-0.48	3



Member Point Loads (BLC 37 : Seismic Load X) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
8	MP-3	X	-0.71	3
9	SA-1	X	-0.19	1
10	MP-4	X	-0.34	2
11	MP-5	X	-0.22	1.5
12	MP-5	X	-0.41	6
13	MP-6	X	-0.32	2
14	MP-4	X	-0.53	3
15	MP-4	X	-0.59	3
16	MP-6	X	-0.48	3
17	MP-6	X	-0.71	3
18	SA-2	X	-0.19	1
19	MP-7	X	-0.34	2
20	MP-8	X	-0.22	1.5
21	MP-8	X	-0.41	6
22	MP-9	X	-0.32	2
23	MP-7	X	-0.53	3
24	MP-7	X	-0.59	3
25	MP-9	X	-0.48	3
26	MP-9	X	-0.71	3
27	SA-3	X	-0.19	1
28	MP-1	X	-0.34	8
29	MP-2	X	-0.22	4
30	MP-2	X	-0.41	8.5
31	MP-3	X	-0.32	8
32	MP-4	X	-0.34	8
33	MP-5	X	-0.22	4
34	MP-5	X	-0.41	8.5
35	MP-6	X	-0.32	8
36	MP-7	X	-0.34	8
37	MP-8	X	-0.22	4
38	MP-8	X	-0.41	8.5
39	MP-9	X	-0.32	8

Member Point Loads (BLC 38 : Seismic Load Z)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	MP-1	Z	-0.34	2
2	MP-2	Z	-0.22	1.5
3	MP-2	Z	-0.41	6
4	MP-3	Z	-0.32	2
5	MP-1	Z	-0.53	3
6	MP-1	Z	-0.59	3
7	MP-3	Z	-0.48	3
8	MP-3	Z	-0.71	3
9	SA-1	Z	-0.19	1
10	MP-4	Z	-0.34	2
11	MP-5	Z	-0.22	1.5
12	MP-5	Z	-0.41	6
13	MP-6	Z	-0.32	2
14	MP-4	Z	-0.53	3
15	MP-4	Z	-0.59	3
16	MP-6	Z	-0.48	3
17	MP-6	Z	-0.71	3
18	SA-2	Z	-0.19	1
19	MP-7	Z	-0.34	2
20	MP-8	Z	-0.22	1.5
21	MP-8	Z	-0.41	6



Member Point Loads (BLC 38 : Seismic Load Z) (Continued)

	Member Label	Direction	Magnitude[k-ft]	Location[ft.%]
22	MP-9	Z	-0.32	2
23	MP-7	Z	-0.53	3
24	MP-7	Z	-0.59	3
25	MP-9	Z	-0.48	3
26	MP-9	Z	-0.71	3
27	SA-3	Z	-0.19	1
28	MP-1	Z	-0.34	8
29	MP-2	Z	-0.22	4
30	MP-2	Z	-0.41	8.5
31	MP-3	Z	-0.32	8
32	MP-4	Z	-0.34	8
33	MP-5	Z	-0.22	4
34	MP-5	Z	-0.41	8.5
35	MP-6	Z	-0.32	8
36	MP-7	Z	-0.34	8
37	MP-8	Z	-0.22	4
38	MP-8	Z	-0.41	8.5
39	MP-9	Z	-0.32	8

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

	Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
1	FF-TH	X	-0.11	-0.11	0	%100
2	FF-HR	X	-0.09	-0.09	0	%100
3	SF1-TH	X	-0.05	-0.05	0	%100
4	SF1-HR	X	-0.04	-0.04	0	%100
5	SF2-TH	X	-0.05	-0.05	0	%100
6	SF2-HR	X	-0.04	-0.04	0	%100
7	SA-1	X	-0.18	-0.18	0	%100
8	SA-2	X	0	0	0	%100
9	SA-3	X	-0.18	-0.18	0	%100
10	GSI-1A	X	-0.08	-0.08	0	%100
11	GSI-1B	X	-0.08	-0.08	0	%100
12	GSI-2A	X	-0.17	-0.17	0	%100
13	GSI-2B	X	-0.17	-0.17	0	%100
14	GSI-3A	X	-0.08	-0.08	0	%100
15	GSI-3B	X	-0.08	-0.08	0	%100
16	GSIP-1A	X	-0.12	-0.12	0	%100
17	GSIP-1B	X	-0.05	-0.05	0	%100
18	GSIP-2A	X	-0.05	-0.05	0	%100
19	GSIP-2B	X	-0.05	-0.05	0	%100
20	GSIP-3A	X	-0.05	-0.05	0	%100
21	GSIP-3B	X	-0.12	-0.12	0	%100
22	CP-1	X	-0.11	-0.11	0	%100
23	CP-2	X	-0.22	-0.22	0	%100
24	CP-3	X	-0.11	-0.11	0	%100
25	CP-1U	X	-0.05	-0.05	0	%100
26	CP-2U	X	-0.1	-0.1	0	%100
27	CP-3U	X	-0.05	-0.05	0	%100
28	MP-3	X	-0.09	-0.09	0	%100
29	MP-1	X	-0.09	-0.09	0	%100
30	MP-2	X	-0.09	-0.09	0	%100
31	MP-9	X	-0.09	-0.09	0	%100
32	MP-7	X	-0.09	-0.09	0	%100
33	MP-8	X	-0.09	-0.09	0	%100
34	MP-6	X	-0.09	-0.09	0	%100



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

	Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
35	MP-4	X	-0.09	-0.09	0	%100
36	MP-5	X	-0.09	-0.09	0	%100

Member Distributed Loads (BLC 3 : 30 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
1	FF-TH	X	-0.08	-0.08	0	%100
2	FF-HR	X	-0.06	-0.06	0	%100
3	SF1-TH	X	0	0	0	%100
4	SF1-HR	X	0	0	0	%100
5	SF2-TH	X	-0.08	-0.08	0	%100
6	SF2-HR	X	-0.06	-0.06	0	%100
7	SA-1	X	-0.09	-0.09	0	%100
8	SA-2	X	-0.06	-0.06	0	%100
9	SA-3	X	-0.18	-0.18	0	%100
10	GSI-1A	X	-0.11	-0.11	0	%100
11	GSI-1B	X	-0.11	-0.11	0	%100
12	GSI-2A	X	-0.13	-0.13	0	%100
13	GSI-2B	X	-0.13	-0.13	0	%100
14	GSI-3A	X	0	0	0	%100
15	GSI-3B	X	0	0	0	%100
16	GSIP-1A	X	-0.09	-0.09	0	%100
17	GSIP-1B	X	0	0	0	%100
18	GSIP-2A	X	0	0	0	%100
19	GSIP-2B	X	-0.07	-0.07	0	%100
20	GSIP-3A	X	-0.07	-0.07	0	%100
21	GSIP-3B	X	-0.09	-0.09	0	%100
22	CP-1	X	-0.16	-0.16	0	%100
23	CP-2	X	-0.16	-0.16	0	%100
24	CP-3	X	0	0	0	%100
25	CP-1U	X	-0.07	-0.07	0	%100
26	CP-2U	X	-0.08	-0.08	0	%100
27	CP-3U	X	0	0	0	%100
28	MP-3	X	-0.07	-0.07	0	%100
29	MP-1	X	-0.07	-0.07	0	%100
30	MP-2	X	-0.07	-0.07	0	%100
31	MP-9	X	-0.07	-0.07	0	%100
32	MP-7	X	-0.07	-0.07	0	%100
33	MP-8	X	-0.07	-0.07	0	%100
34	MP-6	X	-0.07	-0.07	0	%100
35	MP-4	X	-0.07	-0.07	0	%100
36	MP-5	X	-0.07	-0.07	0	%100
37	FF-TH	Z	-0.05	-0.05	0	%100
38	FF-HR	Z	-0.04	-0.04	0	%100
39	SF1-TH	Z	0	0	0	%100
40	SF1-HR	Z	0	0	0	%100
41	SF2-TH	Z	-0.05	-0.05	0	%100
42	SF2-HR	Z	-0.04	-0.04	0	%100
43	SA-1	Z	-0.04	-0.04	0	%100
44	SA-2	Z	-0.05	-0.05	0	%100
45	SA-3	Z	-0.09	-0.09	0	%100
46	GSI-1A	Z	-0.07	-0.07	0	%100
47	GSI-1B	Z	-0.07	-0.07	0	%100
48	GSI-2A	Z	-0.07	-0.07	0	%100
49	GSI-2B	Z	-0.07	-0.07	0	%100
50	GSI-3A	Z	0	0	0	%100
51	GSI-3B	Z	0	0	0	%100



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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Member Distributed Loads (BLC 10 : 180 Wind - No Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
13	GSI-2B	X	.017	.017	0	%100
14	GSI-3A	X	.008	.008	0	%100
15	GSI-3B	X	.008	.008	0	%100
16	GSIP-1A	X	.012	.012	0	%100
17	GSIP-1B	X	.005	.005	0	%100
18	GSIP-2A	X	.005	.005	0	%100
19	GSIP-2B	X	.005	.005	0	%100
20	GSIP-3A	X	.005	.005	0	%100
21	GSIP-3B	X	.012	.012	0	%100
22	CP-1	X	.011	.011	0	%100
23	CP-2	X	.022	.022	0	%100
24	CP-3	X	.011	.011	0	%100
25	CP-1U	X	.005	.005	0	%100
26	CP-2U	X	.01	.01	0	%100
27	CP-3U	X	.005	.005	0	%100
28	MP-3	X	.009	.009	0	%100
29	MP-1	X	.009	.009	0	%100
30	MP-2	X	.009	.009	0	%100
31	MP-9	X	.009	.009	0	%100
32	MP-7	X	.009	.009	0	%100
33	MP-8	X	.009	.009	0	%100
34	MP-6	X	.009	.009	0	%100
35	MP-4	X	.009	.009	0	%100
36	MP-5	X	.009	.009	0	%100

Member Distributed Loads (BLC 11 : 210 Wind - No Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	FF-TH	X	.008	.008	0	%100
2	FF-HR	X	.006	.006	0	%100
3	SF1-TH	X	0	0	0	%100
4	SF1-HR	X	0	0	0	%100
5	SF2-TH	X	.008	.008	0	%100
6	SF2-HR	X	.006	.006	0	%100
7	SA-1	X	.009	.009	0	%100
8	SA-2	X	.006	.006	0	%100
9	SA-3	X	.018	.018	0	%100
10	GSI-1A	X	.011	.011	0	%100
11	GSI-1B	X	.011	.011	0	%100
12	GSI-2A	X	.013	.013	0	%100
13	GSI-2B	X	.013	.013	0	%100
14	GSI-3A	X	0	0	0	%100
15	GSI-3B	X	0	0	0	%100
16	GSIP-1A	X	.009	.009	0	%100
17	GSIP-1B	X	0	0	0	%100
18	GSIP-2A	X	0	0	0	%100
19	GSIP-2B	X	.007	.007	0	%100
20	GSIP-3A	X	.007	.007	0	%100
21	GSIP-3B	X	.009	.009	0	%100
22	CP-1	X	.016	.016	0	%100
23	CP-2	X	.016	.016	0	%100
24	CP-3	X	0	0	0	%100
25	CP-1U	X	.007	.007	0	%100
26	CP-2U	X	.008	.008	0	%100
27	CP-3U	X	0	0	0	%100
28	MP-3	X	.007	.007	0	%100
29	MP-1	X	.007	.007	0	%100



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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Member Distributed Loads (BLC 11 : 210 Wind - No Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
30	MP-2	X	.007	.007	0	%100
31	MP-9	X	.007	.007	0	%100
32	MP-7	X	.007	.007	0	%100
33	MP-8	X	.007	.007	0	%100
34	MP-6	X	.007	.007	0	%100
35	MP-4	X	.007	.007	0	%100
36	MP-5	X	.007	.007	0	%100
37	FF-TH	Z	.005	.005	0	%100
38	FF-HR	Z	.004	.004	0	%100
39	SF1-TH	Z	0	0	0	%100
40	SF1-HR	Z	0	0	0	%100
41	SF2-TH	Z	.005	.005	0	%100
42	SF2-HR	Z	.004	.004	0	%100
43	SA-1	Z	.004	.004	0	%100
44	SA-2	Z	.005	.005	0	%100
45	SA-3	Z	.009	.009	0	%100
46	GSI-1A	Z	.007	.007	0	%100
47	GSI-1B	Z	.007	.007	0	%100
48	GSI-2A	Z	.007	.007	0	%100
49	GSI-2B	Z	.007	.007	0	%100
50	GSI-3A	Z	0	0	0	%100
51	GSI-3B	Z	0	0	0	%100
52	GSIP-1A	Z	.005	.005	0	%100
53	GSIP-1B	Z	0	0	0	%100
54	GSIP-2A	Z	0	0	0	%100
55	GSIP-2B	Z	.005	.005	0	%100
56	GSIP-3A	Z	.005	.005	0	%100
57	GSIP-3B	Z	.005	.005	0	%100
58	CP-1	Z	.009	.009	0	%100
59	CP-2	Z	.01	.01	0	%100
60	CP-3	Z	0	0	0	%100
61	CP-1U	Z	.004	.004	0	%100
62	CP-2U	Z	.004	.004	0	%100
63	CP-3U	Z	0	0	0	%100
64	MP-3	Z	.004	.004	0	%100
65	MP-1	Z	.004	.004	0	%100
66	MP-2	Z	.004	.004	0	%100
67	MP-9	Z	.004	.004	0	%100
68	MP-7	Z	.004	.004	0	%100
69	MP-8	Z	.004	.004	0	%100
70	MP-6	Z	.004	.004	0	%100
71	MP-4	Z	.004	.004	0	%100
72	MP-5	Z	.004	.004	0	%100

Member Distributed Loads (BLC 12 : 225 Wind - No Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	FF-TH	X	.005	.005	0	%100
2	FF-HR	X	.004	.004	0	%100
3	SF1-TH	X	.002	.002	0	%100
4	SF1-HR	X	.002	.002	0	%100
5	SF2-TH	X	.007	.007	0	%100
6	SF2-HR	X	.006	.006	0	%100
7	SA-1	X	.004	.004	0	%100
8	SA-2	X	.007	.007	0	%100
9	SA-3	X	.014	.014	0	%100
10	GSI-1A	X	.01	.01	0	%100



Company : Tower Engineering Professionals
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Member Distributed Loads (BLC 17 : 330 Wind - No Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
9 SA-3	X	-0.09	-0.09	0	%100
10 GSI-1A	X	0	0	0	%100
11 GSI-1B	X	0	0	0	%100
12 GSI-2A	X	-0.13	-0.13	0	%100
13 GSI-2B	X	-0.13	-0.13	0	%100
14 GSI-3A	X	-0.11	-0.11	0	%100
15 GSI-3B	X	-0.11	-0.11	0	%100
16 GSIP-1A	X	-0.09	-0.09	0	%100
17 GSIP-1B	X	-0.07	-0.07	0	%100
18 GSIP-2A	X	-0.07	-0.07	0	%100
19 GSIP-2B	X	0	0	0	%100
20 GSIP-3A	X	0	0	0	%100
21 GSIP-3B	X	-0.09	-0.09	0	%100
22 CP-1	X	0	0	0	%100
23 CP-2	X	-0.16	-0.16	0	%100
24 CP-3	X	-0.16	-0.16	0	%100
25 CP-1U	X	0	0	0	%100
26 CP-2U	X	-0.08	-0.08	0	%100
27 CP-3U	X	-0.07	-0.07	0	%100
28 MP-3	X	-0.07	-0.07	0	%100
29 MP-1	X	-0.07	-0.07	0	%100
30 MP-2	X	-0.07	-0.07	0	%100
31 MP-9	X	-0.07	-0.07	0	%100
32 MP-7	X	-0.07	-0.07	0	%100
33 MP-8	X	-0.07	-0.07	0	%100
34 MP-6	X	-0.07	-0.07	0	%100
35 MP-4	X	-0.07	-0.07	0	%100
36 MP-5	X	-0.07	-0.07	0	%100
37 FF-TH	Z	.005	.005	0	%100
38 FF-HR	Z	.004	.004	0	%100
39 SF1-TH	Z	.005	.005	0	%100
40 SF1-HR	Z	.004	.004	0	%100
41 SF2-TH	Z	0	0	0	%100
42 SF2-HR	Z	0	0	0	%100
43 SA-1	Z	.009	.009	0	%100
44 SA-2	Z	.005	.005	0	%100
45 SA-3	Z	.004	.004	0	%100
46 GSI-1A	Z	0	0	0	%100
47 GSI-1B	Z	0	0	0	%100
48 GSI-2A	Z	.007	.007	0	%100
49 GSI-2B	Z	.007	.007	0	%100
50 GSI-3A	Z	.007	.007	0	%100
51 GSI-3B	Z	.007	.007	0	%100
52 GSIP-1A	Z	.005	.005	0	%100
53 GSIP-1B	Z	.005	.005	0	%100
54 GSIP-2A	Z	.005	.005	0	%100
55 GSIP-2B	Z	0	0	0	%100
56 GSIP-3A	Z	0	0	0	%100
57 GSIP-3B	Z	.005	.005	0	%100
58 CP-1	Z	0	0	0	%100
59 CP-2	Z	.01	.01	0	%100
60 CP-3	Z	.009	.009	0	%100
61 CP-1U	Z	0	0	0	%100
62 CP-2U	Z	.004	.004	0	%100
63 CP-3U	Z	.004	.004	0	%100
64 MP-3	Z	.004	.004	0	%100
65 MP-1	Z	.004	.004	0	%100



Company : Tower Engineering Professionals
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Member Distributed Loads (BLC 17 : 330 Wind - No Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
66 MP-2	Z	.004	.004	0	%100
67 MP-9	Z	.004	.004	0	%100
68 MP-7	Z	.004	.004	0	%100
69 MP-8	Z	.004	.004	0	%100
70 MP-6	Z	.004	.004	0	%100
71 MP-4	Z	.004	.004	0	%100
72 MP-5	Z	.004	.004	0	%100

Member Distributed Loads (BLC 18 : Ice Weight)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
1 FF-TH	Y	-0.07	-0.07	0	%100
2 FF-HR	Y	-0.05	-0.05	0	%100
3 SF1-TH	Y	-0.07	-0.07	0	%100
4 SF1-HR	Y	-0.05	-0.05	0	%100
5 SF2-TH	Y	-0.07	-0.07	0	%100
6 SF2-HR	Y	-0.05	-0.05	0	%100
7 SA-1	Y	-0.07	-0.07	0	%100
8 SA-2	Y	-0.07	-0.07	0	%100
9 SA-3	Y	-0.07	-0.07	0	%100
10 GSI-1A	Y	-0.08	-0.08	0	%100
11 GSI-1B	Y	-0.08	-0.08	0	%100
12 GSI-2A	Y	-0.08	-0.08	0	%100
13 GSI-2B	Y	-0.08	-0.08	0	%100
14 GSI-3A	Y	-0.08	-0.08	0	%100
15 GSI-3B	Y	-0.08	-0.08	0	%100
16 GSIP-1A	Y	-0.04	-0.04	0	%100
17 GSIP-1B	Y	-0.04	-0.04	0	%100
18 GSIP-2A	Y	-0.04	-0.04	0	%100
19 GSIP-2B	Y	-0.04	-0.04	0	%100
20 GSIP-3A	Y	-0.04	-0.04	0	%100
21 GSIP-3B	Y	-0.04	-0.04	0	%100
22 CP-1	Y	-0.12	-0.12	0	%100
23 CP-2	Y	-0.12	-0.12	0	%100
24 CP-3	Y	-0.12	-0.12	0	%100
25 CP-1U	Y	-0.05	-0.05	0	%100
26 CP-2U	Y	-0.05	-0.05	0	%100
27 CP-3U	Y	-0.05	-0.05	0	%100
28 MP-3	Y	-0.05	-0.05	0	%100
29 MP-1	Y	-0.05	-0.05	0	%100
30 MP-2	Y	-0.05	-0.05	0	%100
31 MP-9	Y	-0.05	-0.05	0	%100
32 MP-7	Y	-0.05	-0.05	0	%100
33 MP-8	Y	-0.05	-0.05	0	%100
34 MP-6	Y	-0.05	-0.05	0	%100
35 MP-4	Y	-0.05	-0.05	0	%100
36 MP-5	Y	-0.05	-0.05	0	%100

Member Distributed Loads (BLC 19 : 0 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
1 FF-TH	X	-0.03	-0.03	0	%100
2 FF-HR	X	-0.03	-0.03	0	%100
3 SF1-TH	X	-0.03	-0.03	0	%100
4 SF1-HR	X	-0.03	-0.03	0	%100
5 SF2-TH	X	-0.03	-0.03	0	%100
6 SF2-HR	X	-0.03	-0.03	0	%100
7 SA-1	X	-0.05	-0.05	0	%100



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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Member Distributed Loads (BLC 19 : 0 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
8 SA-2	X	-0.04	-0.04	0	%100
9 SA-3	X	-0.05	-0.05	0	%100
10 GSI-1A	X	-0.04	-0.04	0	%100
11 GSI-1B	X	-0.04	-0.04	0	%100
12 GSI-2A	X	-0.04	-0.04	0	%100
13 GSI-2B	X	-0.04	-0.04	0	%100
14 GSI-3A	X	-0.04	-0.04	0	%100
15 GSI-3B	X	-0.04	-0.04	0	%100
16 GSIP-1A	X	-0.03	-0.03	0	%100
17 GSIP-1B	X	-0.03	-0.03	0	%100
18 GSIP-2A	X	-0.03	-0.03	0	%100
19 GSIP-2B	X	-0.03	-0.03	0	%100
20 GSIP-3A	X	-0.03	-0.03	0	%100
21 GSIP-3B	X	-0.03	-0.03	0	%100
22 CP-1	X	-0.06	-0.06	0	%100
23 CP-2	X	-0.06	-0.06	0	%100
24 CP-3	X	-0.06	-0.06	0	%100
25 CP-1U	X	-0.03	-0.03	0	%100
26 CP-2U	X	-0.03	-0.03	0	%100
27 CP-3U	X	-0.03	-0.03	0	%100
28 MP-3	X	-0.03	-0.03	0	%100
29 MP-1	X	-0.03	-0.03	0	%100
30 MP-2	X	-0.03	-0.03	0	%100
31 MP-9	X	-0.03	-0.03	0	%100
32 MP-7	X	-0.03	-0.03	0	%100
33 MP-8	X	-0.03	-0.03	0	%100
34 MP-6	X	-0.03	-0.03	0	%100
35 MP-4	X	-0.03	-0.03	0	%100
36 MP-5	X	-0.03	-0.03	0	%100

Member Distributed Loads (BLC 20 : 30 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
1 FF-TH	X	-0.03	-0.03	0	%100
2 FF-HR	X	-0.02	-0.02	0	%100
3 SF1-TH	X	0	0	0	%100
4 SF1-HR	X	0	0	0	%100
5 SF2-TH	X	-0.02	-0.02	0	%100
6 SF2-HR	X	-0.02	-0.02	0	%100
7 SA-1	X	-0.02	-0.02	0	%100
8 SA-2	X	-0.02	-0.02	0	%100
9 SA-3	X	-0.04	-0.04	0	%100
10 GSI-1A	X	-0.03	-0.03	0	%100
11 GSI-1B	X	-0.03	-0.03	0	%100
12 GSI-2A	X	-0.03	-0.03	0	%100
13 GSI-2B	X	-0.03	-0.03	0	%100
14 GSI-3A	X	0	0	0	%100
15 GSI-3B	X	0	0	0	%100
16 GSIP-1A	X	-0.03	-0.03	0	%100
17 GSIP-1B	X	0	0	0	%100
18 GSIP-2A	X	0	0	0	%100
19 GSIP-2B	X	-0.02	-0.02	0	%100
20 GSIP-3A	X	-0.02	-0.02	0	%100
21 GSIP-3B	X	-0.03	-0.03	0	%100
22 CP-1	X	-0.04	-0.04	0	%100
23 CP-2	X	-0.04	-0.04	0	%100
24 CP-3	X	0	0	0	%100



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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Member Distributed Loads (BLC 20 : 30 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
25 CP-1U	X	-0.02	-0.02	0	%100
26 CP-2U	X	-0.03	-0.03	0	%100
27 CP-3U	X	0	0	0	%100
28 MP-3	X	-0.02	-0.02	0	%100
29 MP-1	X	-0.02	-0.02	0	%100
30 MP-2	X	-0.02	-0.02	0	%100
31 MP-9	X	-0.02	-0.02	0	%100
32 MP-7	X	-0.02	-0.02	0	%100
33 MP-8	X	-0.02	-0.02	0	%100
34 MP-6	X	-0.02	-0.02	0	%100
35 MP-4	X	-0.02	-0.02	0	%100
36 MP-5	X	-0.02	-0.02	0	%100
37 FF-TH	Z	-0.01	-0.01	0	%100
38 FF-HR	Z	-0.01	-0.01	0	%100
39 SF1-TH	Z	0	0	0	%100
40 SF1-HR	Z	0	0	0	%100
41 SF2-TH	Z	-0.02	-0.02	0	%100
42 SF2-HR	Z	-0.01	-0.01	0	%100
43 SA-1	Z	-0.01	-0.01	0	%100
44 SA-2	Z	-0.01	-0.01	0	%100
45 SA-3	Z	-0.02	-0.02	0	%100
46 GSI-1A	Z	-0.02	-0.02	0	%100
47 GSI-1B	Z	-0.02	-0.02	0	%100
48 GSI-2A	Z	-0.02	-0.02	0	%100
49 GSI-2B	Z	-0.02	-0.02	0	%100
50 GSI-3A	Z	0	0	0	%100
51 GSI-3B	Z	0	0	0	%100
52 GSIP-1A	Z	-0.01	-0.01	0	%100
53 GSIP-1B	Z	0	0	0	%100
54 GSIP-2A	Z	0	0	0	%100
55 GSIP-2B	Z	-0.01	-0.01	0	%100
56 GSIP-3A	Z	-0.01	-0.01	0	%100
57 GSIP-3B	Z	-0.01	-0.01	0	%100
58 CP-1	Z	-0.02	-0.02	0	%100
59 CP-2	Z	-0.02	-0.02	0	%100
60 CP-3	Z	0	0	0	%100
61 CP-1U	Z	-0.01	-0.01	0	%100
62 CP-2U	Z	-0.01	-0.01	0	%100
63 CP-3U	Z	0	0	0	%100
64 MP-3	Z	-0.01	-0.01	0	%100
65 MP-1	Z	-0.01	-0.01	0	%100
66 MP-2	Z	-0.01	-0.01	0	%100
67 MP-9	Z	-0.01	-0.01	0	%100
68 MP-7	Z	-0.01	-0.01	0	%100
69 MP-8	Z	-0.01	-0.01	0	%100
70 MP-6	Z	-0.01	-0.01	0	%100
71 MP-4	Z	-0.01	-0.01	0	%100
72 MP-5	Z	-0.01	-0.01	0	%100

Member Distributed Loads (BLC 21 : 45 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
1 FF-TH	X	-0.02	-0.02	0	%100
2 FF-HR	X	-0.01	-0.01	0	%100
3 SF1-TH	X	-0.00525	-0.00525	0	%100
4 SF1-HR	X	-0.00458	-0.00458	0	%100
5 SF2-TH	X	-0.02	-0.02	0	%100



Member Distributed Loads (BLC 24 : 120 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
42	SF2-HR	Z	-0.01	-0.01	0	%100
43	SA-1	Z	-0.003	-0.003	0	%100
44	SA-2	Z	-0.004	-0.004	0	%100
45	SA-3	Z	0	0	0	%100
46	GSI-1A	Z	-0.002	-0.002	0	%100
47	GSI-1B	Z	-0.002	-0.002	0	%100
48	GSI-2A	Z	-0.002	-0.002	0	%100
49	GSI-2B	Z	-0.002	-0.002	0	%100
50	GSI-3A	Z	-0.004	-0.004	0	%100
51	GSI-3B	Z	-0.004	-0.004	0	%100
52	GSIP-1A	Z	-0.001	-0.001	0	%100
53	GSIP-1B	Z	-0.003	-0.003	0	%100
54	GSIP-2A	Z	-0.003	-0.003	0	%100
55	GSIP-2B	Z	-0.001	-0.001	0	%100
56	GSIP-3A	Z	-0.001	-0.001	0	%100
57	GSIP-3B	Z	-0.001	-0.001	0	%100
58	CP-1	Z	-0.002	-0.002	0	%100
59	CP-2	Z	-0.002	-0.002	0	%100
60	CP-3	Z	-0.005	-0.005	0	%100
61	CP-1U	Z	-0.001	-0.001	0	%100
62	CP-2U	Z	-0.001	-0.001	0	%100
63	CP-3U	Z	-0.003	-0.003	0	%100
64	MP-3	Z	-0.002	-0.002	0	%100
65	MP-1	Z	-0.002	-0.002	0	%100
66	MP-2	Z	-0.002	-0.002	0	%100
67	MP-9	Z	-0.002	-0.002	0	%100
68	MP-7	Z	-0.002	-0.002	0	%100
69	MP-8	Z	-0.002	-0.002	0	%100
70	MP-6	Z	-0.002	-0.002	0	%100
71	MP-4	Z	-0.002	-0.002	0	%100
72	MP-5	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 25 : 135 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	FF-TH	X	.002	.002	0	%100
2	FF-HR	X	.001	.001	0	%100
3	SF1-TH	X	.002	.002	0	%100
4	SF1-HR	X	.002	.002	0	%100
5	SF2-TH	X	.000525	.000525	0	%100
6	SF2-HR	X	.000458	.000458	0	%100
7	SA-1	X	.003	.003	0	%100
8	SA-2	X	.002	.002	0	%100
9	SA-3	X	.000902	.000902	0	%100
10	GSI-1A	X	.000745	.000745	0	%100
11	GSI-1B	X	.000745	.000745	0	%100
12	GSI-2A	X	.002	.002	0	%100
13	GSI-2B	X	.002	.002	0	%100
14	GSI-3A	X	.003	.003	0	%100
15	GSI-3B	X	.003	.003	0	%100
16	GSIP-1A	X	.002	.002	0	%100
17	GSIP-1B	X	.002	.002	0	%100
18	GSIP-2A	X	.002	.002	0	%100
19	GSIP-2B	X	.000555	.000555	0	%100
20	GSIP-3A	X	.000555	.000555	0	%100
21	GSIP-3B	X	.002	.002	0	%100
22	CP-1	X	.001	.001	0	%100



Member Distributed Loads (BLC 25 : 135 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
23	CP-2	X	.003	.003	0	%100
24	CP-3	X	.004	.004	0	%100
25	CP-1U	X	.000602	.000602	0	%100
26	CP-2U	X	.002	.002	0	%100
27	CP-3U	X	.002	.002	0	%100
28	MP-3	X	.002	.002	0	%100
29	MP-1	X	.002	.002	0	%100
30	MP-2	X	.002	.002	0	%100
31	MP-9	X	.002	.002	0	%100
32	MP-7	X	.002	.002	0	%100
33	MP-8	X	.002	.002	0	%100
34	MP-6	X	.002	.002	0	%100
35	MP-4	X	.002	.002	0	%100
36	MP-5	X	.002	.002	0	%100
37	FF-TH	Z	-0.002	-0.002	0	%100
38	FF-HR	Z	-0.001	-0.001	0	%100
39	SF1-TH	Z	-0.002	-0.002	0	%100
40	SF1-HR	Z	-0.002	-0.002	0	%100
41	SF2-TH	Z	-0.000638	-0.000638	0	%100
42	SF2-HR	Z	-0.000515	-0.000515	0	%100
43	SA-1	Z	-0.003	-0.003	0	%100
44	SA-2	Z	-0.003	-0.003	0	%100
45	SA-3	Z	-0.00081	-0.00081	0	%100
46	GSI-1A	Z	-0.000797	-0.000797	0	%100
47	GSI-1B	Z	-0.000797	-0.000797	0	%100
48	GSI-2A	Z	-0.002	-0.002	0	%100
49	GSI-2B	Z	-0.002	-0.002	0	%100
50	GSI-3A	Z	-0.003	-0.003	0	%100
51	GSI-3B	Z	-0.003	-0.003	0	%100
52	GSIP-1A	Z	-0.002	-0.002	0	%100
53	GSIP-1B	Z	-0.002	-0.002	0	%100
54	GSIP-2A	Z	-0.002	-0.002	0	%100
55	GSIP-2B	Z	-0.000614	-0.000614	0	%100
56	GSIP-3A	Z	-0.000614	-0.000614	0	%100
57	GSIP-3B	Z	-0.002	-0.002	0	%100
58	CP-1	Z	-0.001	-0.001	0	%100
59	CP-2	Z	-0.002	-0.002	0	%100
60	CP-3	Z	-0.004	-0.004	0	%100
61	CP-1U	Z	-0.000617	-0.000617	0	%100
62	CP-2U	Z	-0.002	-0.002	0	%100
63	CP-3U	Z	-0.002	-0.002	0	%100
64	MP-3	Z	-0.002	-0.002	0	%100
65	MP-1	Z	-0.002	-0.002	0	%100
66	MP-2	Z	-0.002	-0.002	0	%100
67	MP-9	Z	-0.002	-0.002	0	%100
68	MP-7	Z	-0.002	-0.002	0	%100
69	MP-8	Z	-0.002	-0.002	0	%100
70	MP-6	Z	-0.002	-0.002	0	%100
71	MP-4	Z	-0.002	-0.002	0	%100
72	MP-5	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 26 : 150 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	FF-TH	X	.003	.003	0	%100
2	FF-HR	X	.002	.002	0	%100
3	SF1-TH	X	.002	.002	0	%100



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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Member Distributed Loads (BLC 26 : 150 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
4	SF1-HR	X	.002	.002	0	%100
5	SF2-TH	X	0	0	0	%100
6	SF2-HR	X	0	0	0	%100
7	SA-1	X	.004	.004	0	%100
8	SA-2	X	.002	.002	0	%100
9	SA-3	X	.002	.002	0	%100
10	GSI-1A	X	0	0	0	%100
11	GSI-1B	X	0	0	0	%100
12	GSI-2A	X	.003	.003	0	%100
13	GSI-2B	X	.003	.003	0	%100
14	GSI-3A	X	.003	.003	0	%100
15	GSI-3B	X	.003	.003	0	%100
16	GSIP-1A	X	.003	.003	0	%100
17	GSIP-1B	X	.002	.002	0	%100
18	GSIP-2A	X	.002	.002	0	%100
19	GSIP-2B	X	0	0	0	%100
20	GSIP-3A	X	0	0	0	%100
21	GSIP-3B	X	.003	.003	0	%100
22	CP-1	X	0	0	0	%100
23	CP-2	X	.004	.004	0	%100
24	CP-3	X	.004	.004	0	%100
25	CP-1U	X	0	0	0	%100
26	CP-2U	X	.003	.003	0	%100
27	CP-3U	X	.002	.002	0	%100
28	MP-3	X	.002	.002	0	%100
29	MP-1	X	.002	.002	0	%100
30	MP-2	X	.002	.002	0	%100
31	MP-9	X	.002	.002	0	%100
32	MP-7	X	.002	.002	0	%100
33	MP-8	X	.002	.002	0	%100
34	MP-6	X	.002	.002	0	%100
35	MP-4	X	.002	.002	0	%100
36	MP-5	X	.002	.002	0	%100
37	FF-TH	Z	-.001	-.001	0	%100
38	FF-HR	Z	-.001	-.001	0	%100
39	SF1-TH	Z	-.002	-.002	0	%100
40	SF1-HR	Z	-.001	-.001	0	%100
41	SF2-TH	Z	0	0	0	%100
42	SF2-HR	Z	0	0	0	%100
43	SA-1	Z	-.002	-.002	0	%100
44	SA-2	Z	-.001	-.001	0	%100
45	SA-3	Z	-.001	-.001	0	%100
46	GSI-1A	Z	0	0	0	%100
47	GSI-1B	Z	0	0	0	%100
48	GSI-2A	Z	-.002	-.002	0	%100
49	GSI-2B	Z	-.002	-.002	0	%100
50	GSI-3A	Z	-.002	-.002	0	%100
51	GSI-3B	Z	-.002	-.002	0	%100
52	GSIP-1A	Z	-.001	-.001	0	%100
53	GSIP-1B	Z	-.001	-.001	0	%100
54	GSIP-2A	Z	-.001	-.001	0	%100
55	GSIP-2B	Z	0	0	0	%100
56	GSIP-3A	Z	0	0	0	%100
57	GSIP-3B	Z	-.001	-.001	0	%100
58	CP-1	Z	0	0	0	%100
59	CP-2	Z	-.002	-.002	0	%100
60	CP-3	Z	-.002	-.002	0	%100



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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Member Distributed Loads (BLC 26 : 150 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
61	CP-1U	Z	0	0	0	%100
62	CP-2U	Z	-.001	-.001	0	%100
63	CP-3U	Z	-.001	-.001	0	%100
64	MP-3	Z	-.001	-.001	0	%100
65	MP-1	Z	-.001	-.001	0	%100
66	MP-2	Z	-.001	-.001	0	%100
67	MP-9	Z	-.001	-.001	0	%100
68	MP-7	Z	-.001	-.001	0	%100
69	MP-8	Z	-.001	-.001	0	%100
70	MP-6	Z	-.001	-.001	0	%100
71	MP-4	Z	-.001	-.001	0	%100
72	MP-5	Z	-.001	-.001	0	%100

Member Distributed Loads (BLC 27 : 180 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	FF-TH	X	.003	.003	0	%100
2	FF-HR	X	.003	.003	0	%100
3	SF1-TH	X	.003	.003	0	%100
4	SF1-HR	X	.003	.003	0	%100
5	SF2-TH	X	.003	.003	0	%100
6	SF2-HR	X	.003	.003	0	%100
7	SA-1	X	.005	.005	0	%100
8	SA-2	X	.004	.004	0	%100
9	SA-3	X	.005	.005	0	%100
10	GSI-1A	X	.004	.004	0	%100
11	GSI-1B	X	.004	.004	0	%100
12	GSI-2A	X	.004	.004	0	%100
13	GSI-2B	X	.004	.004	0	%100
14	GSI-3A	X	.004	.004	0	%100
15	GSI-3B	X	.004	.004	0	%100
16	GSIP-1A	X	.003	.003	0	%100
17	GSIP-1B	X	.003	.003	0	%100
18	GSIP-2A	X	.003	.003	0	%100
19	GSIP-2B	X	.003	.003	0	%100
20	GSIP-3A	X	.003	.003	0	%100
21	GSIP-3B	X	.003	.003	0	%100
22	CP-1	X	.006	.006	0	%100
23	CP-2	X	.006	.006	0	%100
24	CP-3	X	.006	.006	0	%100
25	CP-1U	X	.003	.003	0	%100
26	CP-2U	X	.003	.003	0	%100
27	CP-3U	X	.003	.003	0	%100
28	MP-3	X	.003	.003	0	%100
29	MP-1	X	.003	.003	0	%100
30	MP-2	X	.003	.003	0	%100
31	MP-9	X	.003	.003	0	%100
32	MP-7	X	.003	.003	0	%100
33	MP-8	X	.003	.003	0	%100
34	MP-6	X	.003	.003	0	%100
35	MP-4	X	.003	.003	0	%100
36	MP-5	X	.003	.003	0	%100

Member Distributed Loads (BLC 28 : 210 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	FF-TH	X	.003	.003	0	%100
2	FF-HR	X	.002	.002	0	%100



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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Member Distributed Loads (BLC 28 : 210 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
3	SF1-TH	X	0	0	%100
4	SF1-HR	X	0	0	%100
5	SF2-TH	X	.002	.002	%100
6	SF2-HR	X	.002	.002	%100
7	SA-1	X	.002	.002	%100
8	SA-2	X	.002	.002	%100
9	SA-3	X	.004	.004	%100
10	GSI-1A	X	.003	.003	%100
11	GSI-1B	X	.003	.003	%100
12	GSI-2A	X	.003	.003	%100
13	GSI-2B	X	.003	.003	%100
14	GSI-3A	X	0	0	%100
15	GSI-3B	X	0	0	%100
16	GSIP-1A	X	.003	.003	%100
17	GSIP-1B	X	0	0	%100
18	GSIP-2A	X	0	0	%100
19	GSIP-2B	X	.002	.002	%100
20	GSIP-3A	X	.002	.002	%100
21	GSIP-3B	X	.003	.003	%100
22	CP-1	X	.004	.004	%100
23	CP-2	X	.004	.004	%100
24	CP-3	X	0	0	%100
25	CP-1U	X	.002	.002	%100
26	CP-2U	X	.003	.003	%100
27	CP-3U	X	0	0	%100
28	MP-3	X	.002	.002	%100
29	MP-1	X	.002	.002	%100
30	MP-2	X	.002	.002	%100
31	MP-9	X	.002	.002	%100
32	MP-7	X	.002	.002	%100
33	MP-8	X	.002	.002	%100
34	MP-6	X	.002	.002	%100
35	MP-4	X	.002	.002	%100
36	MP-5	X	.002	.002	%100
37	FF-TH	Z	.001	.001	%100
38	FF-HR	Z	.001	.001	%100
39	SF1-TH	Z	0	0	%100
40	SF1-HR	Z	0	0	%100
41	SF2-TH	Z	.002	.002	%100
42	SF2-HR	Z	.001	.001	%100
43	SA-1	Z	.001	.001	%100
44	SA-2	Z	.001	.001	%100
45	SA-3	Z	.002	.002	%100
46	GSI-1A	Z	.002	.002	%100
47	GSI-1B	Z	.002	.002	%100
48	GSI-2A	Z	.002	.002	%100
49	GSI-2B	Z	.002	.002	%100
50	GSI-3A	Z	0	0	%100
51	GSI-3B	Z	0	0	%100
52	GSIP-1A	Z	.001	.001	%100
53	GSIP-1B	Z	0	0	%100
54	GSIP-2A	Z	0	0	%100
55	GSIP-2B	Z	.001	.001	%100
56	GSIP-3A	Z	.001	.001	%100
57	GSIP-3B	Z	.001	.001	%100
58	CP-1	Z	.002	.002	%100
59	CP-2	Z	.002	.002	%100



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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Member Distributed Loads (BLC 28 : 210 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
60	CP-3	Z	0	0	%100
61	CP-1U	Z	.001	.001	%100
62	CP-2U	Z	.001	.001	%100
63	CP-3U	Z	0	0	%100
64	MP-3	Z	.001	.001	%100
65	MP-1	Z	.001	.001	%100
66	MP-2	Z	.001	.001	%100
67	MP-9	Z	.001	.001	%100
68	MP-7	Z	.001	.001	%100
69	MP-8	Z	.001	.001	%100
70	MP-6	Z	.001	.001	%100
71	MP-4	Z	.001	.001	%100
72	MP-5	Z	.001	.001	%100

Member Distributed Loads (BLC 29 : 225 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
1	FF-TH	X	.002	.002	%100
2	FF-HR	X	.001	.001	%100
3	SF1-TH	X	.000525	.000525	%100
4	SF1-HR	X	.000458	.000458	%100
5	SF2-TH	X	.002	.002	%100
6	SF2-HR	X	.002	.002	%100
7	SA-1	X	.000902	.000902	%100
8	SA-2	X	.002	.002	%100
9	SA-3	X	.003	.003	%100
10	GSI-1A	X	.003	.003	%100
11	GSI-1B	X	.003	.003	%100
12	GSI-2A	X	.002	.002	%100
13	GSI-2B	X	.002	.002	%100
14	GSI-3A	X	.000745	.000745	%100
15	GSI-3B	X	.000745	.000745	%100
16	GSIP-1A	X	.002	.002	%100
17	GSIP-1B	X	.000555	.000555	%100
18	GSIP-2A	X	.000555	.000555	%100
19	GSIP-2B	X	.002	.002	%100
20	GSIP-3A	X	.002	.002	%100
21	GSIP-3B	X	.002	.002	%100
22	CP-1	X	.004	.004	%100
23	CP-2	X	.003	.003	%100
24	CP-3	X	.001	.001	%100
25	CP-1U	X	.002	.002	%100
26	CP-2U	X	.002	.002	%100
27	CP-3U	X	.000602	.000602	%100
28	MP-3	X	.002	.002	%100
29	MP-1	X	.002	.002	%100
30	MP-2	X	.002	.002	%100
31	MP-9	X	.002	.002	%100
32	MP-7	X	.002	.002	%100
33	MP-8	X	.002	.002	%100
34	MP-6	X	.002	.002	%100
35	MP-4	X	.002	.002	%100
36	MP-5	X	.002	.002	%100
37	FF-TH	Z	.002	.002	%100
38	FF-HR	Z	.001	.001	%100
39	SF1-TH	Z	.000638	.000638	%100
40	SF1-HR	Z	.000515	.000515	%100



Member Distributed Loads (BLC 29 : 225 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
41	SF2-TH	Z	.002	.002	0	%100
42	SF2-HR	Z	.002	.002	0	%100
43	SA-1	Z	.00081	.00081	0	%100
44	SA-2	Z	.003	.003	0	%100
45	SA-3	Z	.003	.003	0	%100
46	GSI-1A	Z	.003	.003	0	%100
47	GSI-1B	Z	.003	.003	0	%100
48	GSI-2A	Z	.002	.002	0	%100
49	GSI-2B	Z	.002	.002	0	%100
50	GSI-3A	Z	.000797	.000797	0	%100
51	GSI-3B	Z	.000797	.000797	0	%100
52	GSIP-1A	Z	.002	.002	0	%100
53	GSIP-1B	Z	.000614	.000614	0	%100
54	GSIP-2A	Z	.000614	.000614	0	%100
55	GSIP-2B	Z	.002	.002	0	%100
56	GSIP-3A	Z	.002	.002	0	%100
57	GSIP-3B	Z	.002	.002	0	%100
58	CP-1	Z	.004	.004	0	%100
59	CP-2	Z	.002	.002	0	%100
60	CP-3	Z	.001	.001	0	%100
61	CP-1U	Z	.002	.002	0	%100
62	CP-2U	Z	.002	.002	0	%100
63	CP-3U	Z	.000617	.000617	0	%100
64	MP-3	Z	.002	.002	0	%100
65	MP-1	Z	.002	.002	0	%100
66	MP-2	Z	.002	.002	0	%100
67	MP-9	Z	.002	.002	0	%100
68	MP-7	Z	.002	.002	0	%100
69	MP-8	Z	.002	.002	0	%100
70	MP-6	Z	.002	.002	0	%100
71	MP-4	Z	.002	.002	0	%100
72	MP-5	Z	.002	.002	0	%100

Member Distributed Loads (BLC 30 : 240 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	FF-TH	X	.000872	.000872	0	%100
2	FF-HR	X	.000703	.000703	0	%100
3	SF1-TH	X	.000717	.000717	0	%100
4	SF1-HR	X	.000626	.000626	0	%100
5	SF2-TH	X	.001	.001	0	%100
6	SF2-HR	X	.001	.001	0	%100
7	SA-1	X	0	0	0	%100
8	SA-2	X	.002	.002	0	%100
9	SA-3	X	.002	.002	0	%100
10	GSI-1A	X	.002	.002	0	%100
11	GSI-1B	X	.002	.002	0	%100
12	GSI-2A	X	.001	.001	0	%100
13	GSI-2B	X	.001	.001	0	%100
14	GSI-3A	X	.001	.001	0	%100
15	GSI-3B	X	.001	.001	0	%100
16	GSIP-1A	X	.000866	.000866	0	%100
17	GSIP-1B	X	.000758	.000758	0	%100
18	GSIP-2A	X	.000758	.000758	0	%100
19	GSIP-2B	X	.002	.002	0	%100
20	GSIP-3A	X	.002	.002	0	%100
21	GSIP-3B	X	.000866	.000866	0	%100



Member Distributed Loads (BLC 30 : 240 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
22	CP-1	X	.003	.003	0	%100
23	CP-2	X	.001	.001	0	%100
24	CP-3	X	.001	.001	0	%100
25	CP-1U	X	.002	.002	0	%100
26	CP-2U	X	.000856	.000856	0	%100
27	CP-3U	X	.000823	.000823	0	%100
28	MP-3	X	.001	.001	0	%100
29	MP-1	X	.001	.001	0	%100
30	MP-2	X	.001	.001	0	%100
31	MP-9	X	.001	.001	0	%100
32	MP-7	X	.001	.001	0	%100
33	MP-8	X	.001	.001	0	%100
34	MP-6	X	.001	.001	0	%100
35	MP-4	X	.001	.001	0	%100
36	MP-5	X	.001	.001	0	%100
37	FF-TH	Z	.001	.001	0	%100
38	FF-HR	Z	.001	.001	0	%100
39	SF1-TH	Z	.002	.002	0	%100
40	SF1-HR	Z	.001	.001	0	%100
41	SF2-TH	Z	.003	.003	0	%100
42	SF2-HR	Z	.002	.002	0	%100
43	SA-1	Z	0	0	0	%100
44	SA-2	Z	.004	.004	0	%100
45	SA-3	Z	.003	.003	0	%100
46	GSI-1A	Z	.004	.004	0	%100
47	GSI-1B	Z	.004	.004	0	%100
48	GSI-2A	Z	.002	.002	0	%100
49	GSI-2B	Z	.002	.002	0	%100
50	GSI-3A	Z	.002	.002	0	%100
51	GSI-3B	Z	.002	.002	0	%100
52	GSIP-1A	Z	.001	.001	0	%100
53	GSIP-1B	Z	.001	.001	0	%100
54	GSIP-2A	Z	.001	.001	0	%100
55	GSIP-2B	Z	.003	.003	0	%100
56	GSIP-3A	Z	.003	.003	0	%100
57	GSIP-3B	Z	.001	.001	0	%100
58	CP-1	Z	.005	.005	0	%100
59	CP-2	Z	.002	.002	0	%100
60	CP-3	Z	.002	.002	0	%100
61	CP-1U	Z	.003	.003	0	%100
62	CP-2U	Z	.001	.001	0	%100
63	CP-3U	Z	.001	.001	0	%100
64	MP-3	Z	.002	.002	0	%100
65	MP-1	Z	.002	.002	0	%100
66	MP-2	Z	.002	.002	0	%100
67	MP-9	Z	.002	.002	0	%100
68	MP-7	Z	.002	.002	0	%100
69	MP-8	Z	.002	.002	0	%100
70	MP-6	Z	.002	.002	0	%100
71	MP-4	Z	.002	.002	0	%100
72	MP-5	Z	.002	.002	0	%100

Member Distributed Loads (BLC 31 : 270 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	FF-TH	Z	0	0	0	%100
2	FF-HR	Z	0	0	0	%100



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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Member Distributed Loads (BLC 31 : 270 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
3	SF1-TH	Z	.003	.003	0	%100
4	SF1-HR	Z	.002	.002	0	%100
5	SF2-TH	Z	.003	.003	0	%100
6	SF2-HR	Z	.002	.002	0	%100
7	SA-1	Z	.002	.002	0	%100
8	SA-2	Z	.005	.005	0	%100
9	SA-3	Z	.002	.002	0	%100
10	GSI-1A	Z	.004	.004	0	%100
11	GSI-1B	Z	.004	.004	0	%100
12	GSI-2A	Z	0	0	0	%100
13	GSI-2B	Z	0	0	0	%100
14	GSI-3A	Z	.004	.004	0	%100
15	GSI-3B	Z	.004	.004	0	%100
16	GSIP-1A	Z	0	0	0	%100
17	GSIP-1B	Z	.003	.003	0	%100
18	GSIP-2A	Z	.003	.003	0	%100
19	GSIP-2B	Z	.003	.003	0	%100
20	GSIP-3A	Z	.003	.003	0	%100
21	GSIP-3B	Z	0	0	0	%100
22	CP-1	Z	.005	.005	0	%100
23	CP-2	Z	0	0	0	%100
24	CP-3	Z	.005	.005	0	%100
25	CP-1U	Z	.003	.003	0	%100
26	CP-2U	Z	0	0	0	%100
27	CP-3U	Z	.003	.003	0	%100
28	MP-3	Z	.003	.003	0	%100
29	MP-1	Z	.003	.003	0	%100
30	MP-2	Z	.003	.003	0	%100
31	MP-9	Z	.003	.003	0	%100
32	MP-7	Z	.003	.003	0	%100
33	MP-8	Z	.003	.003	0	%100
34	MP-6	Z	.003	.003	0	%100
35	MP-4	Z	.003	.003	0	%100
36	MP-5	Z	.003	.003	0	%100

Member Distributed Loads (BLC 32 : 300 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	FF-TH	X	-.000872	-.000872	0	%100
2	FF-HR	X	-.000703	-.000703	0	%100
3	SF1-TH	X	-.001	-.001	0	%100
4	SF1-HR	X	-.001	-.001	0	%100
5	SF2-TH	X	-.000717	-.000717	0	%100
6	SF2-HR	X	-.000626	-.000626	0	%100
7	SA-1	X	-.002	-.002	0	%100
8	SA-2	X	-.002	-.002	0	%100
9	SA-3	X	0	0	0	%100
10	GSI-1A	X	-.001	-.001	0	%100
11	GSI-1B	X	-.001	-.001	0	%100
12	GSI-2A	X	-.001	-.001	0	%100
13	GSI-2B	X	-.001	-.001	0	%100
14	GSI-3A	X	-.002	-.002	0	%100
15	GSI-3B	X	-.002	-.002	0	%100
16	GSIP-1A	X	-.000866	-.000866	0	%100
17	GSIP-1B	X	-.002	-.002	0	%100
18	GSIP-2A	X	-.002	-.002	0	%100
19	GSIP-2B	X	-.000758	-.000758	0	%100



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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Member Distributed Loads (BLC 32 : 300 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
20	GSIP-3A	X	-.000758	-.000758	0	%100
21	GSIP-3B	X	-.000866	-.000866	0	%100
22	CP-1	X	-.001	-.001	0	%100
23	CP-2	X	-.001	-.001	0	%100
24	CP-3	X	-.003	-.003	0	%100
25	CP-1U	X	-.000823	-.000823	0	%100
26	CP-2U	X	-.000856	-.000856	0	%100
27	CP-3U	X	-.002	-.002	0	%100
28	MP-3	X	-.001	-.001	0	%100
29	MP-1	X	-.001	-.001	0	%100
30	MP-2	X	-.001	-.001	0	%100
31	MP-9	X	-.001	-.001	0	%100
32	MP-7	X	-.001	-.001	0	%100
33	MP-8	X	-.001	-.001	0	%100
34	MP-6	X	-.001	-.001	0	%100
35	MP-4	X	-.001	-.001	0	%100
36	MP-5	X	-.001	-.001	0	%100
37	FF-TH	Z	.001	.001	0	%100
38	FF-HR	Z	.001	.001	0	%100
39	SF1-TH	Z	.003	.003	0	%100
40	SF1-HR	Z	.002	.002	0	%100
41	SF2-TH	Z	.002	.002	0	%100
42	SF2-HR	Z	.001	.001	0	%100
43	SA-1	Z	.003	.003	0	%100
44	SA-2	Z	.004	.004	0	%100
45	SA-3	Z	0	0	0	%100
46	GSI-1A	Z	.002	.002	0	%100
47	GSI-1B	Z	.002	.002	0	%100
48	GSI-2A	Z	.002	.002	0	%100
49	GSI-2B	Z	.002	.002	0	%100
50	GSI-3A	Z	.004	.004	0	%100
51	GSI-3B	Z	.004	.004	0	%100
52	GSIP-1A	Z	.001	.001	0	%100
53	GSIP-1B	Z	.003	.003	0	%100
54	GSIP-2A	Z	.003	.003	0	%100
55	GSIP-2B	Z	.001	.001	0	%100
56	GSIP-3A	Z	.001	.001	0	%100
57	GSIP-3B	Z	.001	.001	0	%100
58	CP-1	Z	.002	.002	0	%100
59	CP-2	Z	.002	.002	0	%100
60	CP-3	Z	.005	.005	0	%100
61	CP-1U	Z	.001	.001	0	%100
62	CP-2U	Z	.001	.001	0	%100
63	CP-3U	Z	.003	.003	0	%100
64	MP-3	Z	.002	.002	0	%100
65	MP-1	Z	.002	.002	0	%100
66	MP-2	Z	.002	.002	0	%100
67	MP-9	Z	.002	.002	0	%100
68	MP-7	Z	.002	.002	0	%100
69	MP-8	Z	.002	.002	0	%100
70	MP-6	Z	.002	.002	0	%100
71	MP-4	Z	.002	.002	0	%100
72	MP-5	Z	.002	.002	0	%100

Member Distributed Loads (BLC 33 : 315 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]
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Member Distributed Loads (BLC 33 : 315 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	FF-TH	X	-0.002	-0.002	0	%100
2	FF-HR	X	-0.001	-0.001	0	%100
3	SF1-TH	X	-0.002	-0.002	0	%100
4	SF1-HR	X	-0.002	-0.002	0	%100
5	SF2-TH	X	-0.000525	-0.000525	0	%100
6	SF2-HR	X	-0.000458	-0.000458	0	%100
7	SA-1	X	-0.003	-0.003	0	%100
8	SA-2	X	-0.002	-0.002	0	%100
9	SA-3	X	-0.000902	-0.000902	0	%100
10	GSI-1A	X	-0.000745	-0.000745	0	%100
11	GSI-1B	X	-0.000745	-0.000745	0	%100
12	GSI-2A	X	-0.002	-0.002	0	%100
13	GSI-2B	X	-0.002	-0.002	0	%100
14	GSI-3A	X	-0.003	-0.003	0	%100
15	GSI-3B	X	-0.003	-0.003	0	%100
16	GSIP-1A	X	-0.002	-0.002	0	%100
17	GSIP-1B	X	-0.002	-0.002	0	%100
18	GSIP-2A	X	-0.002	-0.002	0	%100
19	GSIP-2B	X	-0.000555	-0.000555	0	%100
20	GSIP-3A	X	-0.000555	-0.000555	0	%100
21	GSIP-3B	X	-0.002	-0.002	0	%100
22	CP-1	X	-0.001	-0.001	0	%100
23	CP-2	X	-0.003	-0.003	0	%100
24	CP-3	X	-0.004	-0.004	0	%100
25	CP-1U	X	-0.000602	-0.000602	0	%100
26	CP-2U	X	-0.002	-0.002	0	%100
27	CP-3U	X	-0.002	-0.002	0	%100
28	MP-3	X	-0.002	-0.002	0	%100
29	MP-1	X	-0.002	-0.002	0	%100
30	MP-2	X	-0.002	-0.002	0	%100
31	MP-9	X	-0.002	-0.002	0	%100
32	MP-7	X	-0.002	-0.002	0	%100
33	MP-8	X	-0.002	-0.002	0	%100
34	MP-6	X	-0.002	-0.002	0	%100
35	MP-4	X	-0.002	-0.002	0	%100
36	MP-5	X	-0.002	-0.002	0	%100
37	FF-TH	Z	.002	.002	0	%100
38	FF-HR	Z	.001	.001	0	%100
39	SF1-TH	Z	.002	.002	0	%100
40	SF1-HR	Z	.002	.002	0	%100
41	SF2-TH	Z	.000638	.000638	0	%100
42	SF2-HR	Z	.000515	.000515	0	%100
43	SA-1	Z	.003	.003	0	%100
44	SA-2	Z	.003	.003	0	%100
45	SA-3	Z	.00081	.00081	0	%100
46	GSI-1A	Z	.000797	.000797	0	%100
47	GSI-1B	Z	.000797	.000797	0	%100
48	GSI-2A	Z	.002	.002	0	%100
49	GSI-2B	Z	.002	.002	0	%100
50	GSI-3A	Z	.003	.003	0	%100
51	GSI-3B	Z	.003	.003	0	%100
52	GSIP-1A	Z	.002	.002	0	%100
53	GSIP-1B	Z	.002	.002	0	%100
54	GSIP-2A	Z	.002	.002	0	%100
55	GSIP-2B	Z	.000614	.000614	0	%100
56	GSIP-3A	Z	.000614	.000614	0	%100
57	GSIP-3B	Z	.002	.002	0	%100



Member Distributed Loads (BLC 33 : 315 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
58	CP-1	Z	.001	.001	0	%100
59	CP-2	Z	.002	.002	0	%100
60	CP-3	Z	.004	.004	0	%100
61	CP-1U	Z	.000617	.000617	0	%100
62	CP-2U	Z	.002	.002	0	%100
63	CP-3U	Z	.002	.002	0	%100
64	MP-3	Z	.002	.002	0	%100
65	MP-1	Z	.002	.002	0	%100
66	MP-2	Z	.002	.002	0	%100
67	MP-9	Z	.002	.002	0	%100
68	MP-7	Z	.002	.002	0	%100
69	MP-8	Z	.002	.002	0	%100
70	MP-6	Z	.002	.002	0	%100
71	MP-4	Z	.002	.002	0	%100
72	MP-5	Z	.002	.002	0	%100

Member Distributed Loads (BLC 34 : 330 Wind - Ice)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	FF-TH	X	-0.003	-0.003	0	%100
2	FF-HR	X	-0.002	-0.002	0	%100
3	SF1-TH	X	-0.002	-0.002	0	%100
4	SF1-HR	X	-0.002	-0.002	0	%100
5	SF2-TH	X	0	0	0	%100
6	SF2-HR	X	0	0	0	%100
7	SA-1	X	-0.004	-0.004	0	%100
8	SA-2	X	-0.002	-0.002	0	%100
9	SA-3	X	-0.002	-0.002	0	%100
10	GSI-1A	X	0	0	0	%100
11	GSI-1B	X	0	0	0	%100
12	GSI-2A	X	-0.003	-0.003	0	%100
13	GSI-2B	X	-0.003	-0.003	0	%100
14	GSI-3A	X	-0.003	-0.003	0	%100
15	GSI-3B	X	-0.003	-0.003	0	%100
16	GSIP-1A	X	-0.003	-0.003	0	%100
17	GSIP-1B	X	-0.002	-0.002	0	%100
18	GSIP-2A	X	-0.002	-0.002	0	%100
19	GSIP-2B	X	0	0	0	%100
20	GSIP-3A	X	0	0	0	%100
21	GSIP-3B	X	-0.003	-0.003	0	%100
22	CP-1	X	0	0	0	%100
23	CP-2	X	-0.004	-0.004	0	%100
24	CP-3	X	-0.004	-0.004	0	%100
25	CP-1U	X	0	0	0	%100
26	CP-2U	X	-0.003	-0.003	0	%100
27	CP-3U	X	-0.002	-0.002	0	%100
28	MP-3	X	-0.002	-0.002	0	%100
29	MP-1	X	-0.002	-0.002	0	%100
30	MP-2	X	-0.002	-0.002	0	%100
31	MP-9	X	-0.002	-0.002	0	%100
32	MP-7	X	-0.002	-0.002	0	%100
33	MP-8	X	-0.002	-0.002	0	%100
34	MP-6	X	-0.002	-0.002	0	%100
35	MP-4	X	-0.002	-0.002	0	%100
36	MP-5	X	-0.002	-0.002	0	%100
37	FF-TH	Z	.001	.001	0	%100
38	FF-HR	Z	.001	.001	0	%100



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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Member Distributed Loads (BLC 34 : 330 Wind - Ice) (Continued)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
39	SF1-TH	Z	.002	.002	0	%100
40	SF1-HR	Z	.001	.001	0	%100
41	SF2-TH	Z	0	0	0	%100
42	SF2-HR	Z	0	0	0	%100
43	SA-1	Z	.002	.002	0	%100
44	SA-2	Z	.001	.001	0	%100
45	SA-3	Z	.001	.001	0	%100
46	GSI-1A	Z	0	0	0	%100
47	GSI-1B	Z	0	0	0	%100
48	GSI-2A	Z	.002	.002	0	%100
49	GSI-2B	Z	.002	.002	0	%100
50	GSI-3A	Z	.002	.002	0	%100
51	GSI-3B	Z	.002	.002	0	%100
52	GSIP-1A	Z	.001	.001	0	%100
53	GSIP-1B	Z	.001	.001	0	%100
54	GSIP-2A	Z	.001	.001	0	%100
55	GSIP-2B	Z	0	0	0	%100
56	GSIP-3A	Z	0	0	0	%100
57	GSIP-3B	Z	.001	.001	0	%100
58	CP-1	Z	0	0	0	%100
59	CP-2	Z	.002	.002	0	%100
60	CP-3	Z	.002	.002	0	%100
61	CP-1U	Z	0	0	0	%100
62	CP-2U	Z	.001	.001	0	%100
63	CP-3U	Z	.001	.001	0	%100
64	MP-3	Z	.001	.001	0	%100
65	MP-1	Z	.001	.001	0	%100
66	MP-2	Z	.001	.001	0	%100
67	MP-9	Z	.001	.001	0	%100
68	MP-7	Z	.001	.001	0	%100
69	MP-8	Z	.001	.001	0	%100
70	MP-6	Z	.001	.001	0	%100
71	MP-4	Z	.001	.001	0	%100
72	MP-5	Z	.001	.001	0	%100

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

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	SA-1	Y	-.013	-.014	3.25	4.333
2	SA-1	Y	-.014	-.01	4.333	5.416
3	SA-1	Y	-.01	-.002	5.416	6.5
4	GSI-1A	Y	-.009	-.009	.676	2.75
5	GSI-1B	Y	-.009	-.009	.009	2.075
6	GSIP-1A	Y	-.009	-.006	.792	2.375
7	GSIP-1A	Y	-.006	-.003	2.375	3.958
8	GSIP-1B	Y	-.002	-.005	0	1.583
9	GSIP-1B	Y	-.005	-.009	1.583	3.167
10	SA-2	Y	-.009	-.017	3.25	4.062
11	SA-2	Y	-.017	-.016	4.062	4.875
12	SA-2	Y	-.016	-.008	4.875	5.687
13	SA-2	Y	-.008	-.004	5.687	6.5
14	GSI-2A	Y	-.008	-.008	.591	2.725
15	GSI-2B	Y	-.008	-.008	.025	2.159
16	GSIP-2A	Y	-.003	-.006	.396	1.286
17	GSIP-2A	Y	-.006	-.007	1.286	2.177
18	GSIP-2A	Y	-.007	-.005	2.177	3.068
19	GSIP-2A	Y	-.005	-.002	3.068	3.958



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 Model Name : Ridge Road, Madison (BU 5800059)

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

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
20	GSIP-2B	Y	-.002	-.005	0	.891
21	GSIP-2B	Y	-.005	-.007	.891	1.781
22	GSIP-2B	Y	-.007	-.006	1.781	2.672
23	GSIP-2B	Y	-.006	-.003	2.672	3.563
24	CP-2	Y	-.0007115	-.0007115	.197	1.345
25	SA-3	Y	-.013	-.014	3.25	4.333
26	SA-3	Y	-.014	-.01	4.333	5.416
27	SA-3	Y	-.01	-.002	5.416	6.5
28	GSI-3A	Y	-.009	-.009	.676	2.75
29	GSI-3B	Y	-.009	-.009	.009	2.075
30	GSIP-3A	Y	-.009	-.006	.792	2.375
31	GSIP-3A	Y	-.006	-.003	2.375	3.958
32	GSIP-3B	Y	-.002	-.005	0	1.583
33	GSIP-3B	Y	-.005	-.009	1.583	3.167

Member Distributed Loads (BLC 40 : BLC 18 Transient Area Loads)

Member Label	Direction	Start Magnitude[k/ft....]	End Magnitude[k/ft.F....]	Start Location[ft.%]	End Location[ft.%]	
1	SA-1	Y	-.005	-.006	3.25	4.333
2	SA-1	Y	-.006	-.004	4.333	5.416
3	SA-1	Y	-.004	-.0006494	5.416	6.5
4	GSI-1A	Y	-.004	-.004	.676	2.75
5	GSI-1B	Y	-.004	-.004	.009	2.075
6	GSIP-1A	Y	-.004	-.003	.792	2.375
7	GSIP-1A	Y	-.003	-.001	2.375	3.958
8	GSIP-1B	Y	-.0006577	-.002	0	1.583
9	GSIP-1B	Y	-.002	-.004	1.583	3.167
10	SA-2	Y	-.004	-.007	3.25	4.062
11	SA-2	Y	-.007	-.007	4.062	4.875
12	SA-2	Y	-.007	-.003	4.875	5.687
13	SA-2	Y	-.003	-.002	5.687	6.5
14	GSI-2A	Y	-.003	-.003	.591	2.725
15	GSI-2B	Y	-.003	-.003	.025	2.159
16	GSIP-2A	Y	-.001	-.003	.396	1.286
17	GSIP-2A	Y	-.003	-.003	1.286	2.177
18	GSIP-2A	Y	-.003	-.002	2.177	3.068
19	GSIP-2A	Y	-.002	-.001	3.068	3.958
20	GSIP-2B	Y	-.001	-.002	0	.891
21	GSIP-2B	Y	-.002	-.003	.891	1.781
22	GSIP-2B	Y	-.003	-.003	1.781	2.672
23	GSIP-2B	Y	-.003	-.001	2.672	3.563
24	CP-2	Y	-.0002965	-.0002965	.197	1.345
25	SA-3	Y	-.005	-.006	3.25	4.333
26	SA-3	Y	-.006	-.004	4.333	5.416
27	SA-3	Y	-.004	-.0006494	5.416	6.5
28	GSI-3A	Y	-.004	-.004	.676	2.75
29	GSI-3B	Y	-.004	-.004	.009	2.075
30	GSIP-3A	Y	-.004	-.003	.792	2.375
31	GSIP-3A	Y	-.003	-.001	2.375	3.958
32	GSIP-3B	Y	-.0006577	-.002	0	1.583
33	GSIP-3B	Y	-.002	-.004	1.583	3.167

Member Area Loads (BLC 1 : Dead)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	GSIP-1A	GSIP-1B	GSIP-1C	GSIP-1D	Y	Two Way	-.012
2	GSIP-2A	GSIP-2B	GSIP-2C	GSIP-2D	Y	Two Way	-.012



Company : Tower Engineering Professionals
 Designer : GJS
 Job Number : TEP No. 218006.707223
 Model Name : Ridge Road, Madison (BU 5800059)

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
3	GSIP-3A	GSIP-3B	GSIP-3C	GSIP-3D	Y	Two Way	-.012

Member Area Loads (BLC 18 : Ice Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	GSIP-1A	GSIP-1B	GSIP-1C	GSIP-1D	Y	Two Way	-.005
2	GSIP-2A	GSIP-2B	GSIP-2C	GSIP-2D	Y	Two Way	-.005
3	GSIP-3A	GSIP-3B	GSIP-3C	GSIP-3D	Y	Two Way	-.005

Envelope Joint Reactions

Joint	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1 SA-1A	max 1.512	18	2.7	45	2.039	21	.638	5	2.608	17	3.682	45
	min -1.506	10	.119	5	-2.028	13	-6.392	45	-2.608	9	-.358	5
3 SA-2A	max 2.325	2	2.757	34	1.426	6	.242	6	2.639	6	.72	10
	min -2.338	26	.121	10	-1.425	14	-.243	30	-2.638	14	-7.598	34
4 SA-3A	max 1.521	18	2.701	39	2.005	7	6.387	39	2.608	11	3.693	39
	min -1.514	10	.12	15	-2.017	31	-.628	15	-2.608	3	-.375	16
7 Totals:	max 5.356	18	7.502	49	5.261	22						
	min -5.356	10	2.701	83	-5.261	14						

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

Member	Shape	Code Check	Loc[ft]	LC	Shear C.	Loc[ft]	phi*P	phi*P	phi*M	phi*M	Eqn	
1 SA-2	HSS4X4...	.621	0	34	.096	0	y 86	58.653	106.1...	12.311	12.311	... H1-1b
2 SA-3	HSS4X4...	.617	0	42	.125	0	y 58	58.653	106.1...	12.311	12.311	... H1-1b
3 SA-1	HSS4X4...	.616	0	42	.096	0	y 42	58.653	106.1...	12.311	12.311	... H1-1b
4 MP-1	PIPE 2.0	.553	6.042	28	.123	6.042	26	12.83	32.13	1.872	1.872	... H1-1b
5 MP-7	PIPE 2.0	.553	6.042	23	.123	6.042	21	12.83	32.13	1.872	1.872	... H1-1b
6 MP-4	PIPE 2.0	.553	6.042	18	.123	6.042	81	12.83	32.13	1.872	1.872	... H1-1b
7 MP-3	PIPE 2.0	.542	6.042	24	.121	6.042	26	12.83	32.13	1.872	1.872	... H1-1b
8 MP-6	PIPE 2.0	.541	6.042	29	.121	6.042	81	12.83	32.13	1.872	1.872	... H1-1b
9 MP-9	PIPE 2.0	.540	6.042	18	.121	6.042	21	12.83	32.13	1.872	1.872	... H1-1b
10 MP-5	PIPE 2.0	.485	6.042	23	.073	6.042	26	12.83	32.13	1.872	1.872	... H1-1b
11 MP-8	PIPE 2.0	.485	6.042	29	.073	6.042	81	12.83	32.13	1.872	1.872	... H1-1b
12 MP-2	PIPE 2.0	.485	6.042	18	.073	6.042	21	12.83	32.13	1.872	1.872	... H1-1b
13 SF1-HR	PIPE 2.0	.376	3.172	33	.114	.604	81	1.061	32.13	1.872	1.872	... H1-1b
14 FF-HR	PIPE 2.0	.376	3.172	27	.114	.604	26	1.061	32.13	1.872	1.872	... H1-1b
15 SF2-HR	PIPE 2.0	.375	3.172	22	.114	.604	20	1.061	32.13	1.872	1.872	... H1-1b
16 CP-2U	L2.5x2.5...	.341	0	20	.174	0	y 22	36.644	38.556	1.114	2.537	... H2-1
17 CP-1U	L2.5x2.5...	.330	0	30	.174	0	y 83	36.644	38.556	1.114	2.537	... H2-1
18 CP-3U	L2.5x2.5...	.329	0	25	.174	.13	y 19	36.644	38.556	1.114	2.537	... H2-1
19 CP-3	PL6x1/2	.312	.771	32	.141	.771	y 27	76.578	94.5	.984	11.813	... H1-1b
20 CP-1	PL6x1/2	.309	.771	20	.141	.771	y 83	76.578	94.5	.984	11.813	... H1-1b
21 CP-2	PL6x1/2	.301	.771	27	.141	.771	y 22	76.578	94.5	.984	11.813	... H1-1b
22 GSI-2B	HSS4X4...	.286	0	34	.144	2.32	z 29	104.5...	106.1...	12.311	12.311	... H1-1b
23 GSI-2A	HSS4X4...	.286	2.75	34	.143	.43	z 23	104.5...	106.1...	12.311	12.311	... H1-1b
24 GSI-3B	HSS4X4...	.283	0	42	.144	2.32	z 18	104.5...	106.1...	12.311	12.311	... H1-1b
25 GSI-1A	HSS4X4...	.283	2.75	42	.143	.43	z 18	104.5...	106.1...	12.311	12.311	... H1-1b
26 GSI-1B	HSS4X4...	.282	0	30	.144	2.32	z 23	104.5...	106.1...	12.311	12.311	... H1-1b
27 GSI-3A	HSS4X4...	.280	2.75	22	.143	.43	z 29	104.5...	106.1...	12.311	12.311	... H1-1b
28 SF1-TH	PIPE 3.0	.243	9.667	34	.084	7.25	z 24	4.822	65.205	5.749	5.749	... H1-1b
29 SF2-TH	PIPE 3.0	.241	4.833	34	.084	4.682	z 30	4.822	65.205	5.749	5.749	... H1-1b
30 FF-TH	PIPE 3.0	.235	9.667	45	.084	4.682	z 19	4.822	65.205	5.749	5.749	... H1-1b
31 GSIP-1A	L2x2x3	.185	1.938	28	.009	3.958	y 42	10.603	22.743	.542	1.071	... H2-1
32 GSIP-3B	L2x2x3	.184	2.02	24	.008	0	y 42	10.603	22.743	.542	1.074	... H2-1



Company : Tower Engineering Professionals
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Envelope AISC 15th(360-16): LRFD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC	Shear C.	Loc[ft]	phi*P	phi*P	phi*M	phi*M	Eqn	
33 GSIP-3A	L2x2x3	.183	1.938	22	.008	3.958	y 87	10.603	22.743	.542	1.081	... H2-1
34 GSIP-1B	L2x2x3	.182	2.02	30	.008	0	y 47	10.603	22.743	.542	1.097	... H2-1
35 GSIP-2B	L2x2x3	.181	1.979	19	.008	0	y 87	10.603	22.743	.542	1.078	... H2-1
36 GSIP-2A	L2x2x3	.179	1.979	33	.008	3.958	y 47	10.603	22.743	.542	1.078	... H2-1

APPENDIX D
ADDITIONAL CALCULATIONS



Ridge Road, Madison (BU 5800059)

TEP No. 218006.707223

Analysis By: GJS 6/8/2022

Checked By: RAL 6/8/2022

Moment Bolt Group - Collar Connection

Code Revisions:	ANSI/TIA-222-H
Bolt Type:	Headed Bolts

Connection Inputs:

Bolt Size:	0.625	in
# Bolts:	4	
Plate Width:	10.0	in
Plate Height:	10.0	in
Bolt H Gap:	7.0	in
Bolt V Gap:	7.0	in
Plate T:	0.63	in
Slip Member Ø:	N/A	in
Bolt Grade:	A325N	

Capacities:

Bolt Capacity=	31.4%	PASS*
Plate Capacity=	62.2%	PASS*

*Value Adjusted per TIA-H Section 15.5

Bolt Properties:

$F_{y_{bolt}}$:	92.0	ksi
$F_{u_{bolt}}$:	120.0	ksi
r:	4.9	in
J:	98.0	in ⁴ /in ²
A_{bolt} :	0.3	in ²
$A_{bolt, Net Tensile}$:	0.2	in ²
Pretension:	19.0	kips

Member Properties:

Member Shape:	Flat	
Plate F_y :	35.0	ksi
Plate F_u :	60.0	ksi
Member Height:	4.0	in
Member Width:	4.0	in



Date: **March 30, 2022**

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

Subject: **Structural Analysis Report**

Carrier Designation: **AT&T Mobility Co-Locate**
Site Number: CT1266
Site Name: Ridge Road, Madison
FA Number: 10128137

Crown Castle Designation: **BU Number:** 5800059
Site Name: Ridge Road, Madison
JDE Job Number: 686305
Work Order Number: 2092947
Order Number: 586344 Rev. 0

Engineering Firm Designation: **B+T Group Project Number:** 87323.005.01

Site Data: **258 Ridge Road, MADISON, New Haven County, CT**
Latitude 41° 18' 33.3", Longitude -72° 36' 51.57"
150 Foot - Monopole Tower

B+T Group is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above-mentioned tower.

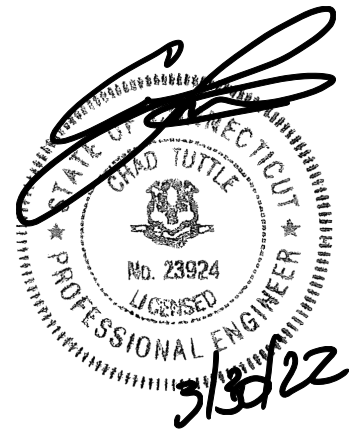
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity – 44.8%**

This analysis utilizes an ultimate 3-second gust wind speed of 123 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Massood Sattari

Respectfully submitted by: B+T Engineering, Inc.



Chad E. Tuttle, P.E.

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tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 150 ft. Monopole tower designed by Valmont.

2) ANALYSIS CRITERIA

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

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
140.0	142.0	3	Ericsson	AIR 6449 B77D_CCIV2	12 4 2 3	1-5/8 7/8 13/16 3/8
	140.0	3	CCI Antennas	OPA65R-BU6D		
		6	CCI Antennas	TPA65R-BU6D_CCIV2		
		3	Ericsson	RRUS 32 B2		
		3	Ericsson	RRUS 4426 B66		
		3	Ericsson	RRUS 4449 B5/B12		
		3	Ericsson	RRUS 4478 B14_CCIV2		
		3	Raycap	DC6-48-60-18-8F		
		1	--	Platform Mount [LP 304-1_HR-1]		
	138.0	3	Ericsson	AIR 6419 B77G_CCIV3		

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)
148.0	159.0	1	Dbspectra	DS4C06F36D-D	12 2	1-5/8 7/8
	150.0	3	Ericsson	AIR 32 B2A/B66AA		
		3	Ericsson	AIR6449 B41		
		3	Ericsson	ERICSSON AIR 21 B2P		
		3	Ericsson	KRY 112 144/1		
		3	Ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	Ericsson	RRUS 4415 B25		
		3	RFS Celwave	APXVAARR24_43-U-NA20_T-MOBILE		
	148.0	1	--	Platform Mount [LP 303-1_KCKR-HR-1]		
130.0	130.0	6	Commscope	SBNHH-1D65B	13	1-5/8
		6	Decibel	DB846F65ZAXY		
		1	Raycap	RVZDC-6627-PF-48		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	Samsung Telecom.	MT6407-77A		
		3	Samsung Telecom.	RFV01U-D1A		
		3	Samsung Telecom.	RFV01U-D2A		
124.0	124.0	1	Kathrein	800 10251	1 2	7/8 11/32
		1	Radiowaves	HP2-4.7NS		
		1	--	Side Arm Mount [SO 701-1]		
113.0	116.0	1	Sinclair	SC323	5	7/8
	113.0	3	Kathrein	800 10252		
		1	RFI Antennas	CSA40-67-DIN		
		1	--	Side Arm Mount [SO 701-3]		
		1	--	T-Arm Mount [TA 601-1]		
99.0	99.0	1	Raycap	RDIDC-9181-PF-48	1	1-1/2
		3	Fujitsu	TA08025-B604		
		3	Fujitsu	TA08025-B605		
		3	JMA Wireless	MX08FRO665-21		
		1	--	Commscope MC-PK8-DSH		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Tower Manufacturer Drawing	2354011	CCI Sites
Mount Analysis Report	10262752	CCI Sites
Foundation Drawing	2354010	CCI Sites
Geotech Report	2354009	CCI Sites
Crown CAD Package	Date: 03/22/2022	CCI Sites

3.1) Analysis Method

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

3.2) Assumptions

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

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group 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	150 - 110	Pole	TP39.633x28.4x0.25	1	-18.196	1847.695	28.4	Pass
L2	110 - 94.25	Pole	TP43.556x37.659x0.281	2	-22.770	2288.202	36.2	Pass
L3	94.25 - 46.25	Pole	TP56.472x41.449x0.375	3	-40.416	3952.473	41.8	Pass
L4	46.25 - 0	Pole	TP68.71x53.686x0.438	4	-64.318	5823.394	42.6	Pass
							Summary	
						Pole (L4)	42.6	Pass
						Rating =	42.6	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Anchor Rods	Base	36.4	Pass
1,2	Base Plate	Base	30.9	Pass
1,2	Base Foundation (Structure)	Base	44.8	Pass
1,2	Base Foundation (Soil Interaction)	Base	28.5	Pass

Structure Rating (max from all components) =	44.8%
---	--------------

Notes:

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

4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

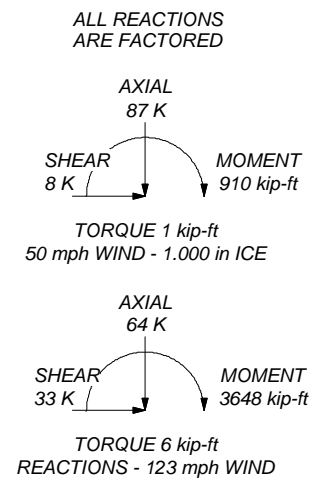
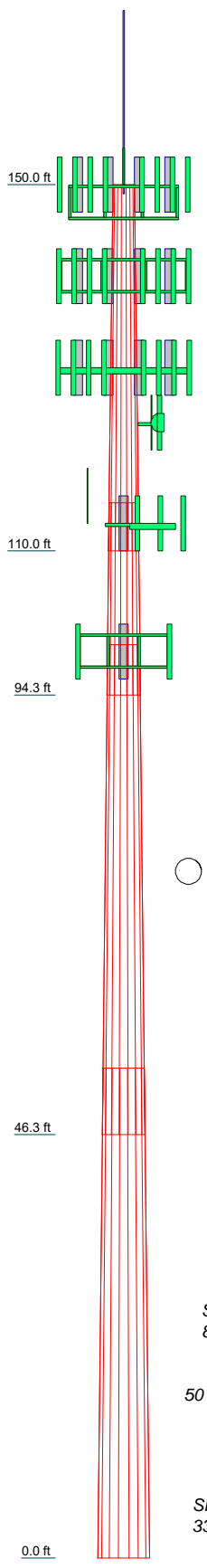
MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 123 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 42.6%

Section	1	2	3	4
Length (ft)	40.000	21.000	53.500	53.500
Number of Sides	18	18	18	18
Thickness (in)	0.250	0.281	0.375	0.438
Socket Length (ft)	5.250	5.500	7.250	53.686
Top Dia (in)	28.400	37.659	41.449	68.710
Bot Dia (in)	39.633	43.556	56.472	68.710
Grade			A572-65	
Weight (K)	3.6	2.6	10.5	15.4



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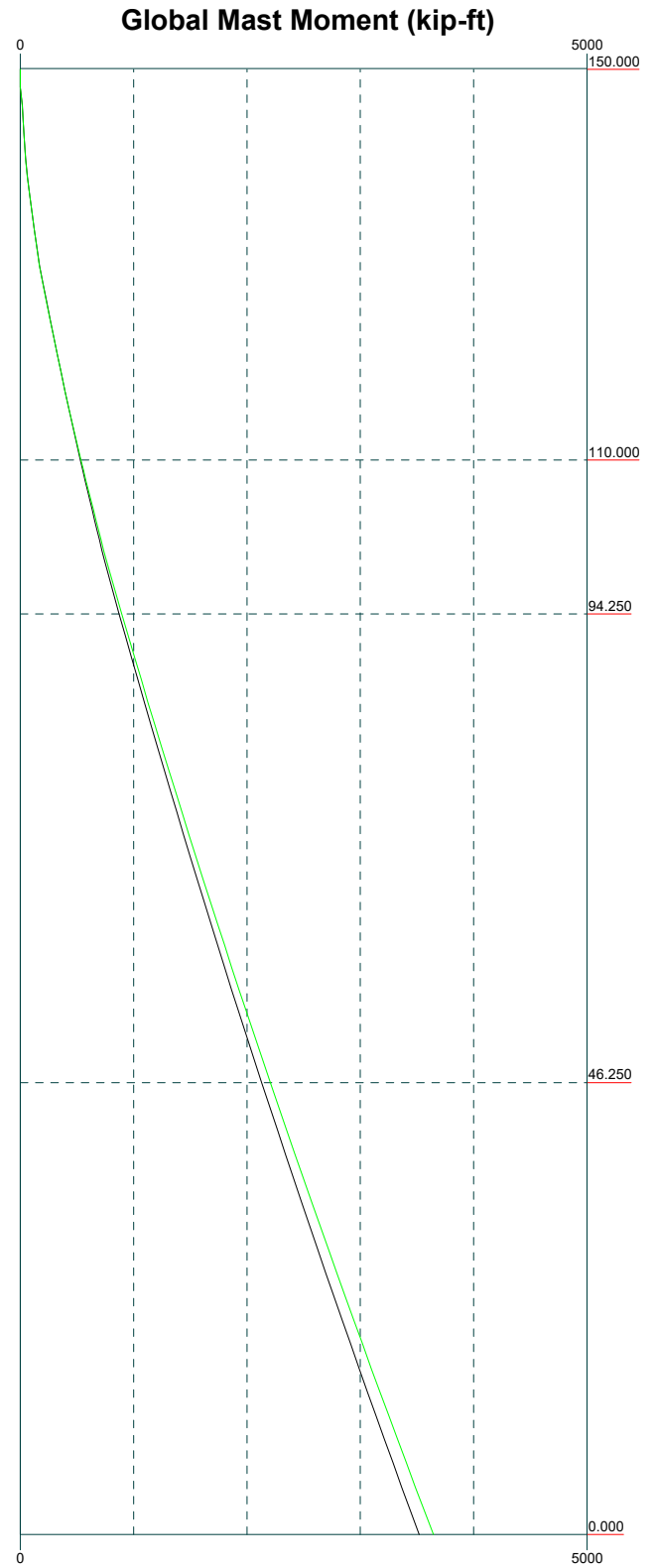
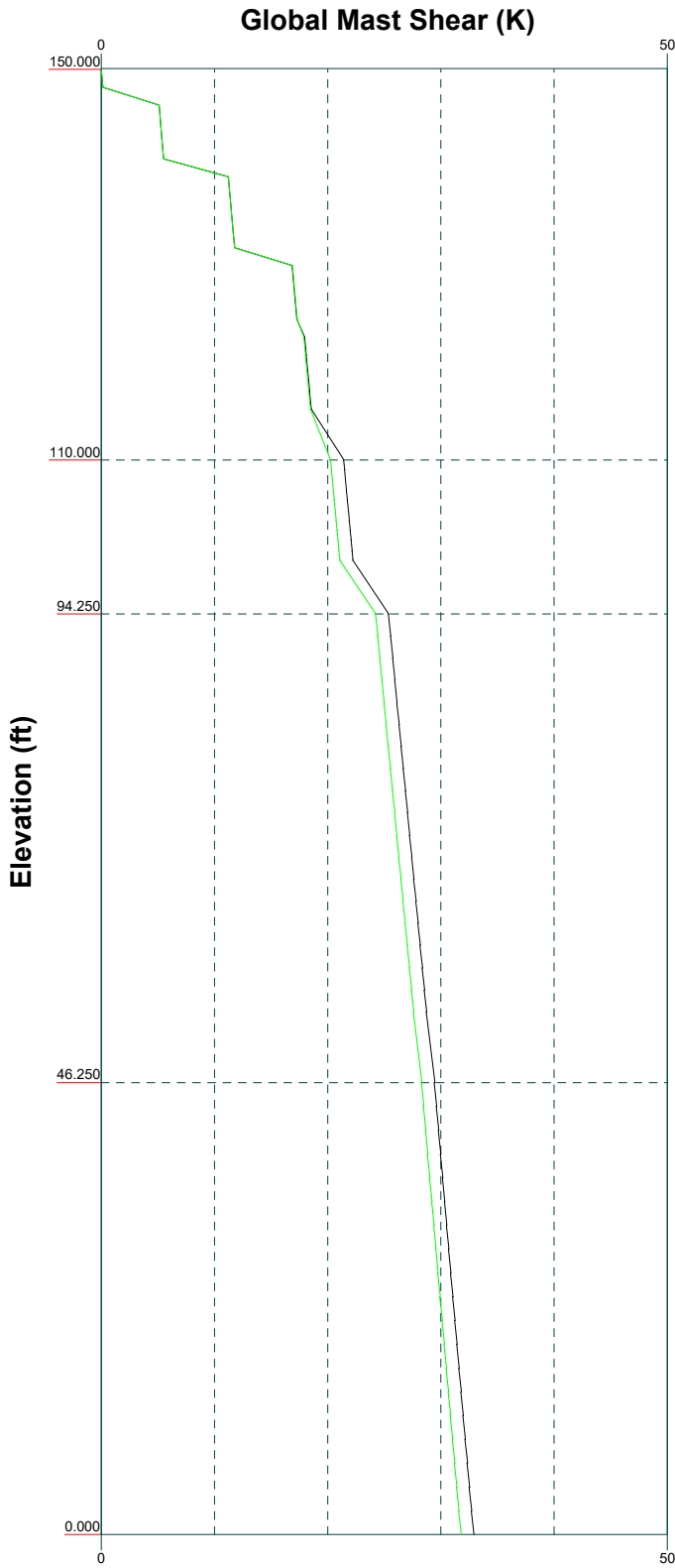
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Project:		
Client: Crown Castle	Drawn by: R AITHAL	App'd:
Code: TIA-222-H	Date: 03/30/22	Scale: NTS
Path:		Dwg No. E-1

Vx

Vz

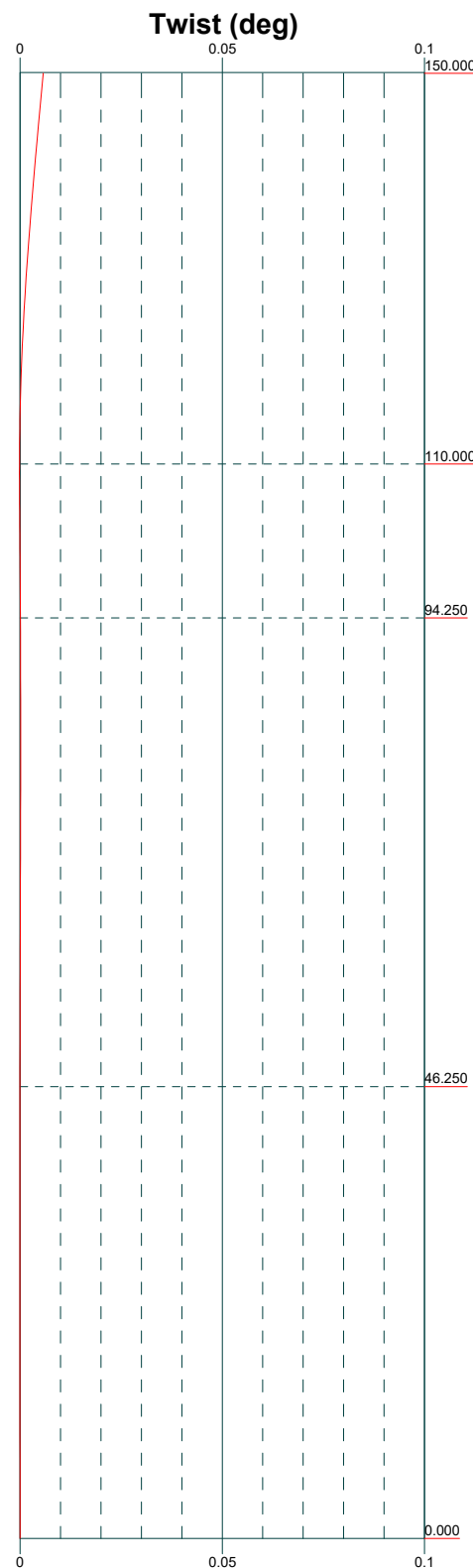
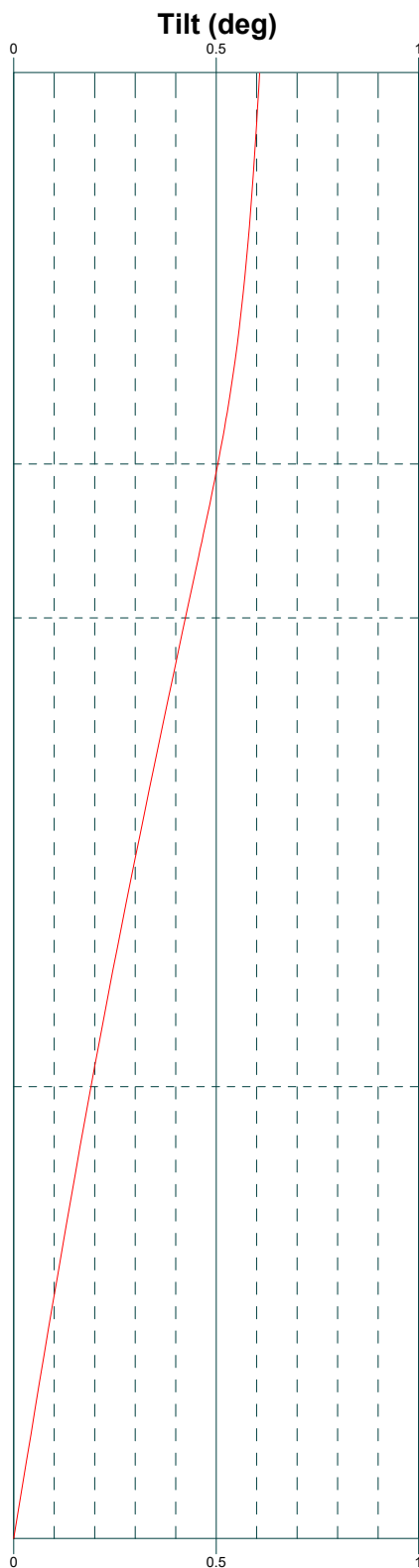
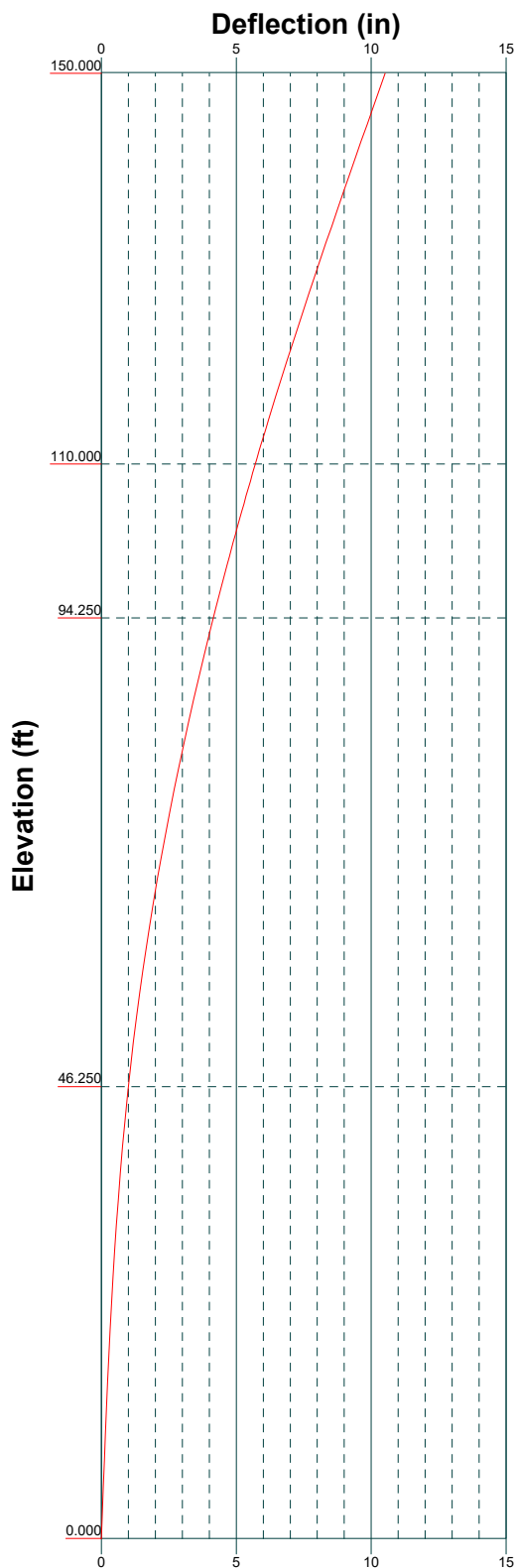
Mx

Mz



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Path:	Dwg No. E-4	



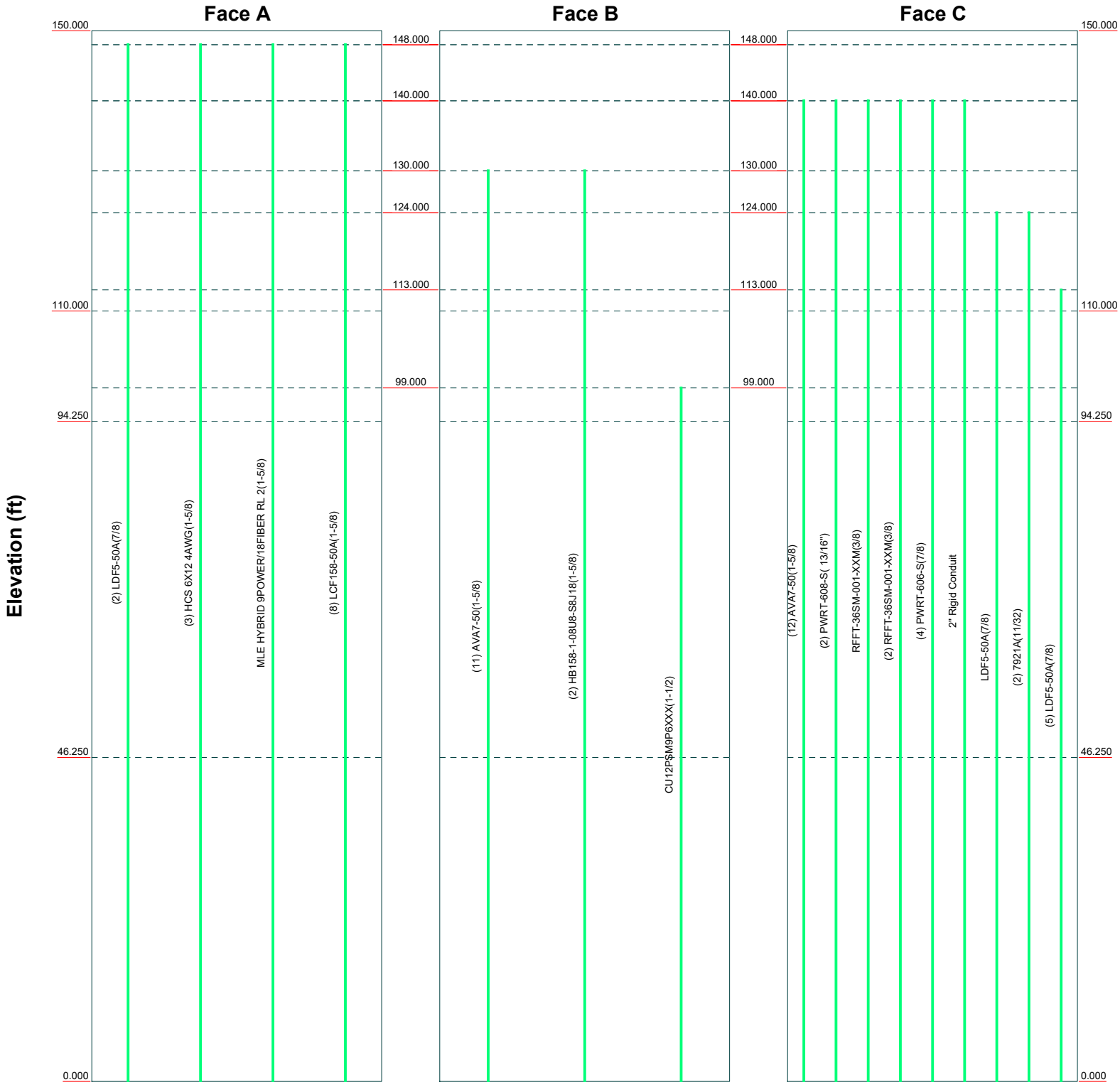
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Job: 87323.005.01 - Ridge Road, Madison, CT (BU# 580005)		
Project:		
Client: Crown Castle	Drawn by: R AITHAL	App'd:
Code: TIA-222-H	Date: 03/30/22	Scale: NTS
Path:	Dwg No. E-5	

Feed Line Distribution Chart

0' - 150'

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



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	Project:		
	Client: Crown Castle	Drawn by: R AITHAL	App'd:
	Code: TIA-222-H	Date: 03/30/22	Scale: NTS
	Path:	Dwg No. E-7	

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	Project	Date 18:49:46 03/30/22
	Client Crown Castle	Designed by R AITHAL

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 New Haven County, Connecticut.

Tower base elevation above sea level: 133.000 ft.

Basic wind speed of 123 mph.

Risk Category II.

Exposure Category B.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.000 ft.

Nominal ice thickness of 1.000 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50.000 °F.

Deflections calculated using a wind speed of 60 mph.

TIA-222-H Annex S.

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

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <li style="text-align: center;">Poles √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets √ Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known |
|--|---|---|

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	87323.005.01 - Ridge Road, Madison, CT (BU# 5800059)	4 of 18
	Project	Date
		18:49:46 03/30/22
Client	Crown Castle	Designed by
		R AITHAL

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
L1	150.000-110.000	A	0.000	0.000	0.000	0.000	0.583
		B	0.000	0.000	0.000	0.000	0.206
		C	0.000	0.000	0.000	0.000	0.512
L2	110.000-94.250	A	0.000	0.000	0.000	0.000	0.241
		B	0.000	0.000	0.000	0.000	0.173
		C	0.000	0.000	0.000	0.000	0.303
L3	94.250-46.250	A	0.000	0.000	0.000	0.000	0.736
		B	0.000	0.000	0.000	0.000	0.607
		C	0.000	0.000	0.000	0.000	0.924
L4	46.250-0.000	A	0.000	0.000	0.000	0.000	0.709
		B	0.000	0.000	0.000	0.000	0.585
		C	0.000	0.000	0.000	0.000	0.890

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} In Face ft ²	C_{AA} Out Face ft ²	Weight K
L1	150.000-110.000	A	0.974	0.000	0.000	0.000	0.000	0.583
		B		0.000	0.000	0.000	0.000	0.206
		C		0.000	0.000	0.000	0.000	0.512
L2	110.000-94.250	A	0.952	0.000	0.000	0.000	0.000	0.241
		B		0.000	0.000	0.000	0.000	0.173
		C		0.000	0.000	0.000	0.000	0.303
L3	94.250-46.250	A	0.916	0.000	0.000	0.000	0.000	0.736
		B		0.000	0.000	0.000	0.000	0.607
		C		0.000	0.000	0.000	0.000	0.924
L4	46.250-0.000	A	0.818	0.000	0.000	0.000	0.000	0.709
		B		0.000	0.000	0.000	0.000	0.585
		C		0.000	0.000	0.000	0.000	0.890

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
L1	150.000-110.000	0.000	0.000	0.000	0.000
L2	110.000-94.250	0.000	0.000	0.000	0.000
L3	94.250-46.250	0.000	0.000	0.000	0.000
L4	46.250-0.000	0.000	0.000	0.000	0.000

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

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	Project	Date 18:49:46 03/30/22
	Client Crown Castle	Designed by R AITHAL

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral	Vert					
			ft	ft	°	ft	ft ²	ft ²	K
Lightning Rod 5/8" x 4'	C	None			0.000	152.000	No Ice 0.250 1/2" Ice 0.664 1" Ice 0.973	0.250 0.664 0.973	0.031 0.034 0.039
* DS4C06F36D-D	A	From Leg	2.000 0.000 11.000		0.000	148.000	No Ice 5.820 1/2" Ice 7.793 1" Ice 9.783	5.820 7.793 9.783	0.050 0.092 0.146
Pipe Mount [PM 601-1]	A	From Leg	2.000 0.000 4.000		0.000	148.000	No Ice 1.320 1/2" Ice 1.580 1" Ice 1.840	1.320 1.580 1.840	0.065 0.077 0.093
10' x 2" Mount Pipe	A	From Leg	2.000 0.000 -2.000		0.000	148.000	No Ice 2.375 1/2" Ice 3.403 1" Ice 4.448	2.375 3.403 4.448	0.037 0.054 0.079
* ERICSSON AIR 21 B2P w/ Mount Pipe	A	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 3.140 1/2" Ice 3.450 1" Ice 3.760	2.580 2.880 3.180	0.103 0.154 0.214
ERICSSON AIR 21 B2P w/ Mount Pipe	B	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 3.140 1/2" Ice 3.450 1" Ice 3.760	2.580 2.880 3.180	0.103 0.154 0.214
ERICSSON AIR 21 B2P w/ Mount Pipe	C	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 3.140 1/2" Ice 3.450 1" Ice 3.760	2.580 2.880 3.180	0.103 0.154 0.214
APXVAARR24_43-U-NA20 _T-MOBILE w/ Mount Pipe	A	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 14.690 1/2" Ice 15.460 1" Ice 16.230	6.870 7.550 8.250	0.186 0.315 0.458
APXVAARR24_43-U-NA20 _T-MOBILE w/ Mount Pipe	B	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 14.690 1/2" Ice 15.460 1" Ice 16.230	6.870 7.550 8.250	0.186 0.315 0.458
APXVAARR24_43-U-NA20 _T-MOBILE w/ Mount Pipe	C	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 14.690 1/2" Ice 15.460 1" Ice 16.230	6.870 7.550 8.250	0.186 0.315 0.458
AIR6449 B41	A	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 5.280 1/2" Ice 5.710 1" Ice 6.150	2.050 2.380 2.720	0.104 0.143 0.186
AIR6449 B41	B	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 5.280 1/2" Ice 5.710 1" Ice 6.150	2.050 2.380 2.720	0.104 0.143 0.186
AIR6449 B41	C	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 5.280 1/2" Ice 5.710 1" Ice 6.150	2.050 2.380 2.720	0.104 0.143 0.186
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 3.760 1/2" Ice 4.120 1" Ice 4.480	3.150 3.490 3.840	0.194 0.252 0.320
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 3.760 1/2" Ice 4.120 1" Ice 4.480	3.150 3.490 3.840	0.194 0.252 0.320
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.000 0.000 2.000		0.000	148.000	No Ice 3.760 1/2" Ice 4.120 1" Ice 4.480	3.150 3.490 3.840	0.194 0.252 0.320
RRUS 4415 B25	A	From Leg	4.000 0.000		0.000	148.000	No Ice 1.644 1/2" Ice 1.804	0.679 0.791	0.044 0.056

tnxTower

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Project
 Date
 18:49:46 03/30/22

Client
 Crown Castle
 Designed by
 R AITHAL

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			Horz Lateral ft	Vert ft					
RRUS 4415 B25	B	From Leg	2.000		0.000	148.000	1" Ice	0.913	0.071
			4.000				No Ice	0.679	0.044
			0.000				1/2" Ice	0.791	0.056
RRUS 4415 B25	C	From Leg	2.000		0.000	148.000	1" Ice	0.913	0.071
			4.000				No Ice	0.679	0.044
			0.000				1/2" Ice	0.791	0.056
(2) KRY 112 144/1	A	From Leg	2.000		0.000	148.000	1" Ice	0.913	0.071
			4.000				No Ice	0.175	0.011
			0.000				1/2" Ice	0.234	0.014
KRY 112 144/1	B	From Leg	2.000		0.000	148.000	1" Ice	0.301	0.019
			4.000				No Ice	0.175	0.011
			0.000				1/2" Ice	0.234	0.014
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	2.000		0.000	148.000	1" Ice	0.301	0.019
			4.000				No Ice	1.587	0.073
			0.000				1/2" Ice	1.749	0.093
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	2.000		0.000	148.000	1" Ice	1.918	0.116
			4.000				No Ice	1.587	0.073
			0.000				1/2" Ice	1.749	0.093
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	2.000		0.000	148.000	1" Ice	1.918	0.116
			4.000				No Ice	1.587	0.073
			0.000				1/2" Ice	1.749	0.093
8' x 2" Mount Pipe	A	From Leg	2.000		0.000	148.000	1" Ice	1.918	0.116
			4.000				No Ice	1.900	0.029
			0.000				1/2" Ice	2.728	0.044
8' x 2" Mount Pipe	B	From Leg	2.000		0.000	148.000	1" Ice	3.401	0.063
			4.000				No Ice	1.900	0.029
			0.000				1/2" Ice	2.728	0.044
8' x 2" Mount Pipe	C	From Leg	2.000		0.000	148.000	1" Ice	3.401	0.063
			4.000				No Ice	1.900	0.029
			0.000				1/2" Ice	2.728	0.044
Platform Mount [LP 303-1_KCKR-HR-1]	C	None	2.000		0.000	148.000	1" Ice	3.401	0.063
			4.000				No Ice	28.310	1.770
			0.000				1/2" Ice	35.690	2.297
* RRUS 32 B2	A	From Leg	2.000		0.000	140.000	1" Ice	43.110	2.943
			4.000				No Ice	2.731	0.053
			0.000				1/2" Ice	2.953	0.074
RRUS 32 B2	B	From Leg	2.000		0.000	140.000	1" Ice	2.049	0.098
			4.000				No Ice	2.731	0.053
			0.000				1/2" Ice	2.953	0.074
RRUS 32 B2	C	From Leg	2.000		0.000	140.000	1" Ice	2.049	0.098
			4.000				No Ice	2.731	0.053
			0.000				1/2" Ice	2.953	0.074
DC6-48-60-18-8F	A	From Leg	2.000		0.000	140.000	1" Ice	2.049	0.098
			4.000				No Ice	1.212	0.033
			0.000				1/2" Ice	1.892	0.055
(2) TPA65R-BU6D_CCIV2 w/ Mount Pipe	A	From Leg	2.000		0.000	140.000	1" Ice	2.105	0.080
			4.000				No Ice	11.960	0.094
			0.000				1/2" Ice	12.700	0.181
(2) TPA65R-BU6D_CCIV2 w/ Mount Pipe	B	From Leg	2.000		0.000	140.000	1" Ice	7.300	0.278
			4.000				No Ice	11.960	0.094
			0.000				1/2" Ice	12.700	0.181
(2) TPA65R-BU6D_CCIV2 w/ Mount Pipe	C	From Leg	2.000		0.000	140.000	1" Ice	7.300	0.278
			4.000				No Ice	11.960	0.094
			0.000				1/2" Ice	12.700	0.181
AIR 6449 B77D_CCIV2	A	From Leg	2.000		0.000	140.000	1" Ice	7.300	0.278
			4.000				No Ice	4.019	0.082
			0.000				1/2" Ice	2.140	

tnxTower

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
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Job
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Project
Date
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Client
Crown Castle
Designed by
R AITHAL

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			Horz Lateral ft	Vert ft						
AIR 6449 B77D_CCIV2	B	From Leg	0.000				1/2" Ice	4.280	2.349	0.111
			2.000				1" Ice	4.548	2.566	0.144
			4.000	0.000	140.000	No Ice	4.019	2.140	0.082	
AIR 6449 B77D_CCIV2	C	From Leg	0.000				1/2" Ice	4.280	2.349	0.111
			2.000				1" Ice	4.548	2.566	0.144
			4.000	0.000	140.000	No Ice	4.019	2.140	0.082	
AIR 6419 B77G_CCIV3	A	From Leg	0.000				1/2" Ice	4.280	2.349	0.111
			2.000				1" Ice	4.548	2.566	0.144
			4.000	0.000	140.000	No Ice	4.173	2.015	0.044	
AIR 6419 B77G_CCIV3	B	From Leg	0.000				1/2" Ice	4.439	2.225	0.073
			-2.000				1" Ice	4.712	2.442	0.106
			4.000	0.000	140.000	No Ice	4.173	2.015	0.044	
AIR 6419 B77G_CCIV3	C	From Leg	0.000				1/2" Ice	4.439	2.225	0.073
			-2.000				1" Ice	4.712	2.442	0.106
			4.000	0.000	140.000	No Ice	4.173	2.015	0.044	
OPA65R-BU6D w/ Mount Pipe	A	From Leg	0.000				1/2" Ice	4.439	2.225	0.073
			0.000				1" Ice	4.712	2.442	0.106
			4.000	0.000	140.000	No Ice	12.250	6.050	0.089	
OPA65R-BU6D w/ Mount Pipe	B	From Leg	0.000				1/2" Ice	13.000	6.710	0.176
			0.000				1" Ice	13.760	7.390	0.275
			4.000	0.000	140.000	No Ice	12.250	6.050	0.089	
OPA65R-BU6D w/ Mount Pipe	C	From Leg	0.000				1/2" Ice	13.000	6.710	0.176
			0.000				1" Ice	13.760	7.390	0.275
			4.000	0.000	140.000	No Ice	12.250	6.050	0.089	
RRUS 4478 B14_CCIV2	A	From Leg	0.000				1/2" Ice	13.000	6.710	0.176
			0.000				1" Ice	13.760	7.390	0.275
			4.000	0.000	140.000	No Ice	2.021	1.246	0.059	
RRUS 4478 B14_CCIV2	B	From Leg	0.000				1/2" Ice	2.200	1.396	0.077
			0.000				1" Ice	2.386	1.554	0.097
			4.000	0.000	140.000	No Ice	2.021	1.246	0.059	
RRUS 4478 B14_CCIV2	C	From Leg	0.000				1/2" Ice	2.200	1.396	0.077
			0.000				1" Ice	2.386	1.554	0.097
			4.000	0.000	140.000	No Ice	2.021	1.246	0.059	
RRUS 4426 B66	A	From Leg	0.000				1/2" Ice	2.200	1.396	0.077
			0.000				1" Ice	2.386	1.554	0.097
			4.000	0.000	140.000	No Ice	1.644	0.725	0.048	
RRUS 4426 B66	B	From Leg	0.000				1/2" Ice	1.804	0.842	0.061
			0.000				1" Ice	1.972	0.969	0.076
			4.000	0.000	140.000	No Ice	1.644	0.725	0.048	
RRUS 4426 B66	C	From Leg	0.000				1/2" Ice	1.804	0.842	0.061
			0.000				1" Ice	1.972	0.969	0.076
			4.000	0.000	140.000	No Ice	1.644	0.725	0.048	
RRUS 4449 B5/B12	A	From Leg	0.000				1/2" Ice	1.804	0.842	0.061
			0.000				1" Ice	1.972	0.969	0.076
			4.000	0.000	140.000	No Ice	1.968	1.408	0.071	
RRUS 4449 B5/B12	B	From Leg	0.000				1/2" Ice	2.144	1.564	0.090
			0.000				1" Ice	2.328	1.727	0.111
			4.000	0.000	140.000	No Ice	1.968	1.408	0.071	
RRUS 4449 B5/B12	C	From Leg	0.000				1/2" Ice	2.144	1.564	0.090
			0.000				1" Ice	2.328	1.727	0.111
			4.000	0.000	140.000	No Ice	1.968	1.408	0.071	
DC6-48-60-18-8F	A	From Leg	0.000				1/2" Ice	2.144	1.564	0.090
			0.000				1" Ice	2.328	1.727	0.111
			4.000	0.000	140.000	No Ice	1.212	1.212	0.033	
DC6-48-60-18-8F	C	From Leg	0.000				1/2" Ice	1.892	1.892	0.055
			0.000				1" Ice	2.105	2.105	0.080
			4.000	0.000	140.000	No Ice	1.212	1.212	0.033	

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		87323.005.01 - Ridge Road, Madison, CT (BU# 5800059)		Page		8 of 18	
	Project				Date		18:49:46 03/30/22	
	Client		Crown Castle		Designed by		R AITHAL	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			0.000						
			0.000			1/2" Ice	1.892	1.892	0.055
			0.000			1" Ice	2.105	2.105	0.080
9' x 2" Pipe Mount	A	From Leg	4.000	0.000	140.000	No Ice	2.138	2.138	0.065
			0.000			1/2" Ice	3.066	3.066	0.081
			0.000			1" Ice	4.010	4.010	0.103
9' x 2" Pipe Mount	B	From Leg	4.000	0.000	140.000	No Ice	2.138	2.138	0.065
			0.000			1/2" Ice	3.066	3.066	0.081
			0.000			1" Ice	4.010	4.010	0.103
9' x 2" Pipe Mount	C	From Leg	4.000	0.000	140.000	No Ice	2.138	2.138	0.065
			0.000			1/2" Ice	3.066	3.066	0.081
			0.000			1" Ice	4.010	4.010	0.103
Side Arm Mount [SO 102-3]	C	None		0.000	140.000	No Ice	3.600	3.600	0.075
						1/2" Ice	4.180	4.180	0.105
						1" Ice	4.750	4.750	0.135
Platform Mount [LP 304-1_HR-1]	C	None		0.000	140.000	No Ice	21.410	21.410	1.605
						1/2" Ice	26.620	26.620	2.056
						1" Ice	31.660	31.660	2.598
*									
(2) DB846F65ZAXY w/ Mount Pipe	A	From Leg	4.000	0.000	130.000	No Ice	6.100	6.810	0.058
			0.000			1/2" Ice	6.800	7.520	0.119
			0.000			1" Ice	7.510	8.240	0.191
(2) DB846F65ZAXY w/ Mount Pipe	B	From Leg	4.000	0.000	130.000	No Ice	6.100	6.810	0.058
			0.000			1/2" Ice	6.800	7.520	0.119
			0.000			1" Ice	7.510	8.240	0.191
(2) DB846F65ZAXY w/ Mount Pipe	C	From Leg	4.000	0.000	130.000	No Ice	6.100	6.810	0.058
			0.000			1/2" Ice	6.800	7.520	0.119
			0.000			1" Ice	7.510	8.240	0.191
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.000	0.000	130.000	No Ice	4.090	3.300	0.066
			0.000			1/2" Ice	4.490	3.680	0.130
			0.000			1" Ice	4.890	4.070	0.204
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.000	0.000	130.000	No Ice	4.090	3.300	0.066
			0.000			1/2" Ice	4.490	3.680	0.130
			0.000			1" Ice	4.890	4.070	0.204
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.000	0.000	130.000	No Ice	4.090	3.300	0.066
			0.000			1/2" Ice	4.490	3.680	0.130
			0.000			1" Ice	4.890	4.070	0.204
MT6407-77A w/ Mount Pipe	A	From Leg	4.000	0.000	130.000	No Ice	4.907	2.682	0.096
			0.000			1/2" Ice	5.256	3.145	0.136
			0.000			1" Ice	5.615	3.624	0.180
MT6407-77A w/ Mount Pipe	B	From Leg	4.000	0.000	130.000	No Ice	4.907	2.682	0.096
			0.000			1/2" Ice	5.256	3.145	0.136
			0.000			1" Ice	5.615	3.624	0.180
MT6407-77A w/ Mount Pipe	C	From Leg	4.000	0.000	130.000	No Ice	4.907	2.682	0.096
			0.000			1/2" Ice	5.256	3.145	0.136
			0.000			1" Ice	5.615	3.624	0.180
RFV01U-D2A	A	From Leg	4.000	0.000	130.000	No Ice	1.875	1.013	0.070
			0.000			1/2" Ice	2.045	1.145	0.087
			0.000			1" Ice	2.223	1.284	0.106
RFV01U-D2A	B	From Leg	4.000	0.000	130.000	No Ice	1.875	1.013	0.070
			0.000			1/2" Ice	2.045	1.145	0.087
			0.000			1" Ice	2.223	1.284	0.106
RFV01U-D2A	C	From Leg	4.000	0.000	130.000	No Ice	1.875	1.013	0.070
			0.000			1/2" Ice	2.045	1.145	0.087
			0.000			1" Ice	2.223	1.284	0.106
RFV01U-D1A	A	From Leg	4.000	0.000	130.000	No Ice	1.875	1.250	0.084
			0.000			1/2" Ice	2.045	1.393	0.103
			0.000			1" Ice	2.223	1.543	0.124

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 87323.005.01 - Ridge Road, Madison, CT (BU# 5800059)						Page 9 of 18		
	Project						Date 18:49:46 03/30/22		
	Client Crown Castle						Designed by R AITHAL		

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA}		Weight K
			Horz Lateral ft	Vert ft			Front ft ²	Side ft ²	
RFV01U-D1A	B	From Leg	4.000	0.000	0.000	130.000	No Ice 1.875	1.250	0.084
			0.000				1/2" Ice 2.045	1.393	0.103
			0.000				1" Ice 2.223	1.543	0.124
RFV01U-D1A	C	From Leg	4.000	0.000	0.000	130.000	No Ice 1.875	1.250	0.084
			0.000				1/2" Ice 2.045	1.393	0.103
			0.000				1" Ice 2.223	1.543	0.124
RVZDC-6627-PF-48	A	From Leg	4.000	0.000	0.000	130.000	No Ice 3.792	2.514	0.032
			0.000				1/2" Ice 4.044	2.727	0.063
			0.000				1" Ice 4.303	2.947	0.099
Platform Mount [LP 304-1]	C	None		0.000	0.000	130.000	No Ice 17.490	17.490	1.349
							1/2" Ice 21.370	21.370	1.709
							1" Ice 25.280	25.280	2.131
Mount Reinforcement	C	None		0.000	0.000	130.000	No Ice 28.630	28.630	0.280
							1/2" Ice 37.310	37.310	0.670
							1" Ice 45.800	45.800	0.940
BSAMNT-SBS-1-2	C	None		0.000	0.000	130.000	No Ice 0.000	3.600	0.075
							1/2" Ice 0.000	4.180	0.105
							1" Ice 0.000	4.750	0.135
*									
800 10251 w/ Mount Pipe	B	From Leg	3.000	0.000	0.000	124.000	No Ice 4.380	2.050	0.061
			0.000				1/2" Ice 4.840	2.450	0.091
			0.000				1" Ice 5.320	2.870	0.127
4' x 2" Pipe Mount	B	From Leg	2.000	0.000	0.000	124.000	No Ice 0.785	0.785	0.029
			0.000				1/2" Ice 1.028	1.028	0.035
			0.000				1" Ice 1.281	1.281	0.044
Side Arm Mount [SO 102-3]	C	None		0.000	0.000	124.000	No Ice 3.600	3.600	0.075
							1/2" Ice 4.180	4.180	0.105
							1" Ice 4.750	4.750	0.135
Side Arm Mount [SO 701-1]	B	From Leg	1.500	0.000	0.000	124.000	No Ice 0.850	1.670	0.065
			0.000				1/2" Ice 1.140	2.340	0.079
			0.000				1" Ice 1.430	3.010	0.093
*									
(3) 800 10252	B	From Leg	3.000	0.000	0.000	113.000	No Ice 6.305	2.681	0.027
			0.000				1/2" Ice 6.633	2.935	0.067
			0.000				1" Ice 6.969	3.196	0.113
(3) 6' x 2" Mount Pipe	B	From Leg	3.000	0.000	0.000	113.000	No Ice 1.425	1.425	0.022
			0.000				1/2" Ice 1.925	1.925	0.033
			0.000				1" Ice 2.294	2.294	0.048
T-Arm Mount [TA 601-1]	B	From Leg	2.000	0.000	0.000	113.000	No Ice 7.970	2.500	0.242
			0.000				1/2" Ice 9.600	3.200	0.314
			0.000				1" Ice 11.010	4.020	0.403
*									
CSA40-67-DIN	A	From Leg	4.000	0.000	0.000	113.000	No Ice 2.194	21.725	0.075
			0.000				1/2" Ice 2.951	22.351	0.170
			0.000				1" Ice 3.663	22.984	0.274
10' x 2" Mount Pipe	A	From Leg	4.000	0.000	0.000	113.000	No Ice 2.375	2.375	0.037
			0.000				1/2" Ice 3.403	3.403	0.054
			0.000				1" Ice 4.448	4.448	0.079
SC323	C	From Leg	3.000	0.000	0.000	113.000	No Ice 1.185	1.185	0.006
			0.000				1/2" Ice 1.867	1.867	0.015
			3.000				1" Ice 2.390	2.390	0.029
5' x 2" Pipe Mount	C	From Leg	3.000	0.000	0.000	113.000	No Ice 1.188	1.188	0.018
			0.000				1/2" Ice 1.496	1.496	0.027
			0.000				1" Ice 1.807	1.807	0.040
Side Arm Mount [SO 701-3]	C	None		0.000	0.000	113.000	No Ice 3.020	3.020	0.195
							1/2" Ice 4.180	4.180	0.237
							1" Ice 5.330	5.330	0.279

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 87323.005.01 - Ridge Road, Madison, CT (BU# 5800059)	Page 10 of 18
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	Client Crown Castle	Designed by R AITHAL

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral	Vert					
Side Arm Mount [SO 102-3]	C	None			0.000	113.000	No Ice 3.600 1/2" Ice 4.180 1" Ice 4.750	3.600 4.180 4.750	0.075 0.105 0.135
*									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 8.010 1/2" Ice 8.520 1" Ice 9.040	4.230 4.690 5.160	0.108 0.194 0.292
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 8.010 1/2" Ice 8.520 1" Ice 9.040	4.230 4.690 5.160	0.108 0.194 0.292
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 8.010 1/2" Ice 8.520 1" Ice 9.040	4.230 4.690 5.160	0.108 0.194 0.292
TA08025-B604	A	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320	0.981 1.112 1.250	0.064 0.081 0.100
TA08025-B604	B	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320	0.981 1.112 1.250	0.064 0.081 0.100
TA08025-B604	C	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320	0.981 1.112 1.250	0.064 0.081 0.100
TA08025-B605	A	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320	1.129 1.267 1.411	0.075 0.093 0.114
TA08025-B605	B	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320	1.129 1.267 1.411	0.075 0.093 0.114
TA08025-B605	C	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 1.964 1/2" Ice 2.138 1" Ice 2.320	1.129 1.267 1.411	0.075 0.093 0.114
RDIDC-9181-PF-48	A	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 2.012 1/2" Ice 2.189 1" Ice 2.373	1.168 1.311 1.461	0.022 0.040 0.060
(2) 8' x 2" Mount Pipe	A	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 1.900 1/2" Ice 2.728 1" Ice 3.401	1.900 2.728 3.401	0.029 0.044 0.063
(2) 8' x 2" Mount Pipe	B	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 1.900 1/2" Ice 2.728 1" Ice 3.401	1.900 2.728 3.401	0.029 0.044 0.063
(2) 8' x 2" Mount Pipe	C	From Leg	4.000 0.000 0.000		0.000	99.000	No Ice 1.900 1/2" Ice 2.728 1" Ice 3.401	1.900 2.728 3.401	0.029 0.044 0.063
Commscope MC-PK8-DSH	C	None			0.000	99.000	No Ice 34.240 1/2" Ice 62.950 1" Ice 91.660	34.240 62.950 91.660	1.749 2.099 2.450
*									
*									

Dishes

tnxTower

B+T Group
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Client Crown Castle	Designed by R AITHAL

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K
HP2-4.7NS	B	Paraboloid w/Shroud (HP)	From Leg	2.000 0.000 0.000	-11.000		124.000	2.042	No Ice 1/2" Ice 1" Ice	0.027 0.045 0.063
*										

Load Combinations

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

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Comb. No.	Description
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	150 - 110	Pole	Max Tension	2	0.000	0.000	-0.000
			Max. Compression	26	-31.312	-0.946	1.907
			Max. Mx	8	-18.187	-428.008	0.140
			Max. My	2	-18.211	0.415	428.108
			Max. Vy	20	-18.553	427.157	1.629
			Max. Vx	14	18.479	-1.472	-426.469
L2	110 - 94.25	Pole	Max. Torque	11			3.781
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-37.801	-4.089	1.866
			Max. Mx	8	-22.770	-758.597	-4.823
			Max. My	2	-22.834	4.111	741.914
			Max. Vy	20	-22.243	755.282	6.045
L3	94.25 - 46.25	Pole	Max. Vx	14	21.081	-7.839	-740.776
			Max. Torque	10			5.912
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-59.729	-4.089	2.224
			Max. Mx	8	-40.416	-1995.501	-20.289
			Max. My	2	-40.452	21.357	1927.750
L4	46.25 - 0	Pole	Max. Vy	20	-28.751	1993.793	22.402
			Max. Vx	14	27.614	-24.457	-1926.353
			Max. Torque	10			6.088
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.956	-4.089	2.224
			Max. Mx	20	-64.318	3645.290	40.813
			Max. My	2	-64.319	41.101	3518.872
			Max. Vy	20	-32.915	3645.290	40.813
			Max. Vx	14	31.803	-43.358	-3517.547
			Max. Torque	10			6.083

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	86.956	-0.000	0.000
	Max. H _x	21	48.249	32.889	0.339
	Max. H _z	2	64.332	0.364	31.776
	Max. M _x	2	3518.872	0.364	31.776
	Max. M _z	8	3645.105	-32.854	-0.330
	Max. Torsion	10	6.081	-28.614	-16.165
	Min. Vert	17	48.249	16.162	-27.348
	Min. H _x	9	48.249	-32.854	-0.330
	Min. H _z	14	64.332	-0.348	-31.778
	Min. M _x	14	-3517.547	-0.348	-31.778
	Min. M _z	20	-3645.290	32.889	0.339
	Min. Torsion	22	-6.052	28.648	16.177

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Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
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Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overtuning Moment, M _x kip-ft	Overtuning Moment, M _z kip-ft	Torque kip-ft
Dead Only	53.610	0.000	0.000	-0.601	-1.721	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	64.332	-0.364	-31.776	-3518.872	41.102	2.444
0.9 Dead+1.0 Wind 0 deg - No Ice	48.249	-0.364	-31.776	-3494.521	41.379	2.450
1.2 Dead+1.0 Wind 30 deg - No Ice	64.332	16.169	-27.348	-3027.354	-1793.472	-0.588
0.9 Dead+1.0 Wind 30 deg - No Ice	48.249	16.169	-27.348	-3006.368	-1780.629	-0.580
1.2 Dead+1.0 Wind 60 deg - No Ice	64.332	28.310	-15.580	-1723.208	-3140.473	-3.620
0.9 Dead+1.0 Wind 60 deg - No Ice	48.249	28.310	-15.580	-1711.173	-3118.410	-3.613
1.2 Dead+1.0 Wind 90 deg - No Ice	64.332	32.854	0.330	38.202	-3645.105	-5.598
0.9 Dead+1.0 Wind 90 deg - No Ice	48.249	32.854	0.330	38.144	-3619.596	-5.593
1.2 Dead+1.0 Wind 120 deg - No Ice	64.332	28.614	16.165	1790.828	-3176.114	-6.081
0.9 Dead+1.0 Wind 120 deg - No Ice	48.249	28.614	16.165	1778.736	-3153.827	-6.080
1.2 Dead+1.0 Wind 150 deg - No Ice	64.332	16.734	27.666	3063.101	-1859.994	-4.883
0.9 Dead+1.0 Wind 150 deg - No Ice	48.249	16.734	27.666	3042.270	-1846.725	-4.886
1.2 Dead+1.0 Wind 180 deg - No Ice	64.332	0.348	31.778	3517.547	-43.358	-2.493
0.9 Dead+1.0 Wind 180 deg - No Ice	48.249	0.348	31.778	3493.591	-42.530	-2.499
1.2 Dead+1.0 Wind 210 deg - No Ice	64.332	-16.162	27.348	3025.743	1788.219	0.607
0.9 Dead+1.0 Wind 210 deg - No Ice	48.249	-16.162	27.348	3005.153	1776.506	0.600
1.2 Dead+1.0 Wind 240 deg - No Ice	64.332	-28.338	15.570	1720.437	3139.709	3.620
0.9 Dead+1.0 Wind 240 deg - No Ice	48.249	-28.338	15.570	1708.803	3118.747	3.613
1.2 Dead+1.0 Wind 270 deg - No Ice	64.332	-32.889	-0.339	-40.812	3645.290	5.579
0.9 Dead+1.0 Wind 270 deg - No Ice	48.249	-32.889	-0.339	-40.358	3620.870	5.574
1.2 Dead+1.0 Wind 300 deg - No Ice	64.332	-28.648	-16.177	-1793.824	3176.015	6.052
0.9 Dead+1.0 Wind 300 deg - No Ice	48.249	-28.648	-16.177	-1781.332	3154.816	6.050
1.2 Dead+1.0 Wind 330 deg - No Ice	64.332	-16.759	-27.681	-3066.541	1858.975	4.865
0.9 Dead+1.0 Wind 330 deg - No Ice	48.249	-16.759	-27.681	-3045.303	1846.800	4.867
1.2 Dead+1.0 Ice+1.0 Temp	86.956	0.000	-0.000	-2.224	-4.089	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0	86.956	-0.065	-8.244	-887.163	3.595	0.522

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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
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 30 deg+1.0	86.956	4.167	-7.109	-764.968	-451.912	-0.088
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 60 deg+1.0	86.956	7.271	-4.067	-438.105	-785.999	-0.705
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 90 deg+1.0	86.956	8.425	0.059	4.701	-910.342	-1.118
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 120 deg+1.0	86.956	7.325	4.171	445.952	-792.384	-1.233
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 150 deg+1.0	86.956	4.267	7.165	767.024	-463.896	-1.007
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 180 deg+1.0	86.956	0.062	8.244	882.558	-11.727	-0.533
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 210 deg+1.0	86.956	-4.165	7.109	760.307	443.197	0.093
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 240 deg+1.0	86.956	-7.276	4.065	433.216	778.160	0.707
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270 deg+1.0	86.956	-8.431	-0.061	-9.560	902.687	1.115
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300 deg+1.0	86.956	-7.331	-4.173	-450.886	784.672	1.226
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330 deg+1.0	86.956	-4.272	-7.168	-772.043	456.004	1.001
Ice+1.0 Temp						
Dead+Wind 0 deg - Service	53.610	-0.082	-7.126	-786.310	7.863	0.542
Dead+Wind 30 deg - Service	53.610	3.626	-6.133	-676.544	-401.831	-0.142
Dead+Wind 60 deg - Service	53.610	6.348	-3.494	-385.304	-702.648	-0.824
Dead+Wind 90 deg - Service	53.610	7.367	0.074	8.064	-815.351	-1.268
Dead+Wind 120 deg - Service	53.610	6.417	3.625	399.477	-710.613	-1.373
Dead+Wind 150 deg - Service	53.610	3.752	6.204	683.609	-416.685	-1.099
Dead+Wind 180 deg - Service	53.610	0.078	7.126	785.095	-10.987	-0.555
Dead+Wind 210 deg - Service	53.610	-3.624	6.133	675.264	398.041	0.148
Dead+Wind 240 deg - Service	53.610	-6.355	3.492	383.763	699.861	0.827
Dead+Wind 270 deg - Service	53.610	-7.375	-0.076	-9.572	812.774	1.265
Dead+Wind 300 deg - Service	53.610	-6.424	-3.628	-401.070	707.970	1.365
Dead+Wind 330 deg - Service	53.610	-3.758	-6.207	-685.299	413.835	1.092

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-53.610	0.000	0.000	53.610	0.000	0.000%
2	-0.364	-64.332	-31.776	0.364	64.332	31.776	0.000%
3	-0.364	-48.249	-31.776	0.364	48.249	31.776	0.000%
4	16.169	-64.332	-27.348	-16.169	64.332	27.348	0.000%
5	16.169	-48.249	-27.348	-16.169	48.249	27.348	0.000%
6	28.310	-64.332	-15.580	-28.310	64.332	15.580	0.000%
7	28.310	-48.249	-15.580	-28.310	48.249	15.580	0.000%
8	32.854	-64.332	0.330	-32.854	64.332	-0.330	0.000%
9	32.854	-48.249	0.330	-32.854	48.249	-0.330	0.000%
10	28.614	-64.332	16.165	-28.614	64.332	-16.165	0.000%
11	28.614	-48.249	16.165	-28.614	48.249	-16.165	0.000%
12	16.734	-64.332	27.666	-16.734	64.332	-27.666	0.000%
13	16.734	-48.249	27.666	-16.734	48.249	-27.666	0.000%
14	0.348	-64.332	31.778	-0.348	64.332	-31.778	0.000%
15	0.348	-48.249	31.778	-0.348	48.249	-31.778	0.000%
16	-16.162	-64.332	27.348	16.162	64.332	-27.348	0.000%
17	-16.162	-48.249	27.348	16.162	48.249	-27.348	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
18	-28.338	-64.332	15.570	28.338	64.332	-15.570	0.000%
19	-28.338	-48.249	15.570	28.338	48.249	-15.570	0.000%
20	-32.889	-64.332	-0.339	32.889	64.332	0.339	0.000%
21	-32.889	-48.249	-0.339	32.889	48.249	0.339	0.000%
22	-28.648	-64.332	-16.177	28.648	64.332	16.177	0.000%
23	-28.648	-48.249	-16.177	28.648	48.249	16.177	0.000%
24	-16.759	-64.332	-27.681	16.759	64.332	27.681	0.000%
25	-16.759	-48.249	-27.681	16.759	48.249	27.681	0.000%
26	0.000	-86.956	0.000	-0.000	86.956	0.000	0.000%
27	-0.065	-86.956	-8.244	0.065	86.956	8.244	0.000%
28	4.167	-86.956	-7.109	-4.167	86.956	7.109	0.000%
29	7.271	-86.956	-4.067	-7.271	86.956	4.067	0.000%
30	8.425	-86.956	0.059	-8.425	86.956	-0.059	0.000%
31	7.325	-86.956	4.171	-7.325	86.956	-4.171	0.000%
32	4.267	-86.956	7.165	-4.267	86.956	-7.165	0.000%
33	0.062	-86.956	8.244	-0.062	86.956	-8.244	0.000%
34	-4.165	-86.956	7.109	4.165	86.956	-7.109	0.000%
35	-7.276	-86.956	4.065	7.276	86.956	-4.065	0.000%
36	-8.431	-86.956	-0.061	8.431	86.956	0.061	0.000%
37	-7.331	-86.956	-4.173	7.331	86.956	4.173	0.000%
38	-4.272	-86.956	-7.168	4.272	86.956	7.168	0.000%
39	-0.082	-53.610	-7.126	0.082	53.610	7.126	0.000%
40	3.626	-53.610	-6.133	-3.626	53.610	6.133	0.000%
41	6.348	-53.610	-3.494	-6.348	53.610	3.494	0.000%
42	7.367	-53.610	0.074	-7.367	53.610	-0.074	0.000%
43	6.417	-53.610	3.625	-6.417	53.610	-3.625	0.000%
44	3.752	-53.610	6.204	-3.752	53.610	-6.204	0.000%
45	0.078	-53.610	7.126	-0.078	53.610	-7.126	0.000%
46	-3.624	-53.610	6.133	3.624	53.610	-6.133	0.000%
47	-6.355	-53.610	3.492	6.355	53.610	-3.492	0.000%
48	-7.375	-53.610	-0.076	7.375	53.610	0.076	0.000%
49	-6.424	-53.610	-3.628	6.424	53.610	3.628	0.000%
50	-3.758	-53.610	-6.207	3.758	53.610	6.207	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	4	0.00000001	0.00043385
3	Yes	4	0.00000001	0.00028729
4	Yes	5	0.00000001	0.00013982
5	Yes	5	0.00000001	0.00006766
6	Yes	5	0.00000001	0.00015842
7	Yes	5	0.00000001	0.00007696
8	Yes	5	0.00000001	0.00003848
9	Yes	4	0.00000001	0.00074890
10	Yes	5	0.00000001	0.00013281
11	Yes	5	0.00000001	0.00006366
12	Yes	5	0.00000001	0.00016930
13	Yes	5	0.00000001	0.00008236
14	Yes	4	0.00000001	0.00065621
15	Yes	4	0.00000001	0.00043756
16	Yes	5	0.00000001	0.00014307
17	Yes	5	0.00000001	0.00006947
18	Yes	5	0.00000001	0.00012939

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19	Yes	5	0.00000001	0.00006235
20	Yes	5	0.00000001	0.00004567
21	Yes	4	0.00000001	0.00088728
22	Yes	5	0.00000001	0.00017762
23	Yes	5	0.00000001	0.00008640
24	Yes	5	0.00000001	0.00013624
25	Yes	5	0.00000001	0.00006557
26	Yes	4	0.00000001	0.00000887
27	Yes	5	0.00000001	0.00007277
28	Yes	5	0.00000001	0.00007896
29	Yes	5	0.00000001	0.00008004
30	Yes	5	0.00000001	0.00007483
31	Yes	5	0.00000001	0.00008024
32	Yes	5	0.00000001	0.00007977
33	Yes	5	0.00000001	0.00007191
34	Yes	5	0.00000001	0.00007699
35	Yes	5	0.00000001	0.00007760
36	Yes	5	0.00000001	0.00007352
37	Yes	5	0.00000001	0.00008026
38	Yes	5	0.00000001	0.00007909
39	Yes	4	0.00000001	0.00003658
40	Yes	4	0.00000001	0.00006892
41	Yes	4	0.00000001	0.00009352
42	Yes	4	0.00000001	0.00006786
43	Yes	4	0.00000001	0.00008123
44	Yes	4	0.00000001	0.00010363
45	Yes	4	0.00000001	0.00003863
46	Yes	4	0.00000001	0.00007178
47	Yes	4	0.00000001	0.00006711
48	Yes	4	0.00000001	0.00006944
49	Yes	4	0.00000001	0.00011564
50	Yes	4	0.00000001	0.00007541

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 110	10.513	42	0.609	0.004
L2	115.25 - 94.25	6.274	42	0.525	0.003
L3	99.75 - 46.25	4.666	42	0.454	0.002
L4	53.5 - 0	1.305	42	0.225	0.001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.000	Lightning Rod 5/8" x 4'	42	10.513	0.609	0.004	87539
148.000	DS4C06F36D-D	42	10.258	0.605	0.004	87539
140.000	RRUS 32 B2	42	9.243	0.591	0.004	43770
130.000	(2) DB846F65ZAXY w/ Mount Pipe	42	8.000	0.570	0.003	21885
124.000	HP2-4.7NS	42	7.279	0.554	0.003	16834
113.000	(3) 800 10252	42	6.027	0.516	0.003	12750
99.000	MX08FRO665-21 w/ Mount Pipe	42	4.594	0.451	0.002	12793

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Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 110	46.968	8	2.720	0.017
L2	115.25 - 94.25	28.043	10	2.345	0.013
L3	99.75 - 46.25	20.860	10	2.031	0.009
L4	53.5 - 0	5.837	22	1.004	0.003

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.000	Lightning Rod 5/8" x 4'	8	46.968	2.720	0.018	19790
148.000	DS4C06F36D-D	8	45.830	2.705	0.017	19790
140.000	RRUS 32 B2	8	41.297	2.642	0.017	9895
130.000	(2) DB846F65ZAXY w/ Mount Pipe	10	35.749	2.547	0.015	4946
124.000	HP2-4.7NS	10	32.529	2.476	0.014	3804
113.000	(3) 800 10252	10	26.938	2.305	0.012	2874
99.000	MX08FRO665-21 w/ Mount Pipe	10	20.538	2.014	0.009	2881

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 P _u / φP _n
L1	150 - 110 (1)	TP39.633x28.4x0.25	40.000	0.000	0.0	30.080	-18.196	1759.710	0.010
L2	110 - 94.25 (2)	TP43.556x37.659x0.281	21.000	0.000	0.0	37.252	-22.770	2179.240	0.010
L3	94.25 - 46.25 (3)	TP56.472x41.449x0.375	53.500	0.000	0.0	64.346	-40.416	3764.260	0.011
L4	46.25 - 0 (4)	TP68.71x53.686x0.438	53.500	0.000	0.0	94.805	-64.318	5546.090	0.012

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio M _{ux} / φM _{ux}	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio M _{uy} / φM _{uy}
L1	150 - 110 (1)	TP39.633x28.4x0.25	428.529	1496.850	0.286	0.000	1496.850	0.000
L2	110 - 94.25 (2)	TP43.556x37.659x0.281	758.668	2059.733	0.368	0.000	2059.733	0.000
L3	94.25 - 46.25	TP56.472x41.449x0.375	1996.008	4664.408	0.428	0.000	4664.408	0.000

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 87323.005.01 - Ridge Road, Madison, CT (BU# 5800059)	Page 18 of 18
	Project	Date 18:49:46 03/30/22
	Client Crown Castle	Designed by R AITHAL

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 $\frac{M_{uy}}{\phi M_{ny}}$
L4	46.25 - 0 (4) (3)	TP68.71x53.686x0.438	3647.583	8388.250	0.435	0.000	8388.250	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	150 - 110 (1)	TP39.633x28.4x0.25	18.561	527.913	0.035	1.280	1752.592	0.001
L2	110 - 94.25 (2)	TP43.556x37.659x0.281	22.214	653.773	0.034	5.911	2389.225	0.002
L3	94.25 - 46.25 (3)	TP56.472x41.449x0.375	28.727	1129.280	0.025	6.083	5346.458	0.001
L4	46.25 - 0 (4)	TP68.71x53.686x0.438	32.925	1663.830	0.020	6.052	9947.917	0.001

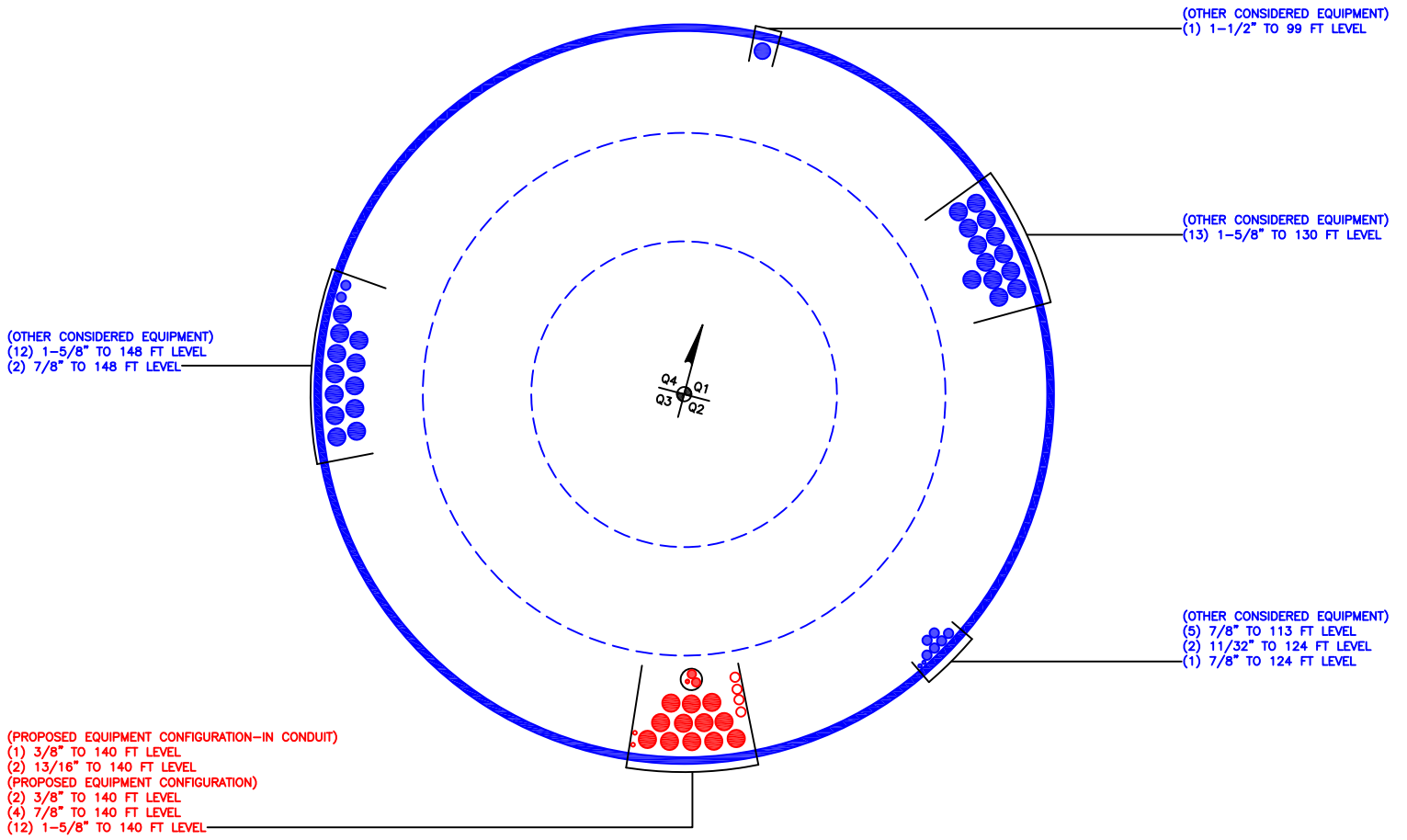
Pole Interaction Design Data

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	150 - 110 (1)	0.010	0.286	0.000	0.035	0.001	0.298	1.050	4.8.2 ✓
L2	110 - 94.25 (2)	0.010	0.368	0.000	0.034	0.002	0.380	1.050	4.8.2 ✓
L3	94.25 - 46.25 (3)	0.011	0.428	0.000	0.025	0.001	0.439	1.050	4.8.2 ✓
L4	46.25 - 0 (4)	0.012	0.435	0.000	0.020	0.001	0.447	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	150 - 110	Pole	TP39.633x28.4x0.25	1	-18.196	1847.695	28.4	Pass
L2	110 - 94.25	Pole	TP43.556x37.659x0.281	2	-22.770	2288.202	36.2	Pass
L3	94.25 - 46.25	Pole	TP56.472x41.449x0.375	3	-40.416	3952.473	41.8	Pass
L4	46.25 - 0	Pole	TP68.71x53.686x0.438	4	-64.318	5823.394	42.6	Pass
Summary								
Pole (L4)							42.6	Pass
RATING =							42.6	Pass

APPENDIX B
BASE LEVEL DRAWING



BUSINESS UNIT: 5800059

APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

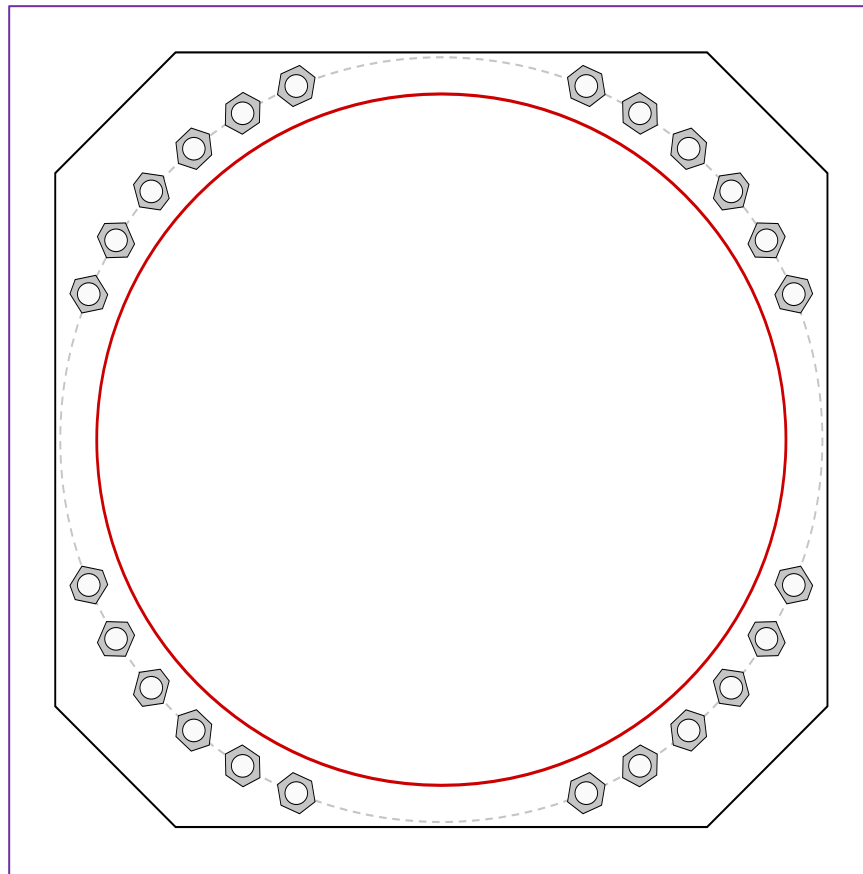


Site Info	
BU #	5800059
Site Name	idge Road, Madison, C
Order #	586344 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.25

Applied Loads	
Moment (kip-ft)	3647.58
Axial Force (kips)	64.32
Shear Force (kips)	32.92

*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
-----------------------	------------------

Anchor Rod Data
(24) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 76" BC <i>Anchor Spacing: 6 in</i>
Base Plate Data
77" W x 3" Plate (A572-50; $F_y=50$ ksi, $F_u=65$ ksi); Clip: 12 in
Stiffener Data
N/A
Pole Data
68.71" x 0.4375" 18-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary			<i>(units of kips, kip-in)</i>
$P_{u_t} = 93.27$	$\phi P_{n_t} = 243.75$	Stress Rating	
$V_u = 1.37$	$\phi V_n = 149.1$	36.4%	
$M_u = n/a$	$\phi M_n = n/a$	Pass	
Base Plate Summary			
Max Stress (ksi):	14.6	(Flexural)	
Allowable Stress (ksi):	45		
Stress Rating:	30.9%	Pass	

Drilled Pier Foundation

BU # :	5800059
Site Name:	Ridge Road, Madison, CT
Order Number:	586344 Rev. 0
TIA-222 Revision:	H
Tower Type:	Monopole



Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	3648	
Axial Force (kips)	64	
Shear Force (kips)	33	

Material Properties		
Concrete Strength, f'c:	4	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	40	ksi

Pier Design Data		
Depth	39	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
<i>From 0.5' above grade to 39' below grade</i>		
Pier Diameter	8	ft
Rebar Quantity	28	
Rebar Size	11	
Clear Cover to Ties	3	in
Tie Size	5	
Tie Spacing	12	in

[Rebar & Pier Options](#)

[Embedded Pole Inputs](#)

[Belled Pier Inputs](#)

Analysis Results

Soil Lateral Check	Compression	Uplift
D _{v=0} (ft from TOC)	9.88	-
Soil Safety Factor	6.53	-
Max Moment (kip-ft)	3918.34	-
Rating*	19.4%	-

Soil Vertical Check	Compression	Uplift
Skin Friction (kips)	688.42	-
End Bearing (kips)	317.36	-
Weight of Concrete (kips)	236.89	-
Total Capacity (kips)	1005.77	-
Axial (kips)	300.89	-
Rating*	28.5%	-

Reinforced Concrete Flexure	Compression	Uplift
Critical Depth (ft from TOC)	9.46	-
Critical Moment (kip-ft)	3917.68	-
Critical Moment Capacity	8321.63	-
Rating*	44.8%	-

Reinforced Concrete Shear	Compression	Uplift
Critical Depth (ft from TOC)	28.44	-
Critical Shear (kip)	284.76	-
Critical Shear Capacity	784.93	-
Rating*	34.6%	-

Structural Foundation Rating*	44.8%
Soil Interaction Rating*	28.5%

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	<input checked="" type="checkbox"/>
N/A	<input type="checkbox"/>
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	<input type="checkbox"/>
Shear Design Options	
Check Shear along Depth of Pier:	<input checked="" type="checkbox"/>
Utilize Shear-Friction Methodology:	<input type="checkbox"/>
Override Critical Depth:	<input type="checkbox"/>

[Go to Soil Calculations](#)

Soil Profile				
Groundwater Depth	7	# of Layers	5	

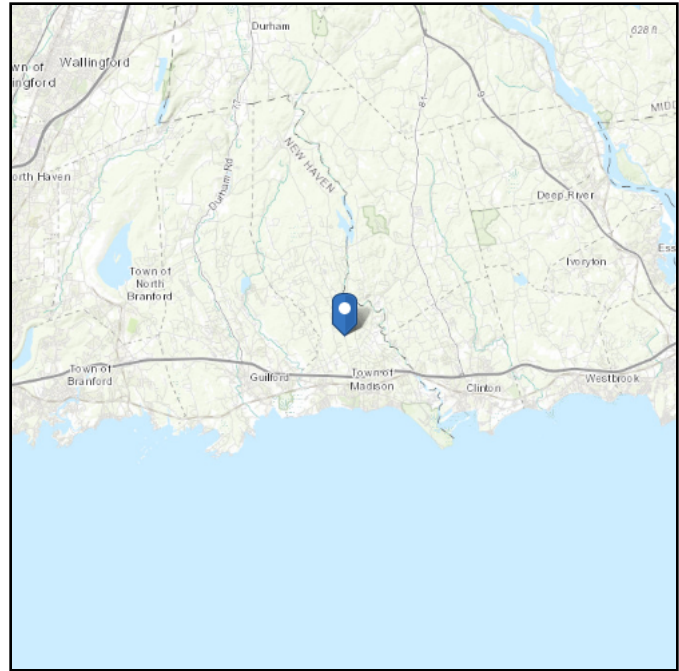
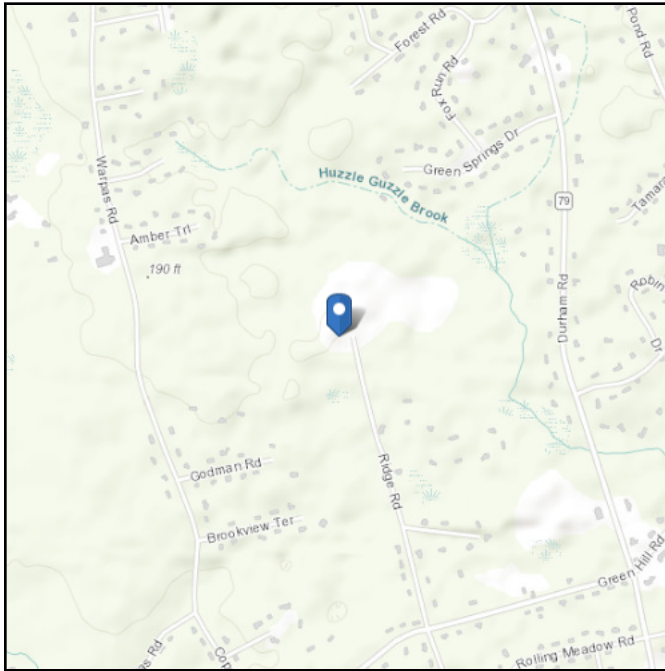
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Net Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	4	4	100	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	4	7	3	100	150	0.1	22	0.181	0.181					Silty
3	7	12	5	37.6	87.6	0.1	22	0.257	0.257					Silty
4	12	20	8	42.6	87.6	0.4	27	1.016	1.016				70	Cohesionless
5	20	39	19	62.6	87.6	0.2	31	1.398	1.398			6	85	Cohesionless

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)

Elevation: 132.55 ft (NAVD 88)
Latitude: 41.30925
Longitude: -72.614325



Wind

Results:

Wind Speed	123 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	94 Vmph
100-year MRI	100 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Tue Mar 29 2022

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

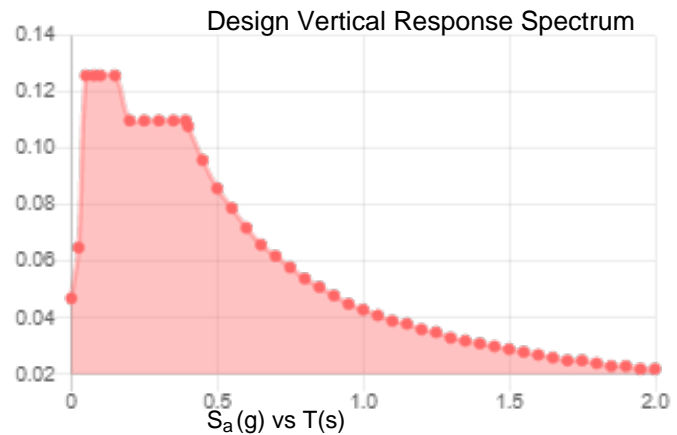
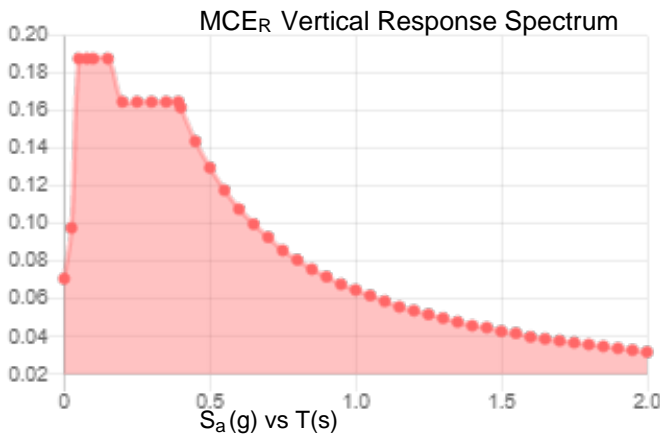
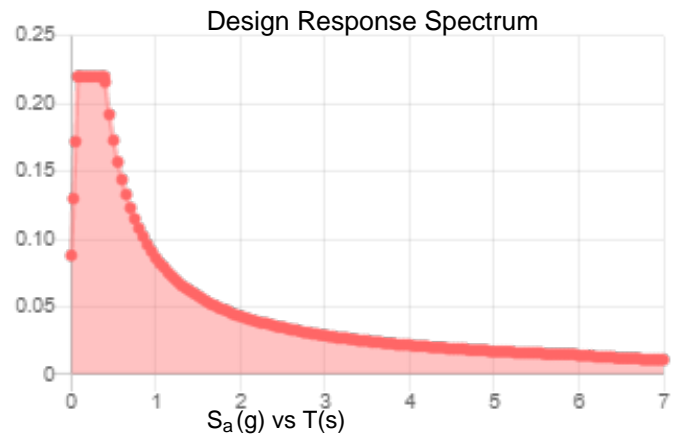
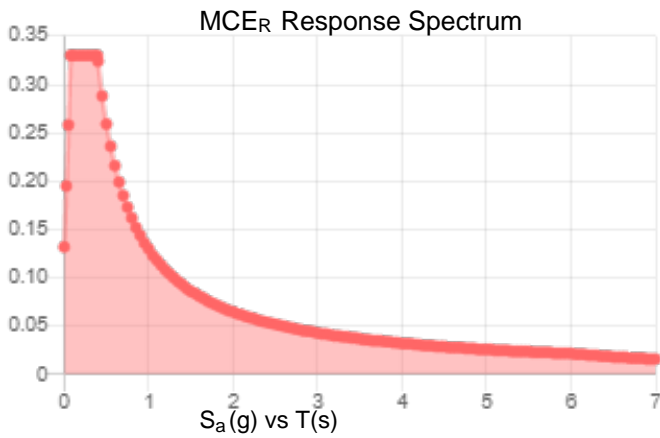
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.206	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.116
F_v :	2.4	PGA _M :	0.181
S_{MS} :	0.33	F_{PGA} :	1.569
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.22	C_v :	0.713

Seismic Design Category B



Data Accessed: Tue Mar 29 2022

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Tue Mar 29 2022

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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

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

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



AT&T SITE NUMBER: CTL01266
AT&T SITE NAME: MADISON CT RIDGE ROAD
AT&T FA CODE: 10128137
AT&T PACE NUMBER: MRCTB054690, MRCTB053501, MRCTB054345, MRCTB056571, MRCTB054320, MRCTB054675, MRCTB056794
AT&T PROJECT: LTE 3C, 5G NR ACTIVATION, 5G NR 1DR-1, 5G NR 1SR CBAND, 5G NR 1SR, 4TX4RX SOFTWARE RETROFIT

BUSINESS UNIT #: 5800059
SITE ADDRESS: 258 RIDGE ROAD MADISON, CT 06433
COUNTY: NEW HAVEN
SITE TYPE: MONOPOLE
TOWER HEIGHT: 150'-0"



AT&T SITE NUMBER: CTL01266
BU #: 5800059
RIDGE ROAD, MADISON
 258 RIDGE ROAD
 MADISON, CT 06433
 EXISTING
 150'-0" MONOPOLE

ISSUED FOR:

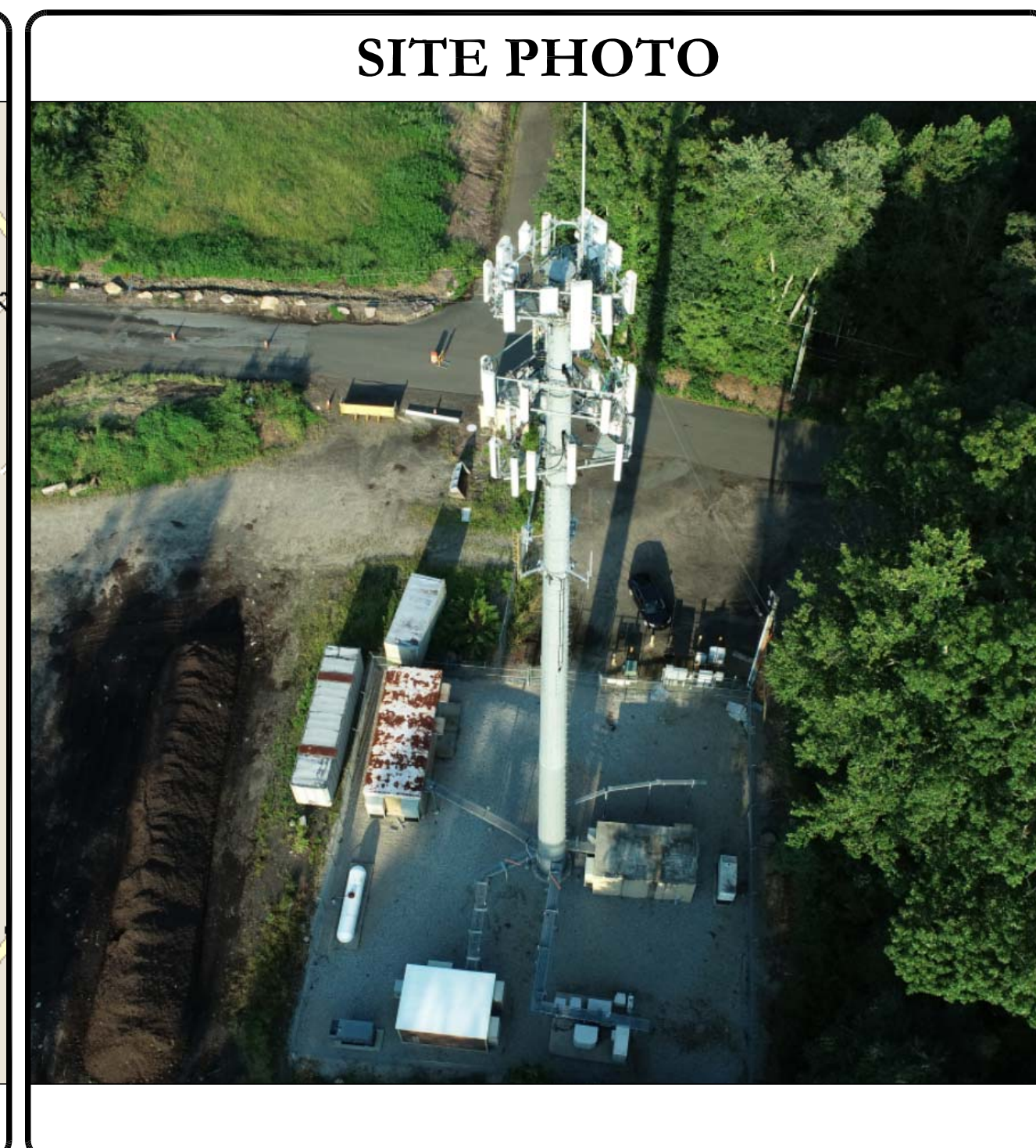
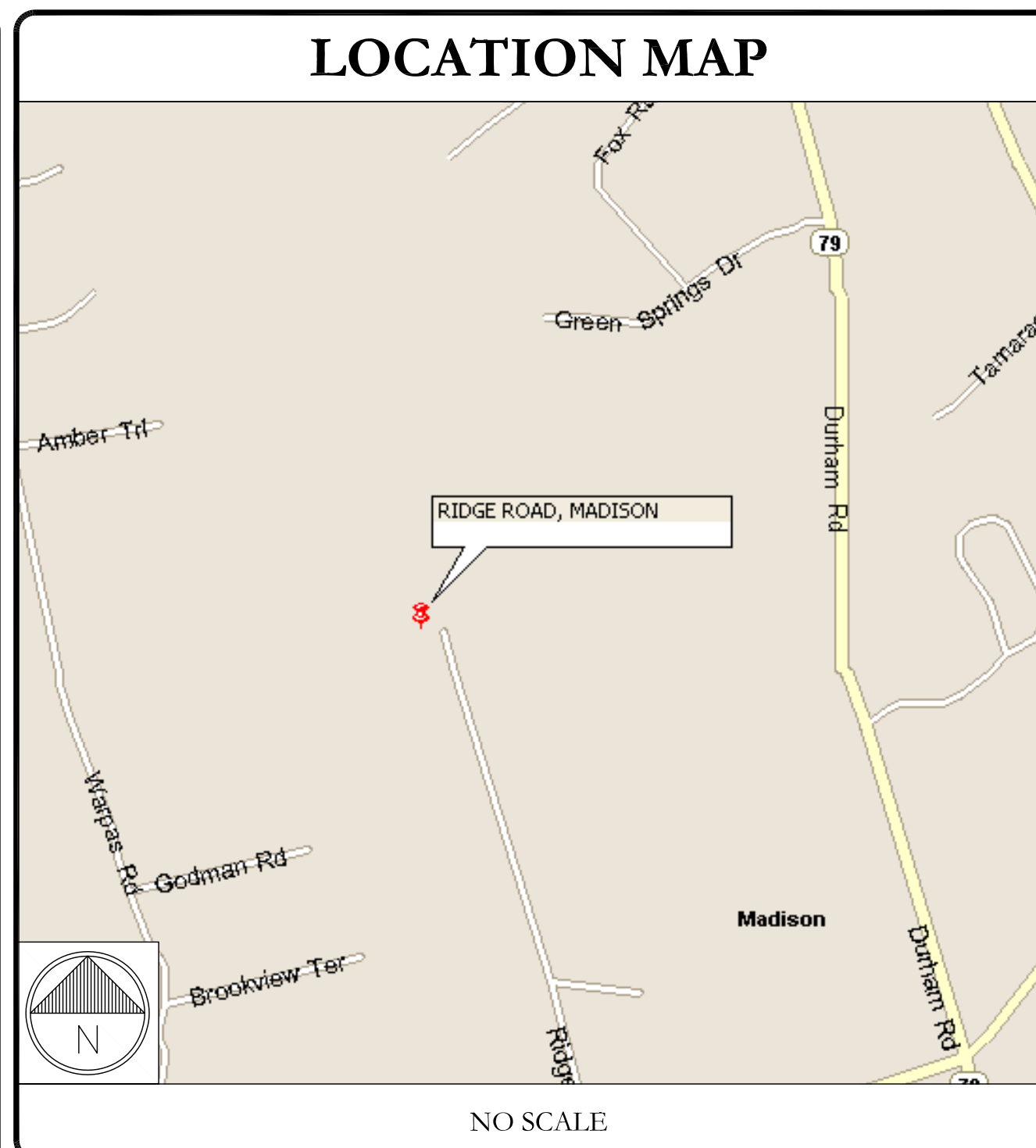
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	5/25/22	GAC	PRELIMINARY REVIEW	KT
0	7/14/22	TDG	PRELIMINARY REVIEW	KT

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	RIDGE ROAD, MADISON
SITE ADDRESS:	258 RIDGE ROAD MADISON, CT 06433
COUNTY:	NEW HAVEN
MAP/PARCEL #:	71-16
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 18' 33.30"
LONGITUDE:	-72° 36' 51.57"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	131'
CURRENT ZONING:	RU-1 - RURAL RESIDENCE DISTRICT
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:	STATE OF CONNECTICUT COPSE RD MADISON, CT 06443
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:	CONNECTICUT LIGHT AND POWER
TELCO PROVIDER:	LIGHTOWER 855-91-FIBER

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	CROSSOVER HARDWARE SPECIFICATIONS



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 BRIAN FREEMAN - CONSTRUCTION MANAGER BRIAN.FREEMAN.CONTRACTOR@CROWNCastle.COM HEATHER MILLER - AES HEATHER.MILLER@CROWNCastle.COM

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

PROJECT DESCRIPTION

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

TOWER SCOPE OF WORK:

- REMOVE (6) POWERWAVE - 7770 ANTENNAS
- REMOVE (3) CCI - HPA-65R-BUU-H6 ANTENNAS
- REMOVE (3) ERICSSON - RRUS-11 B12 RRHS
- REMOVE (6) POWERWAVE - LGP 21401 TMAS
- REMOVE (6) POWERWAVE - LGP 21901 DIPLEXERS
- RELOCATE (3) ERICSSON - RRUS-32 B2 RRHS
- INSTALL (3) CCI - TPA65R-BU6DA-K ANTENNAS
- INSTALL (6) ERICSSON - AIR6449 B77D+AIR6419 B77G STACKED ANTENNAS
- INSTALL (3) CCI - OPA65R-BU6DA ANTENNAS
- INSTALL (2) RAYCAP - DC6-48-60-18-8C-EV SQUIDS
- INSTALL (3) ERICSSON - 4478 B14 RRHS
- INSTALL (3) ERICSSON - 4426 B66 RRHS

GROUND SCOPE OF WORK:

- REMOVE (12) POWERWAVE - LGP 21901 DIPLEXERS
- REMOVE (1) INFINITY POWER PLANT
- REMOVE UMTS CABINET
- REMOVE (6) 1-5/8" COAX CABLES
- INSTALL (1) 6648 EBBU WITH XCEDE CABLE
- INSTALL (1) 6630 EBBU WITH IDLE CABLE
- INSTALL (1) RMDC12
- INSTALL (10) RECTIFIERS
- INSTALL (3) 170AH BATTERY STRINGS
- INSTALL (1) NETSURE 7100 POWER PLANT

INSTALL (3) ERICSSON - 4449 B5/B12 RRHS

INSTALL (4) 7/8" 6AWG DC CABLE

INSTALL (2) 3/8" 18 PAIR FIBER CABLE

INSTALL (6) DUAL RADIO MOUNTS

INSTALL (3) 2-3/8" O.D. SCH 40 x 6'-0" LONG MOUNT PIPES W/ SITEPRO1 - BBPM-K1

INSTALL (3) Y-CABLES

NOTE:
THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. AT&T IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.

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	2018 CONNECTICUT SBC/2015 IBC
MECHANICAL	2018 CONNECTICUT SBC/2015 IMC
ELECTRICAL	2018 CONNECTICUT SBC/2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS: B+T GROUP
DATED: 3/30/22

MOUNT ANALYSIS: TOWER ENGINEERING PROFESSIONALS
DATED: 3/27/22

RFDS REVISION: PRELIMINARY
DATED: 2/28/22

ORDER ID: 586344
REVISION: 0

AC ELECTRICAL POWER DESIGN: BY OTHERS
DATED:

PROFESSIONAL ENGINEER

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

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

SHEET NUMBER: T-1
REVISION: 0

87323.006.01_RIDGE ROAD, MADISON.dwg - SheetT-1 - User: Kevin.Turkoll - Jul 14, 2022 - 11:58am

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.

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.

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.

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.

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.

Table with 3 columns: SYSTEM, CONDUCTOR, COLOR. Rows include 120/240V, 10; 120/208V, 30; 277/480V, 30; and DC VOLTAGE.

APWA UNIFORM COLOR CODE:

- WHITE PROPOSED EXCAVATION
PINK TEMPORARY SURVEY MARKINGS
RED ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES

ABBREVIATIONS:

- ANT ANTENNA
(E) EXISTING
FIF FACILITY INTERFACE FRAME
GEN GENERATOR



AT&T SITE NUMBER: CTL01266

BU #: 5800059 RIDGE ROAD, MADISON

258 RIDGE ROAD MADISON, CT 06433

EXISTING 150'-0" MONOPOLE

ISSUED FOR:

Table with 5 columns: REV, DATE, DRWN, DESCRIPTION, DES./QA. Rows show revisions A and 0.



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SHEET NUMBER: REVISION:

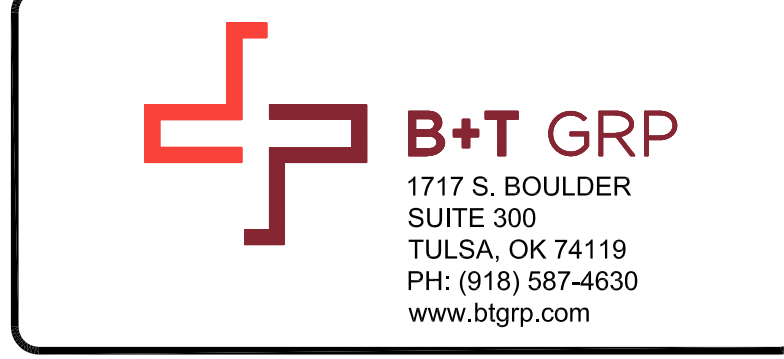
T-2 0



575 MOROSGO DRIVE
ATLANTA, GA 30324-3300



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



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
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AT&T SITE NUMBER:
CTL01266


BU #: **5800059**
RIDGE ROAD, MADISON

258 RIDGE ROAD
MADISON, CT 06433

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	5/25/22	GAC	PRELIMINARY REVIEW	KT
0	7/14/22	TDG	PRELIMINARY REVIEW	KT

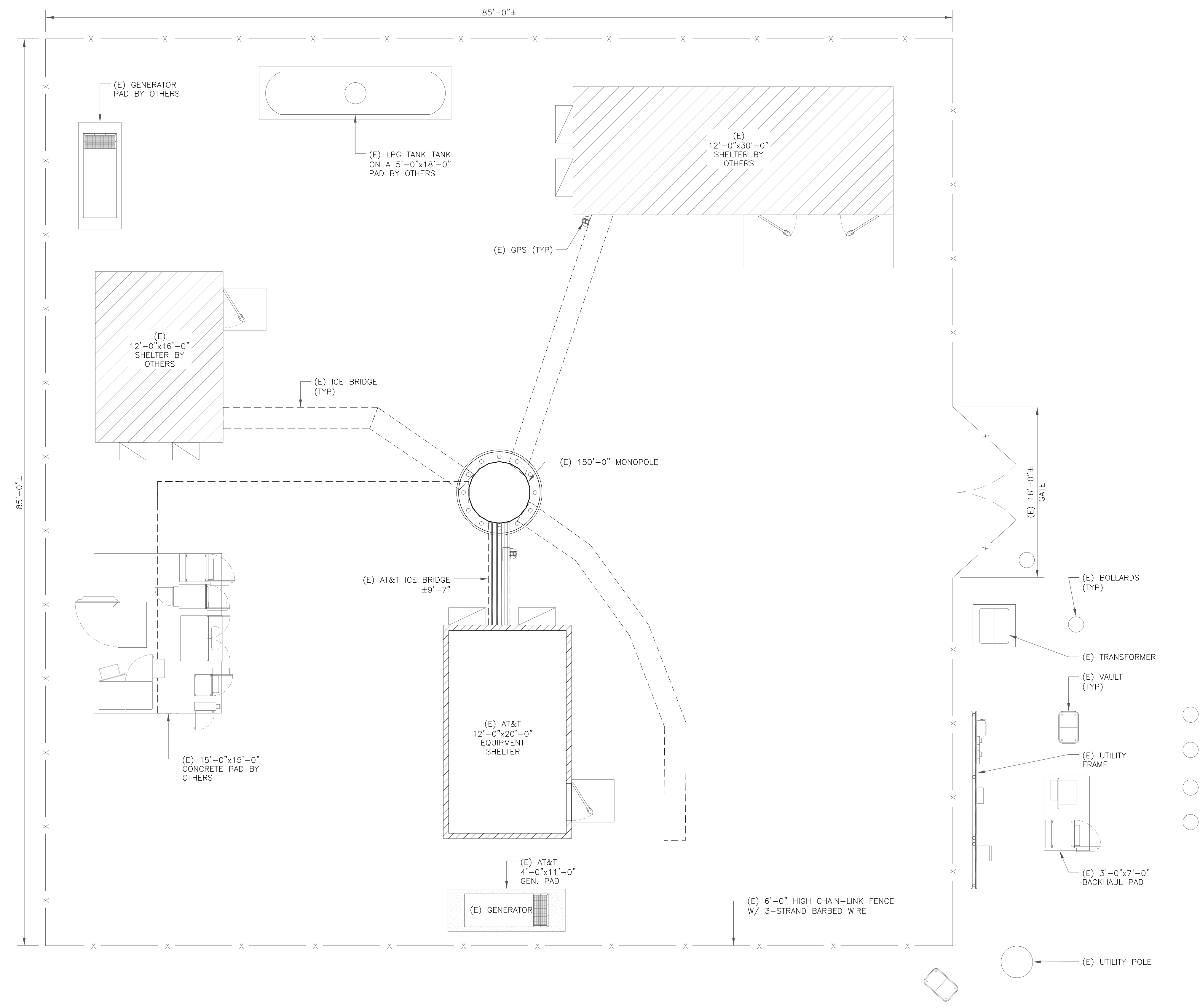


7/14/22

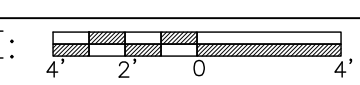
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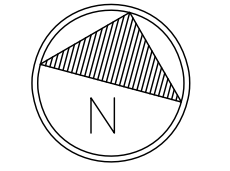
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SHEET NUMBER: **C-1.1** REVISION: **0**



1 SITE PLAN

SCALE:  3/16"=1'-0" (FULL SIZE)
3/32"=1'-0" (11x17)



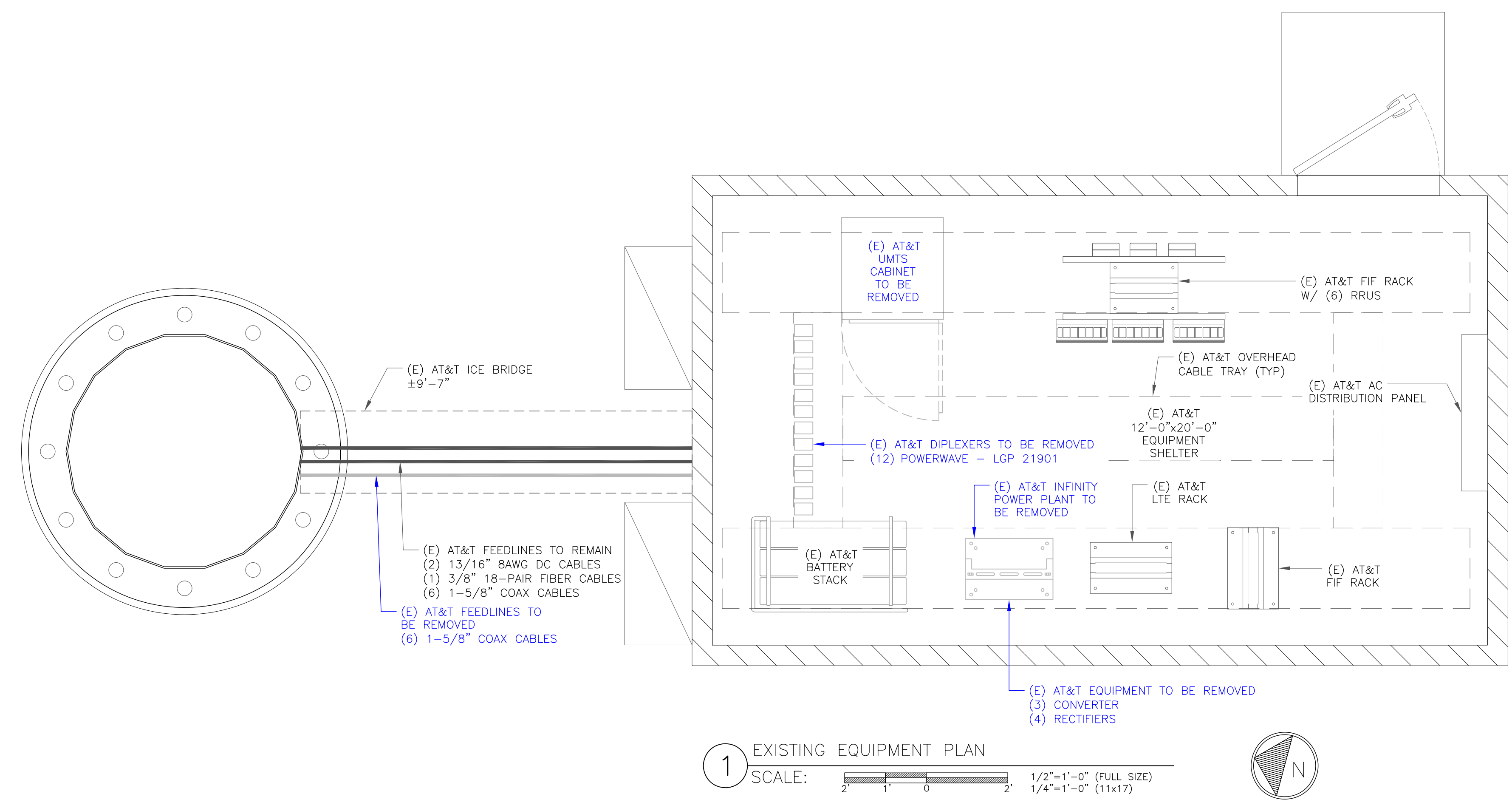
87323.006.01_RIDGE ROAD, MADISON.dwg - SheetC-1.1 - User: kevin.turkoll - Jul 14, 2022 - 11:58am

AT&T SITE NUMBER:
CTL01266

BU #: **5800059**
RIDGE ROAD, MADISON

258 RIDGE ROAD
MADISON, CT 06433

EXISTING
150'-0" MONOPOLE



- GROUND SCOPE OF WORK:**
- REMOVE (12) POWERWAVE - LGP 21901 DIPLEXERS
 - REMOVE (1) UMTS CABINET
 - REMOVE (1) INFINITY POWER PLANT W/ (3) CONVERTERS & (4) RECTIFIERS
 - INSTALL (1) 6648 EBBU WITH XCEDE CABLE ON LTE RACK
 - INSTALL (1) 6630 EBBU WITH IDLE CABLE ON LTE RACK
 - INSTALL (1) RMD12 ON LTE RACK
 - INSTALL (10) RECTIFIERS ON POWER PLANT
 - INSTALL (3) 170AH BATTERY STRINGS ON POWER PLANT
 - INSTALL (1) NETSURE 7100 POWER PLANT

NOTE:

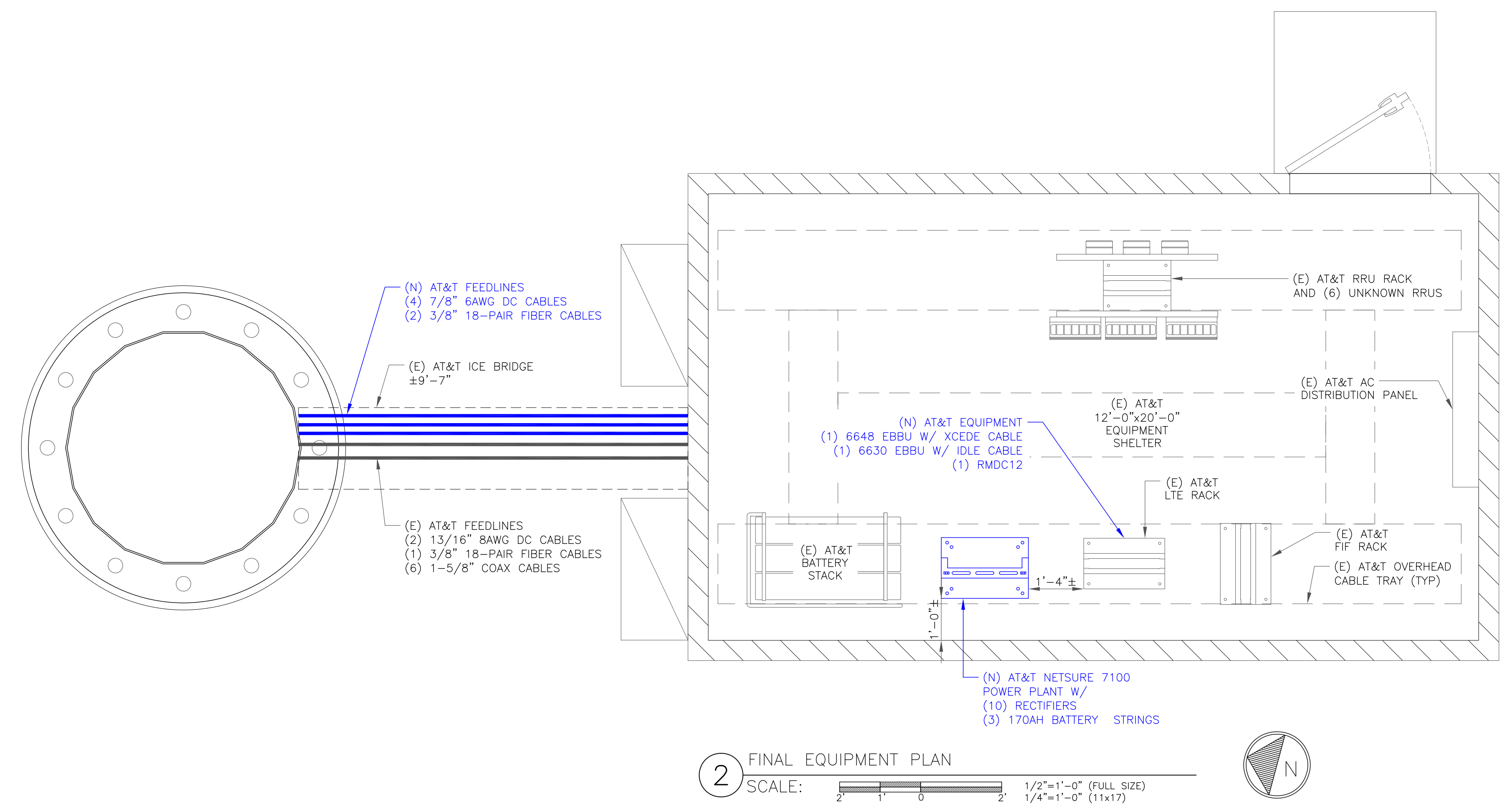
THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. AT&T IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.

NOTE:

SHELTER INTERIOR INFORMATION NOT AVAILABLE AT THIS TIME OF ISSUE. GENERAL CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL EQUIPMENT TO BE REMOVED AND INSTALLED.

ISSUED FOR:

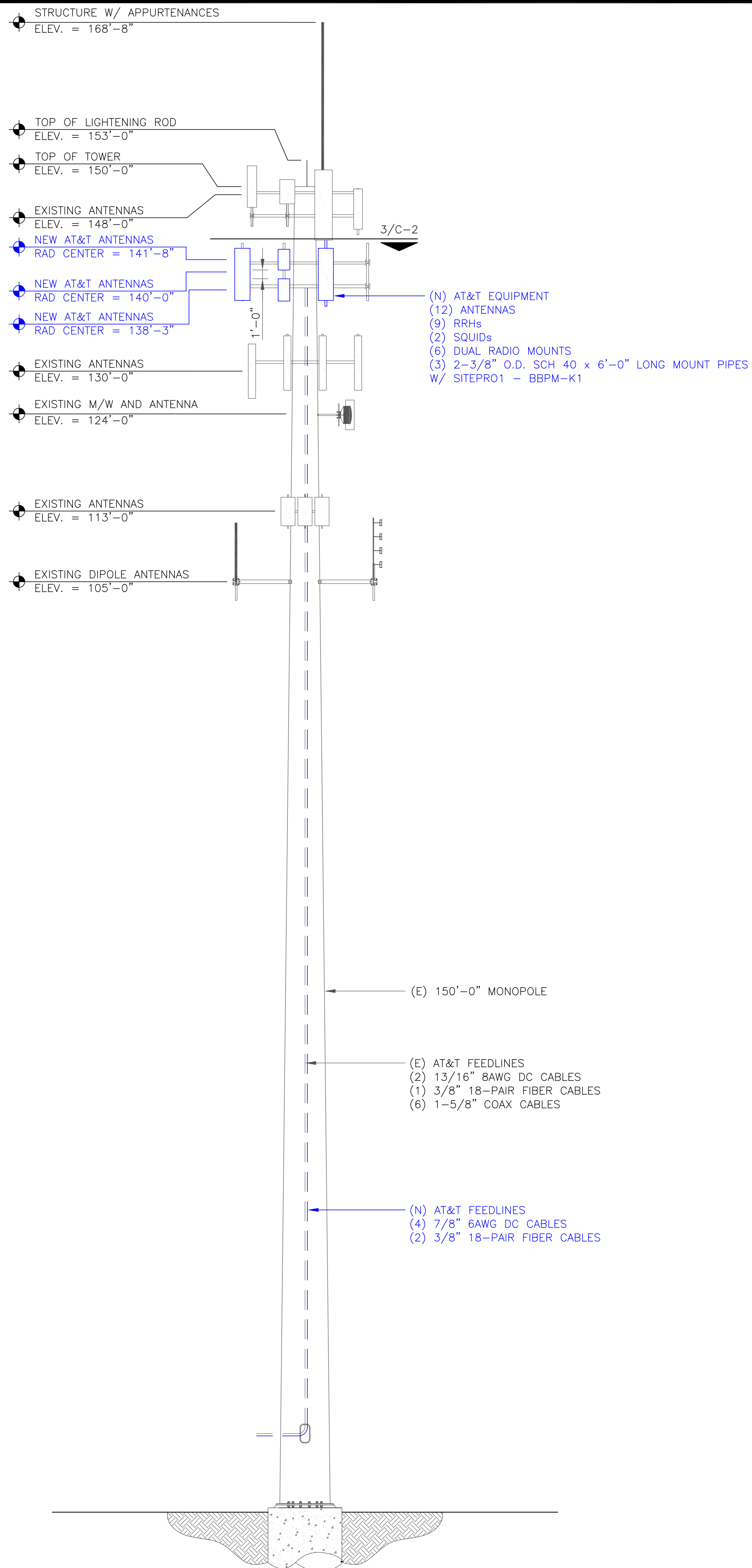
REV	DATE	DRWN	DESCRIPTION	DES./QA
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0	7/14/22	TDG	PRELIMINARY REVIEW	KT



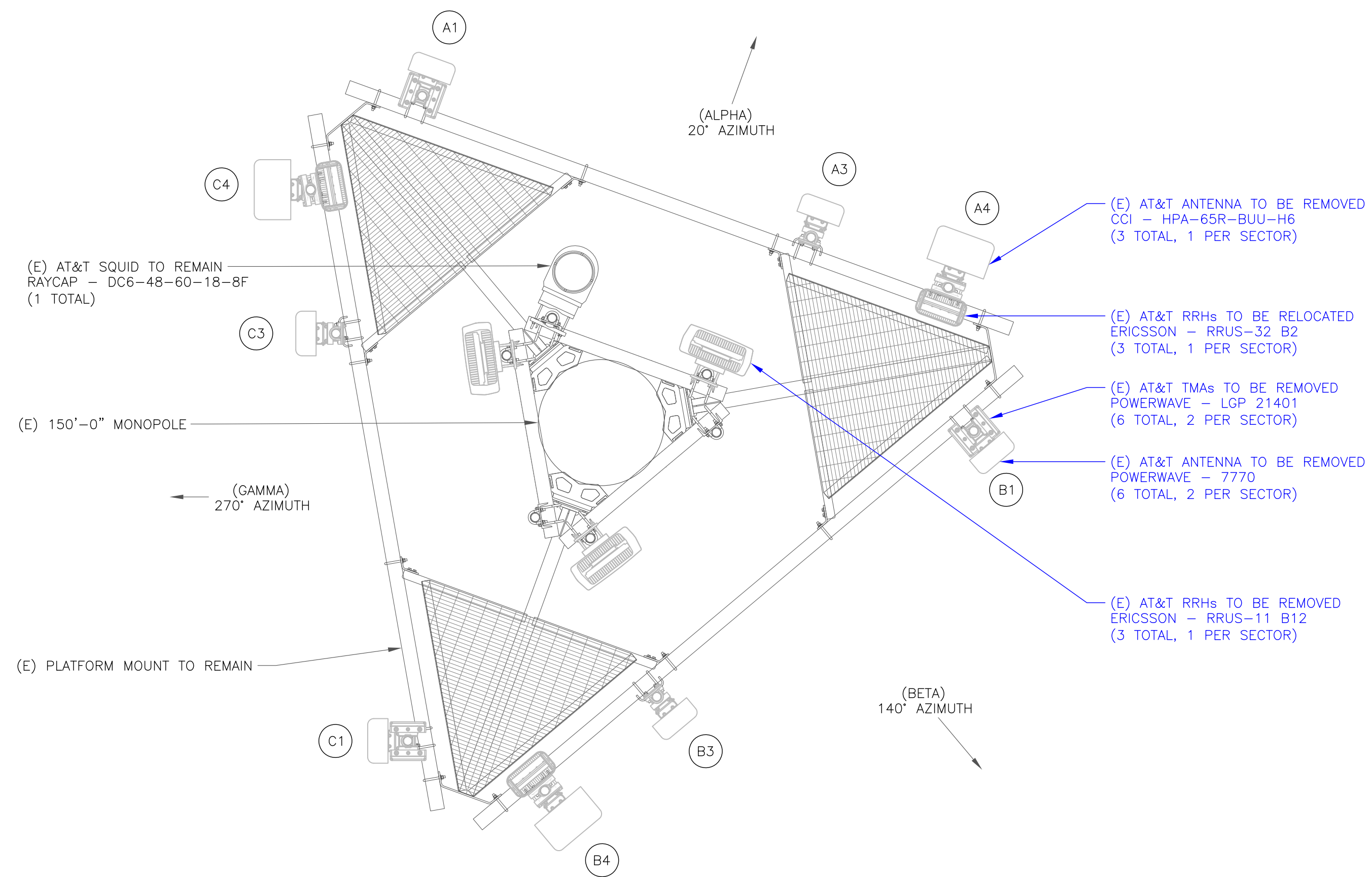
MTS ENGINEERING P.L.L.C.
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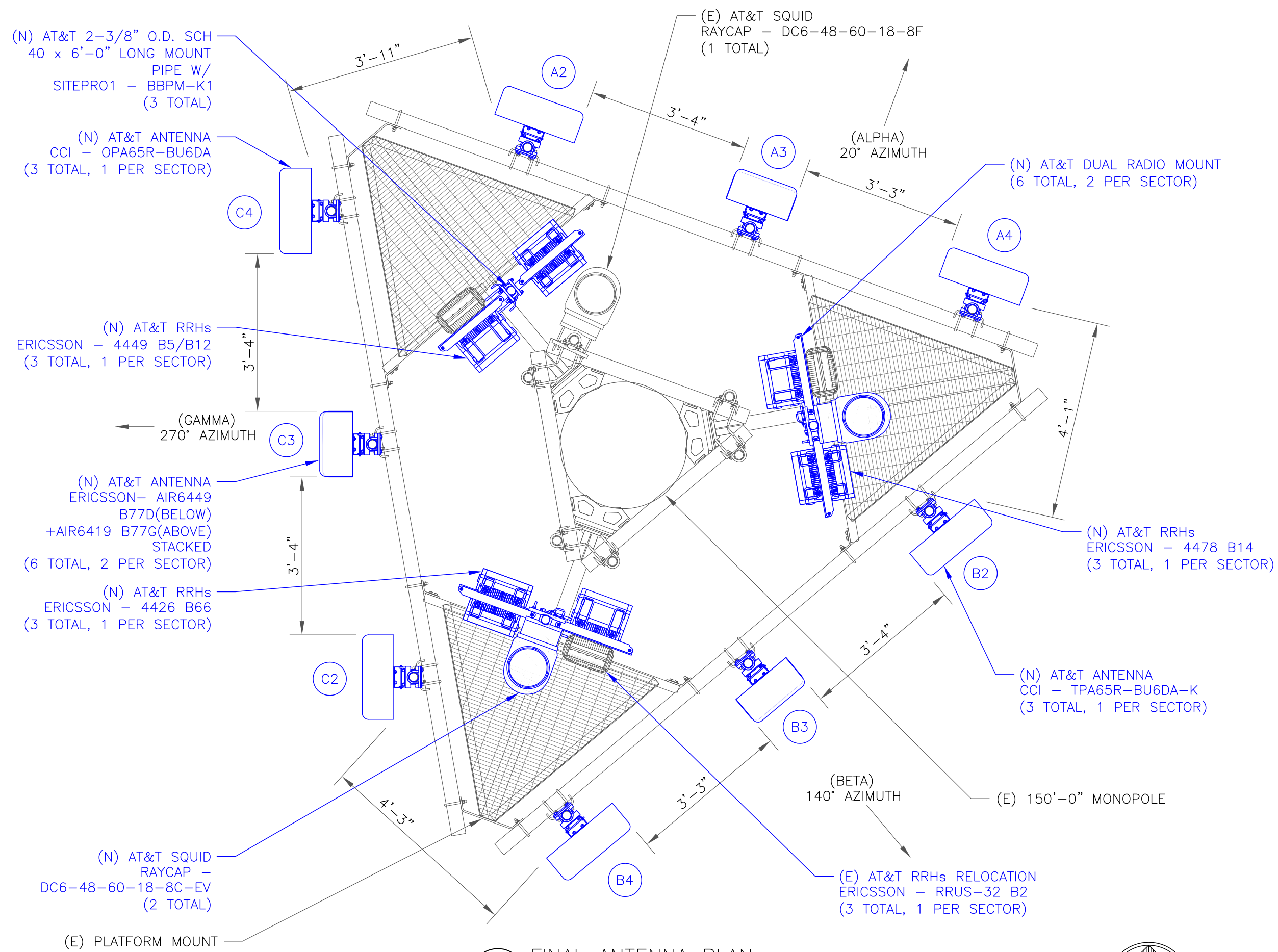
SHEET NUMBER: **C-1.2** REVISION: **0**



1 FINAL ELEVATION
SCALE: NOT TO SCALE



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



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

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

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

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

575 MOROSGO DRIVE
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AT&T SITE NUMBER:
CTL01266

BU #: **5800059**
RIDGE ROAD, MADISON

258 RIDGE ROAD
MADISON, CT 06433

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

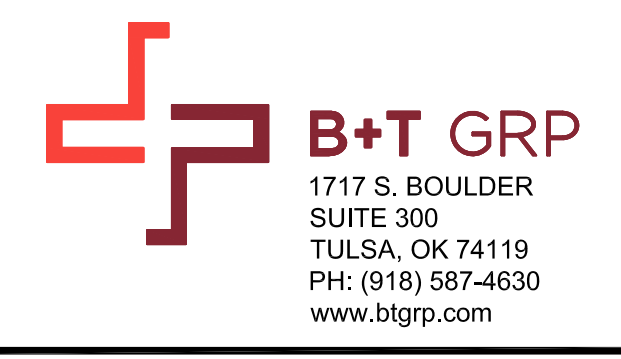
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	5/25/22	GAC	PRELIMINARY REVIEW	KT
0	7/14/22	TDG	PRELIMINARY REVIEW	KT

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

87323.006.01_RIDGE ROAD, MADISON.dwg - SheetC-2 - User: kevin.turkoll - Jul 14, 2022 - 11:59am



AT&T SITE NUMBER:
CTL01266

BU #: **5800059**

RIDGE ROAD, MADISON

258 RIDGE ROAD
MADISON, CT 06433

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	5/25/22	GAC	PRELIMINARY REVIEW	KT
0	7/14/22	TDG	PRELIMINARY REVIEW	KT



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SHEET NUMBER: **C-3** REVISION: **0**

FINAL EQUIPMENT SCHEDULE
(VERIFY WITH CURRENT RFDS)

ALPHA																				
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
A2	LTE/5G	(N) CCI TPA65R-BU6DA-K	20°	140°-0"	1	(E) RRUS-32 B2	TOWER	-	-	-	-	-	-	-	1	(E) DC6-48-60-18-8F	2	(E) 8AWG DC TRUNK	13/16"	190'-0"
					1	(N) 4478 B14	TOWER										1	(E) 18-PAIR FIBER TRUNK	3/8"	190'-0"
					1	(N) 4426 B66	TOWER													
A3	5G CBAND/5G DOD	(N) ERICSSON AIR6449 B77D+AIR6419 B77G STACKED	20°	141°-8" 138°-3"	-	INTEGRATED WITHIN	TOWER	-	-	-	-	-	-	-	-	-	2	(E) COAX	1-5/8"	190'-0"
A4	LTE/5G	(N) CCI OPA65R-BU6DA	20°	140°-0"	1	(N) 4449 B5/B12 (N) Y-CABLE	TOWER TOWER	-	-	-	-	-	-	-	-	-	-	-	-	-
BETA																				
B2	LTE/5G	(N) CCI TPA65R-BU6DA-K	140°	140°-0"	1	(E) RRUS-32 B2	TOWER	-	-	-	-	-	-	-	1	(N) DC6-48-60-18-8C-EV	2	(N) 6AWG DC TRUNK	7/8"	190'-0"
					1	(N) 4478 B14	TOWER										1	(N) 18-PAIR FIBER TRUNK	3/8"	190'-0"
					1	(N) 4426 B66	TOWER													
B3	5G CBAND/5G DOD	(N) ERICSSON AIR6449 B77D+AIR6419 B77G STACKED	140°	141°-8" 138°-3"	-	INTEGRATED WITHIN	TOWER	-	-	-	-	-	-	-	-	-	2	(E) COAX	1-5/8"	190'-0"
B4	LTE/5G	(N) CCI OPA65R-BU6DA	140°	140°-0"	1	(N) 4449 B5/B12 (N) Y-CABLE	TOWER TOWER	-	-	-	-	-	-	-	-	-	-	-	-	-
GAMMA																				
C2	LTE/5G	(N) CCI TPA65R-BU6DA-K	270°	140°-0"	1	(E) RRUS-32 B2	TOWER	-	-	-	-	-	-	-	1	(N) DC6-48-60-18-8C-EV	2	(N) 6AWG DC TRUNK	7/8"	190'-0"
					1	(N) 4478 B14	TOWER										1	(N) 18-PAIR FIBER TRUNK	3/8"	190'-0"
					1	(N) 4426 B66	TOWER													
C3	5G CBAND/5G DOD	(N) ERICSSON AIR6449 B77D+AIR6419 B77G STACKED	270°	141°-8" 138°-3"	-	INTEGRATED WITHIN	TOWER	-	-	-	-	-	-	-	-	-	2	(E) COAX	1-5/8"	190'-0"
C4	LTE/5G	(N) CCI OPA65R-BU6DA	270°	140°-0"	1	(N) 4449 B5/B12 (N) Y-CABLE	TOWER TOWER	-	-	-	-	-	-	-	-	-	-	-	-	-

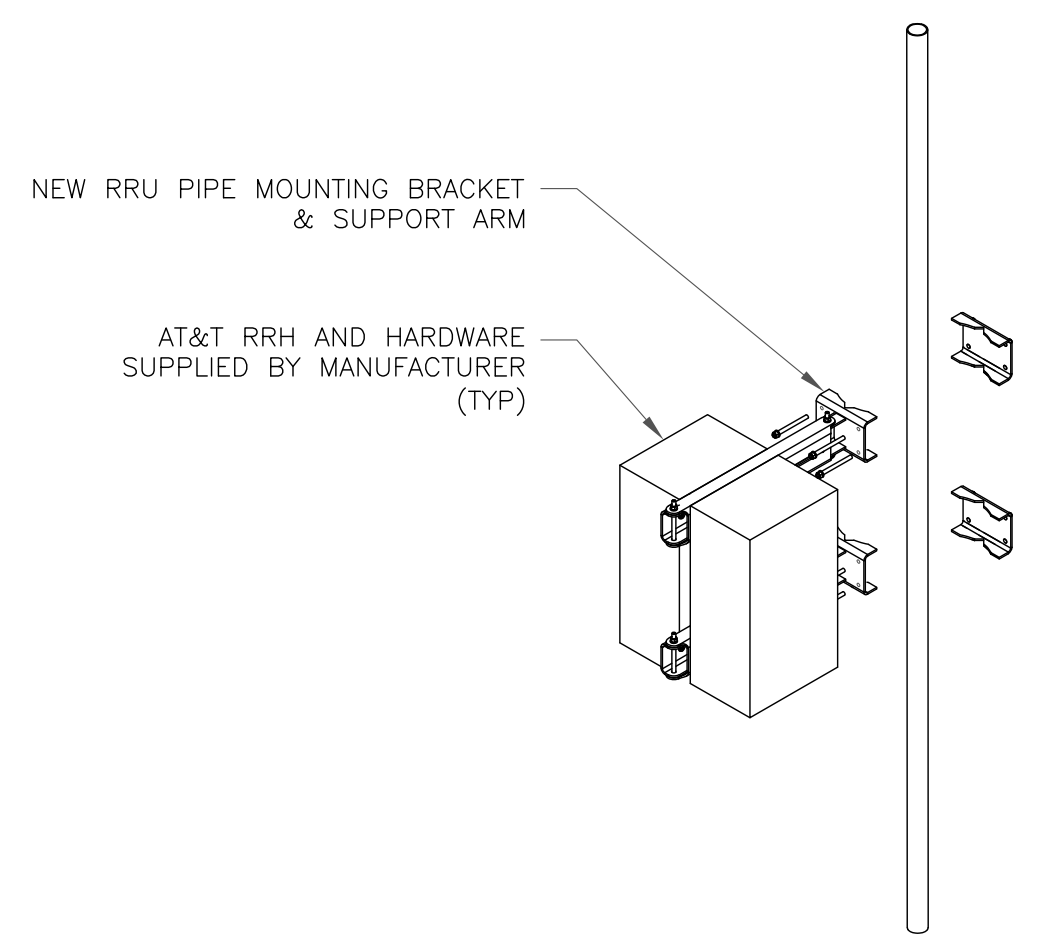
NOTE:
(E) - EXISTING
(N) - NEW

1 FINAL ANTENNA AND FEEDLINE SCHEDULE
SCALE: NOT TO SCALE

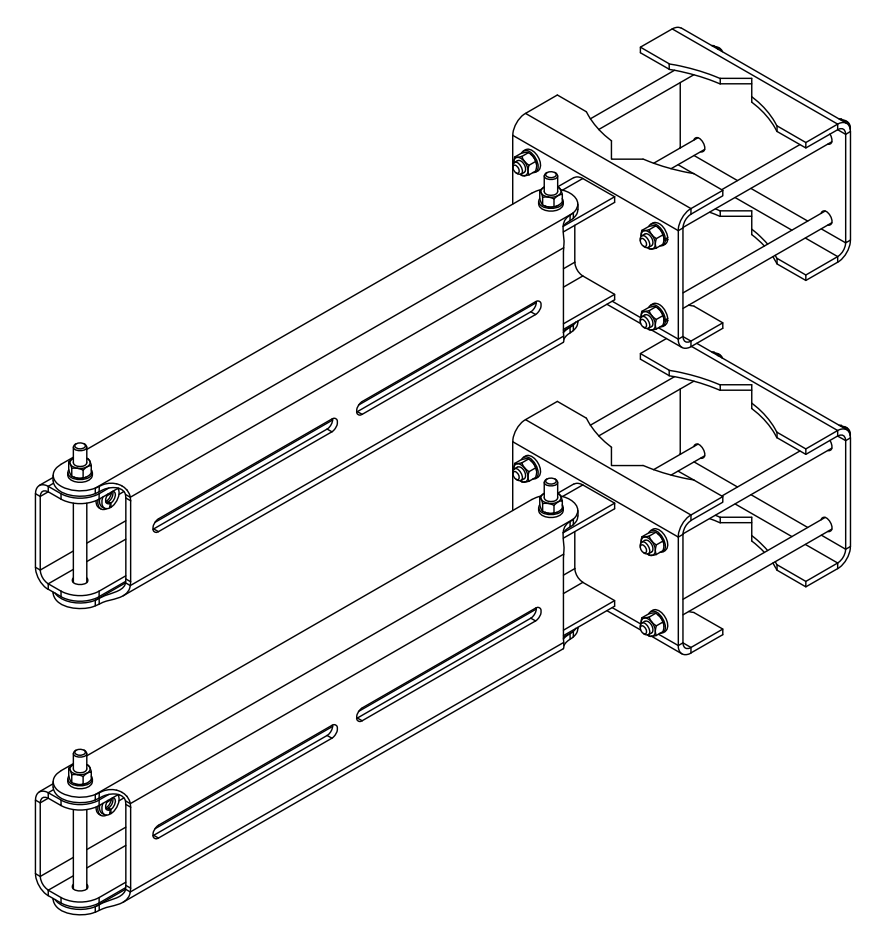
87323.006.01_RIDGE ROAD, MADISON.dwg - SheetC-3 - User: kevin.turkoll - Jul 14, 2022 - 11:59am

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

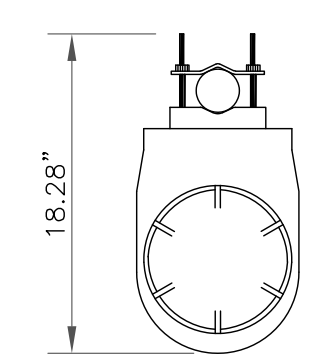


2 DUAL RADIO MOUNT
SCALE: NOT TO SCALE

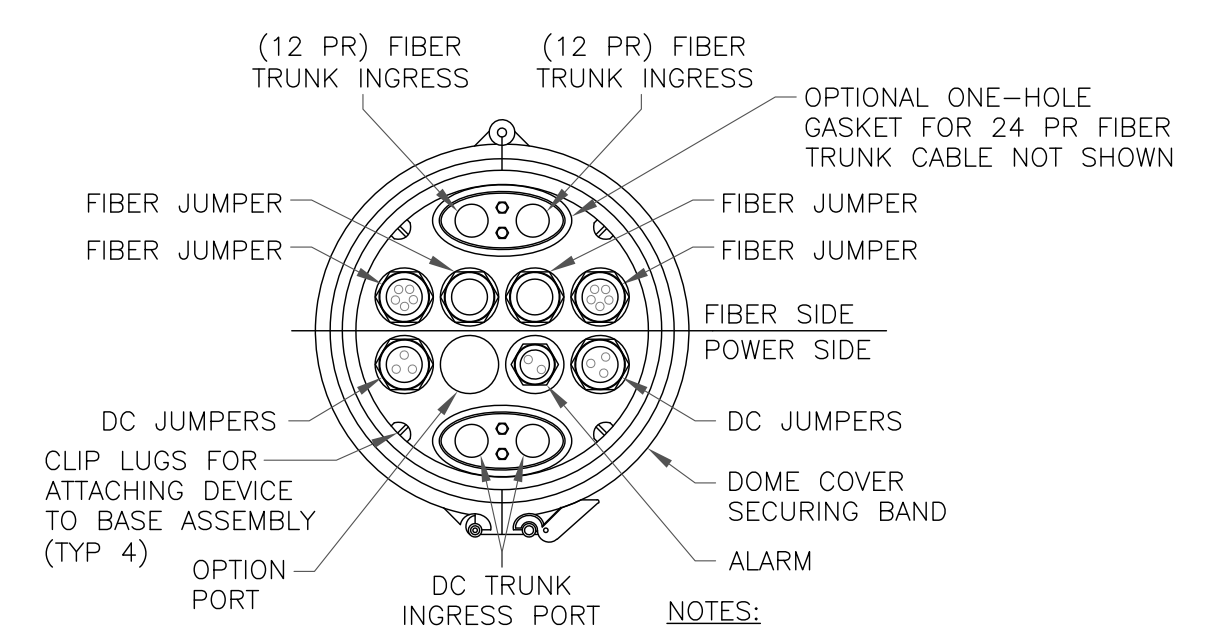
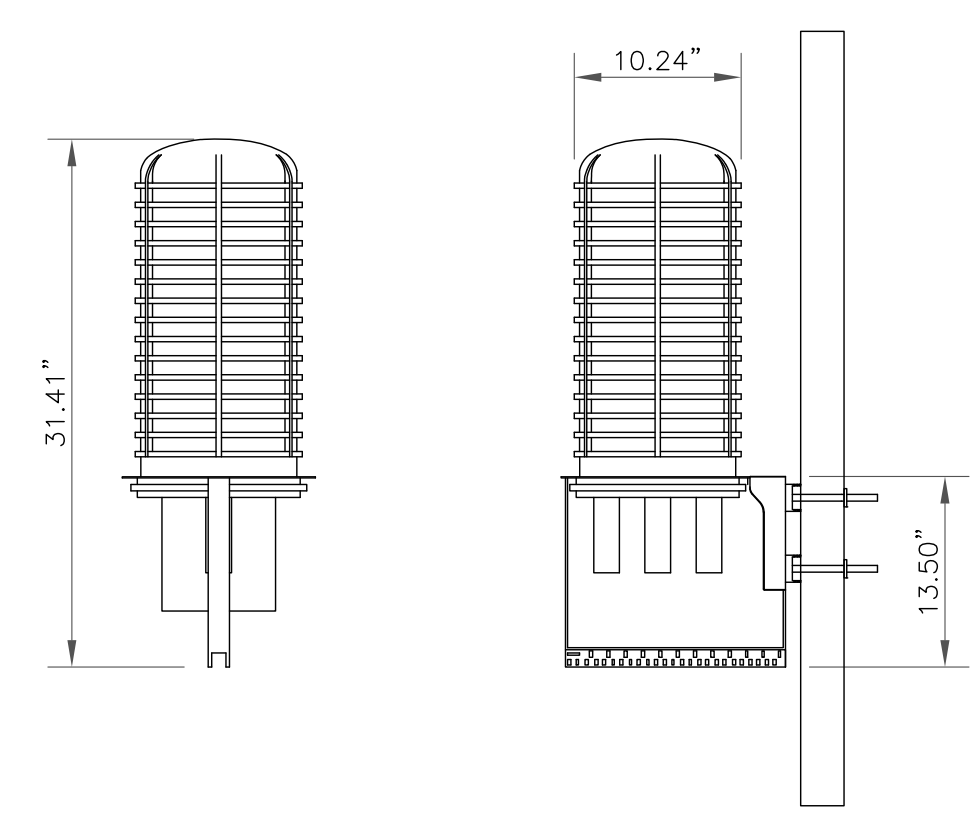
3 NOT USED
SCALE: NOT TO SCALE

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

RAYCAP - DC6-48-60-18-8C-EV
SIZE: 11.00x22.25 IN.
WEIGHT: 18.90 LBS
NOMINAL OPERATING VOLTAGE: 48 VDC
VOLTAGE PROTECTION RATING: 330 V
WIND LOADING: 150 MPH SUSTAINED (105.7 LBS)
WIND LOADING: 195 MPH GUST (213.6 LBS)



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



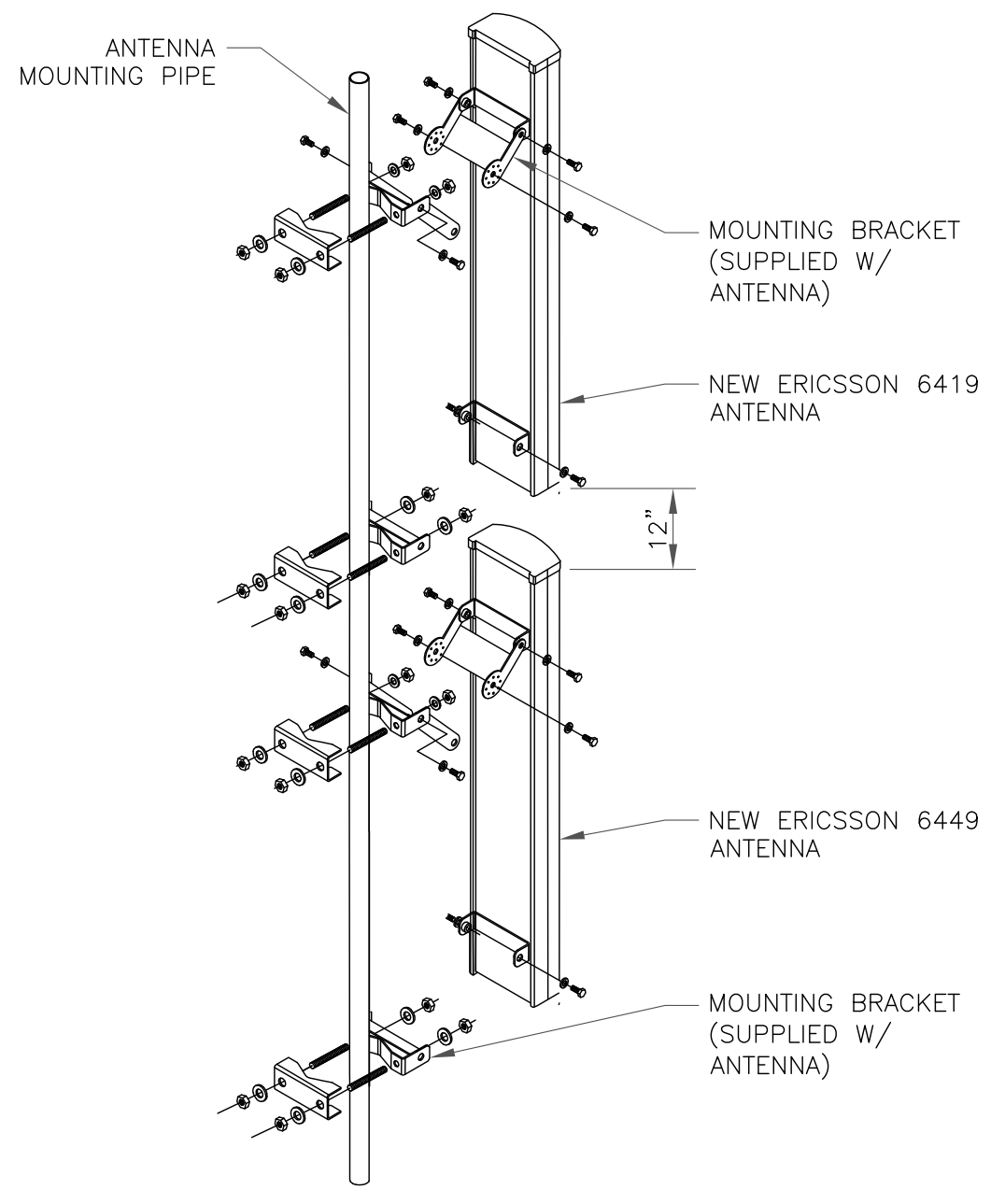
6 SQUID MOUNTING DETAIL
SCALE: NOT TO SCALE

NOTES:

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

INSTALLER NOTE:

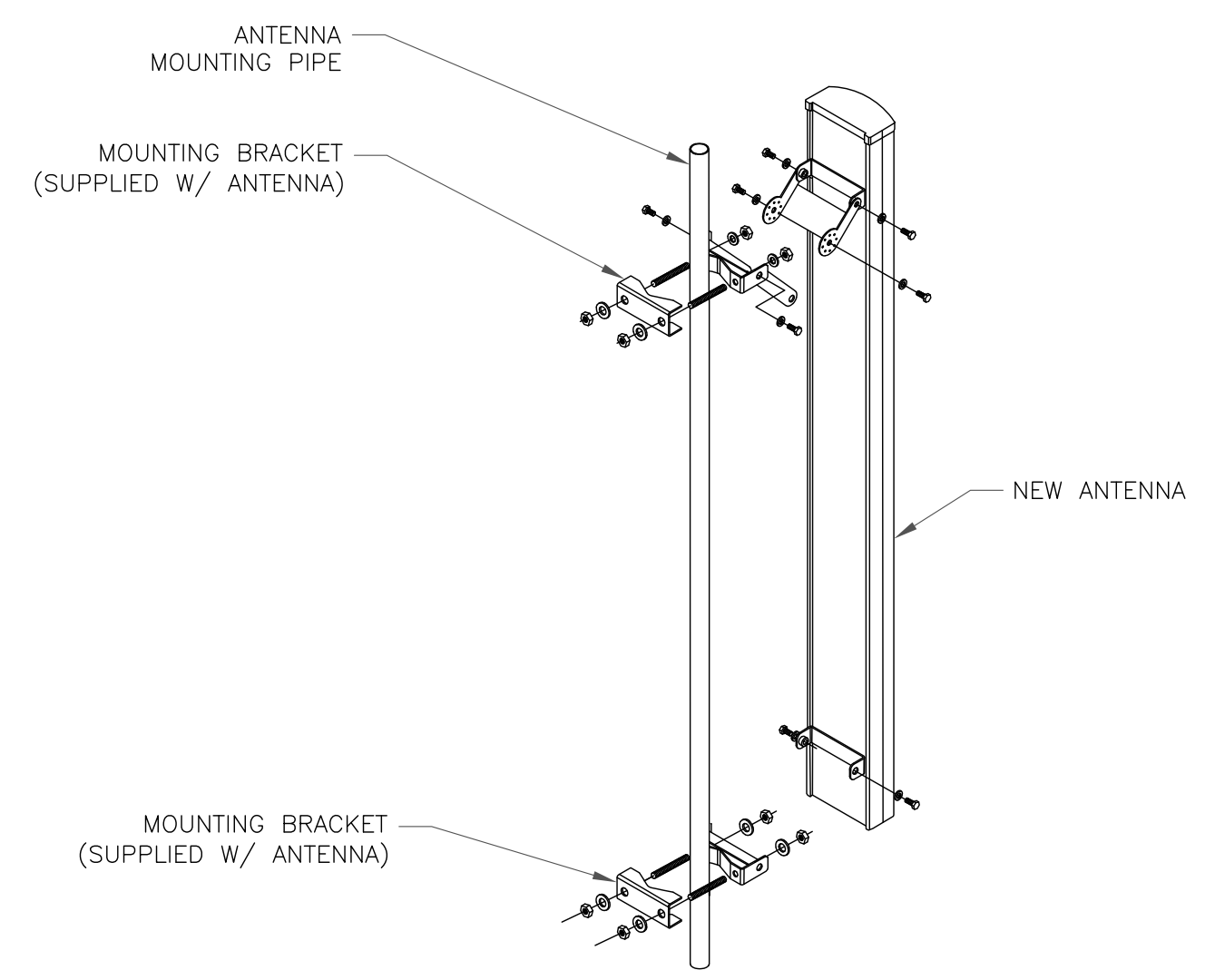
ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



4 STACKED ANTENNA MOUNTING DETAIL
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

575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

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

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SUITE 300
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AT&T SITE NUMBER:
CTL01266

BU #: **5800059**
RIDGE ROAD, MADISON

258 RIDGE ROAD
MADISON, CT 06433

EXISTING
150'-0" MONOPOLE

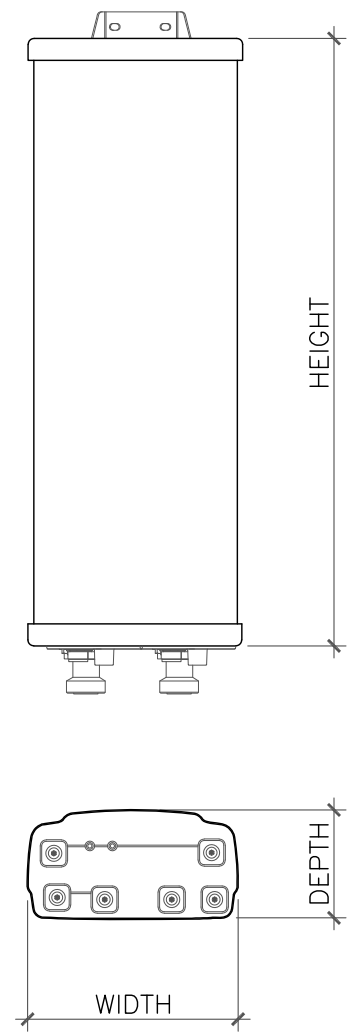
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0	7/14/22	TDG	PRELIMINARY REVIEW	KT

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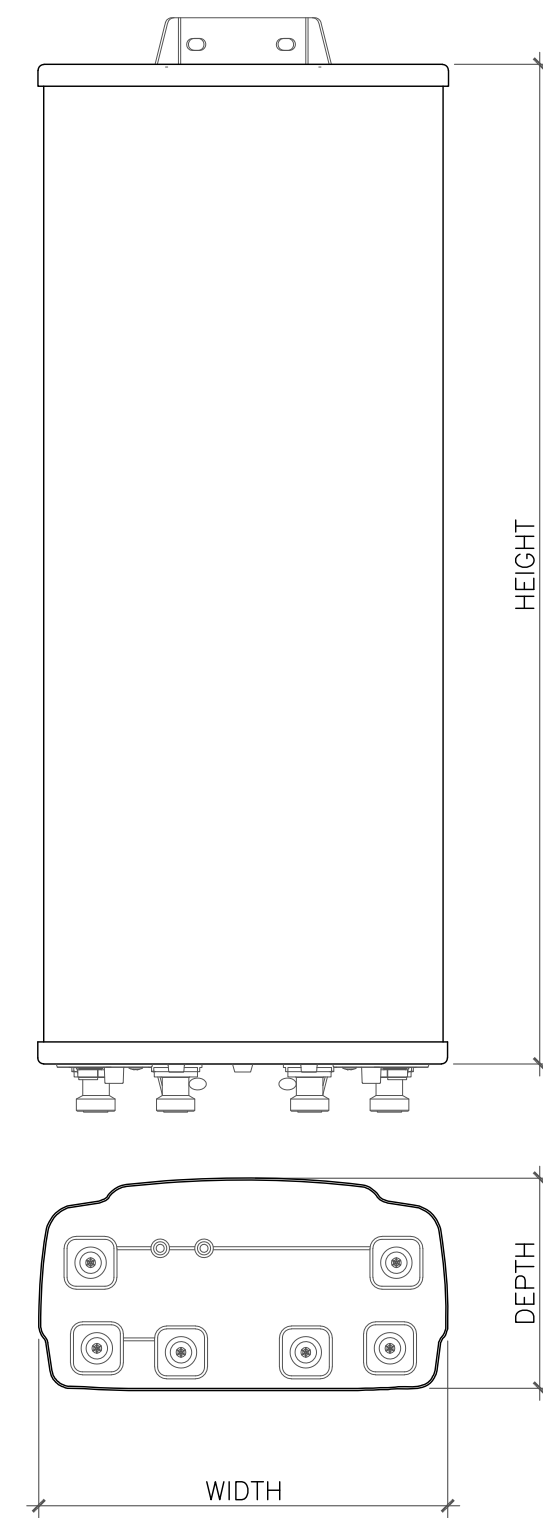
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SHEET NUMBER: **C-4** REVISION: **0**



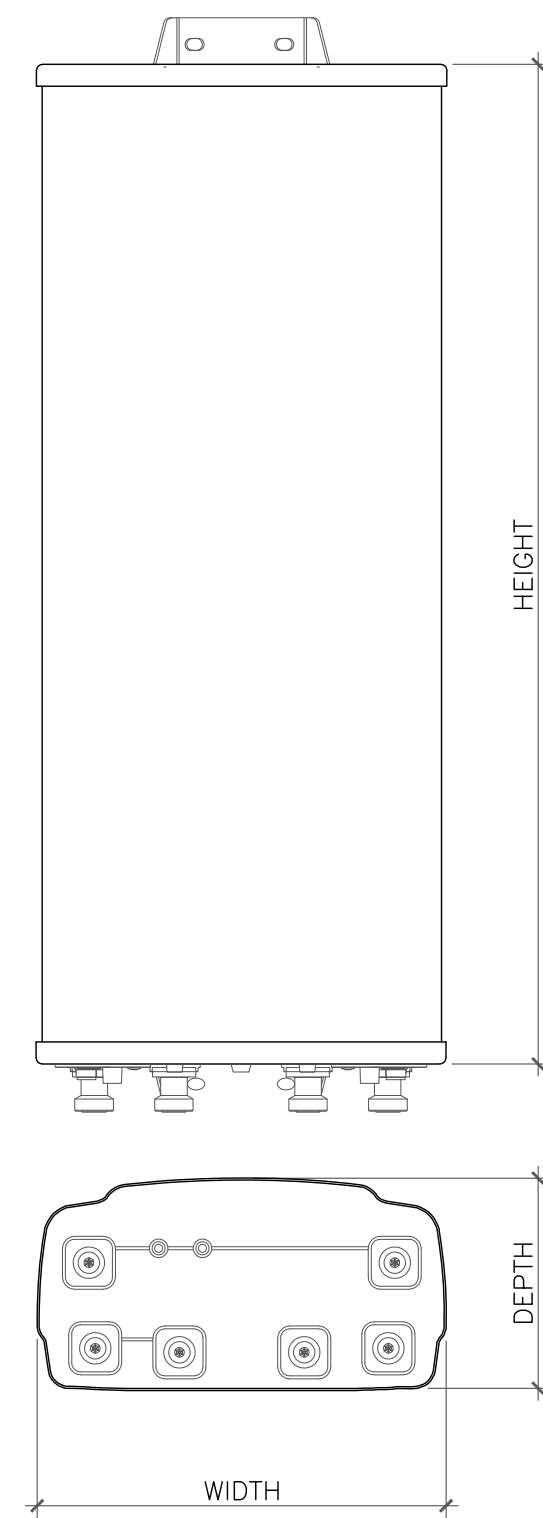
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
AIR 6449 B77D	30.39"	15.87"	8.07"	81.60 lbs
AIR 6419 B77G	28.30"	16.10"	7.90"	66.10 lbs

1 ANTENNA DETAIL
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
OPA65R-BU6DA	71.2"	21.0"	7.8"	63.5 lbs

2 ANTENNA DETAIL
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
TPA-65R-BU6DA-K	71.2"	20.7"	7.7"	69.0 lbs

3 ANTENNA DETAIL
SCALE: NOT TO SCALE

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BU #: **5800059**
RIDGE ROAD, MADISON

258 RIDGE ROAD
MADISON, CT 06433

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

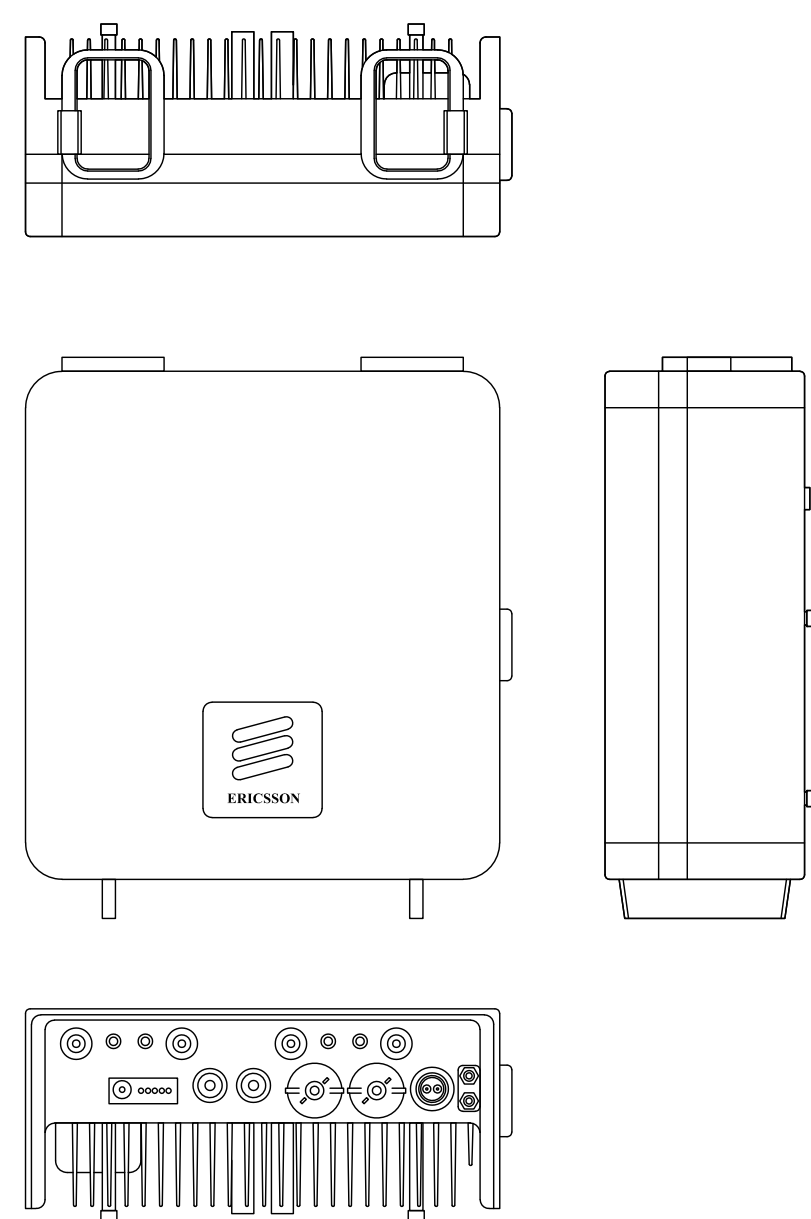
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	5/25/22	GAC	PRELIMINARY REVIEW	KT
0	7/14/22	TDG	PRELIMINARY REVIEW	KT



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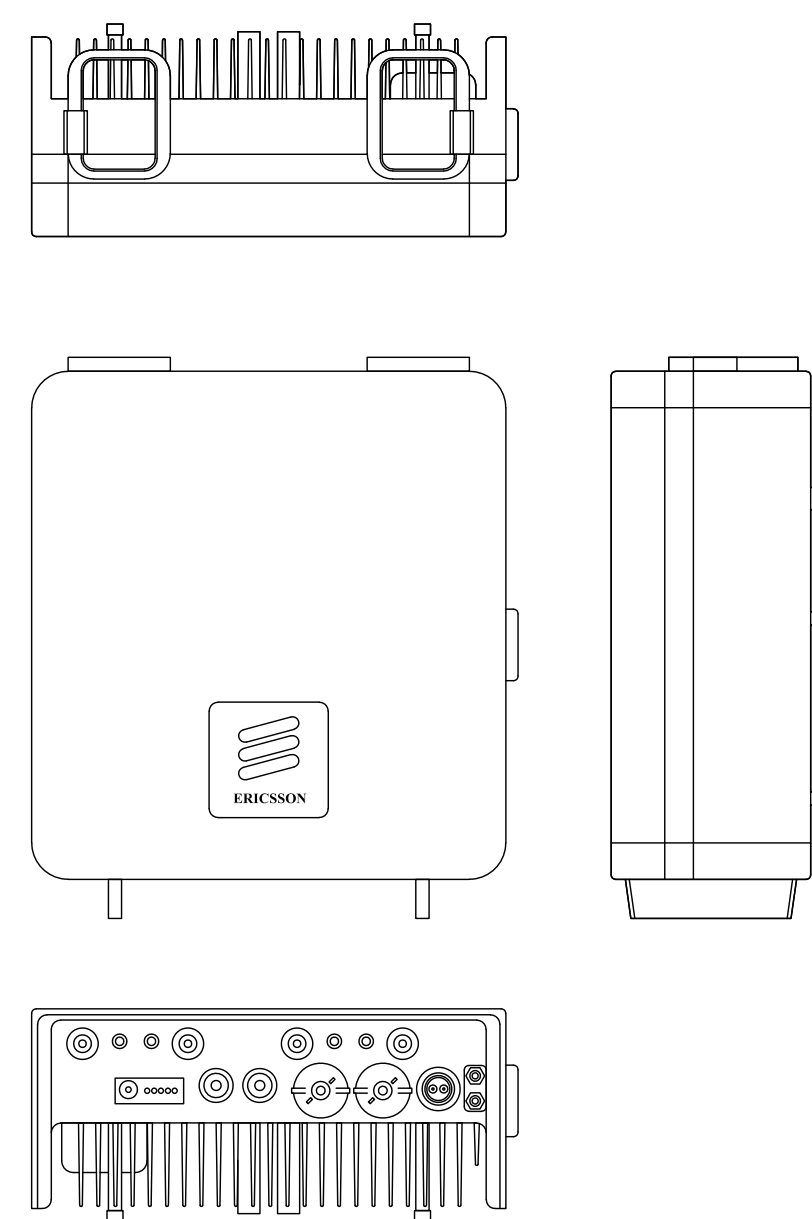
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SHEET NUMBER: **C-5** REVISION: **0**



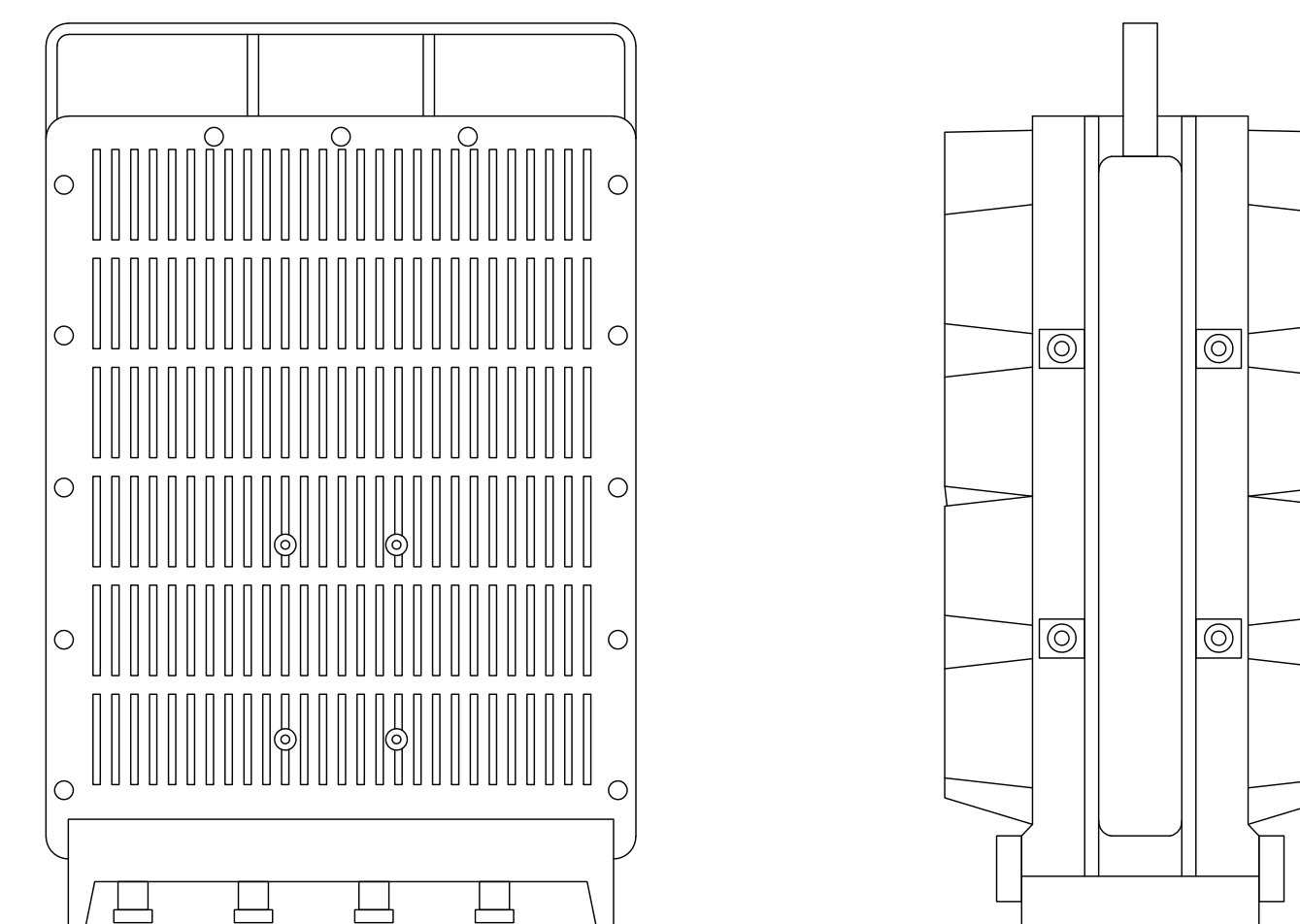
ERICSSON - RRUS 4426
WEIGHT: 60.0 LBS
SIZE (HxWxD): 14.9x13.2x5.8 IN.

4 ERICSSON - RRUS 4426
SCALE: NOT TO SCALE



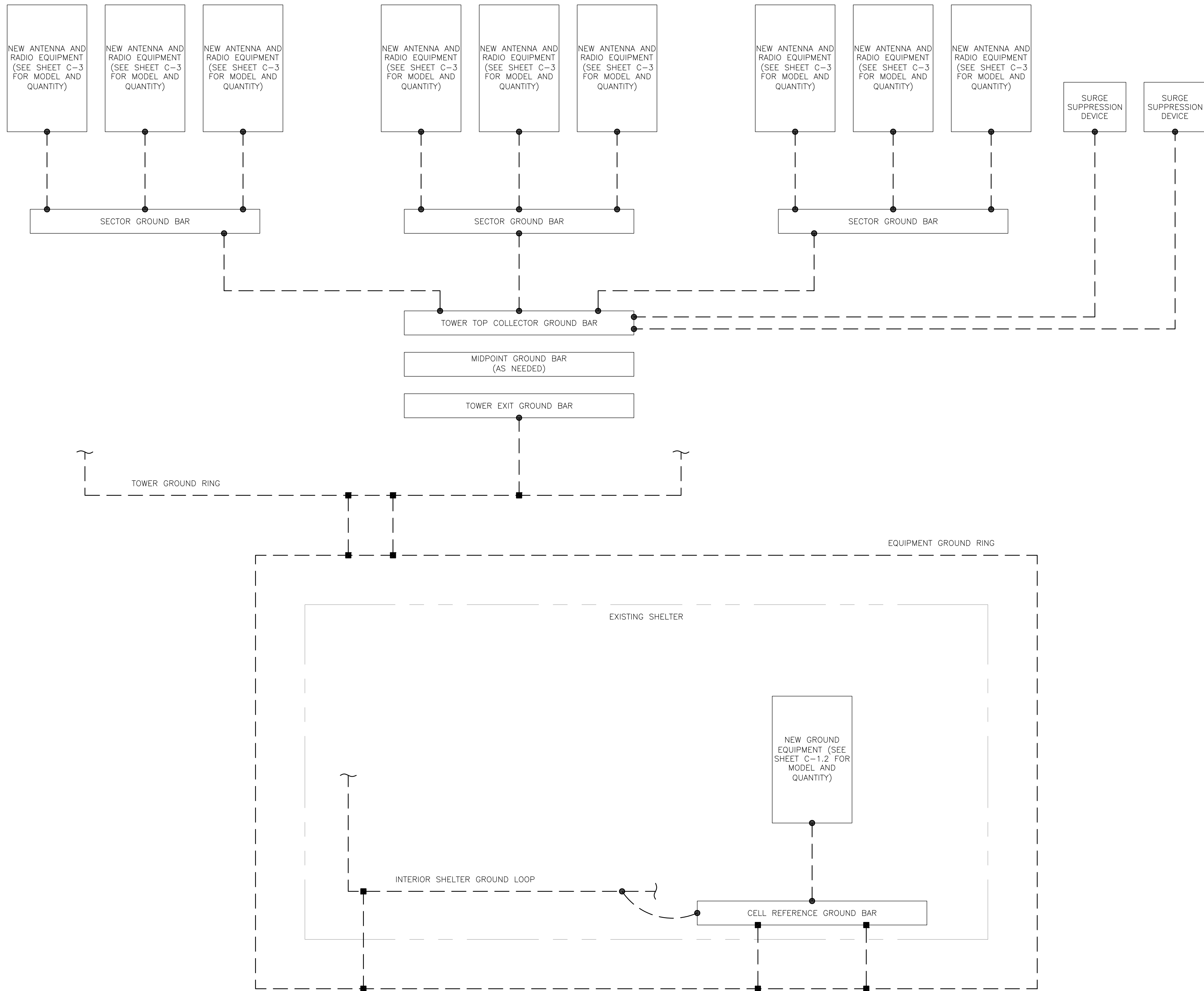
ERICSSON - RRUS 4478
WEIGHT: 60.0 LBS
SIZE (HxWxD): 15.0x13.0x8.0 IN.

5 ERICSSON - RRUS 4478
SCALE: NOT TO SCALE



ERICSSON - 4449 B5/B12
WEIGHT (FULLY EQUIPPED): 71 LBS
SIZE (HxWxD): 17.91x13.19x9.44 IN.
CONNECTOR TYPE: 4.3-10 FEMALE (4 TOTAL PORTS)

6 ERICSSON - 4449 B5/B12
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.

575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

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

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

AT&T SITE NUMBER:
CTL01266

BU #: 5800059
RIDGE ROAD, MADISON

258 RIDGE ROAD
MADISON, CT 06433

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

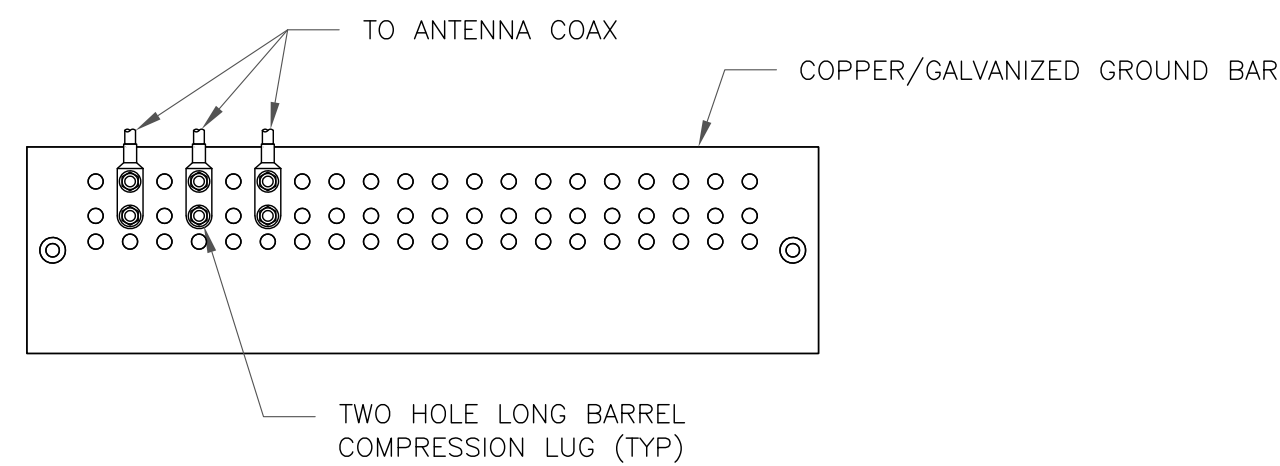
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	5/25/22	GAC	PRELIMINARY REVIEW	KT
0	7/14/22	TDG	PRELIMINARY REVIEW	KT

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

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SHEET NUMBER: **G-1** **REVISION:** **0**

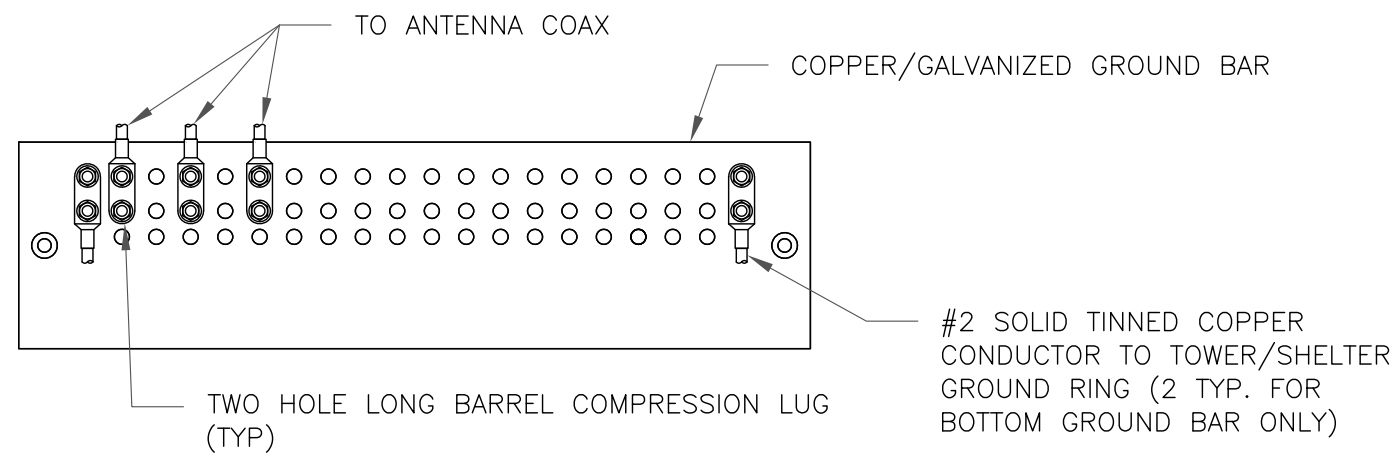
1 GROUNDING SCHEMATIC
SCALE: NOT TO SCALE



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

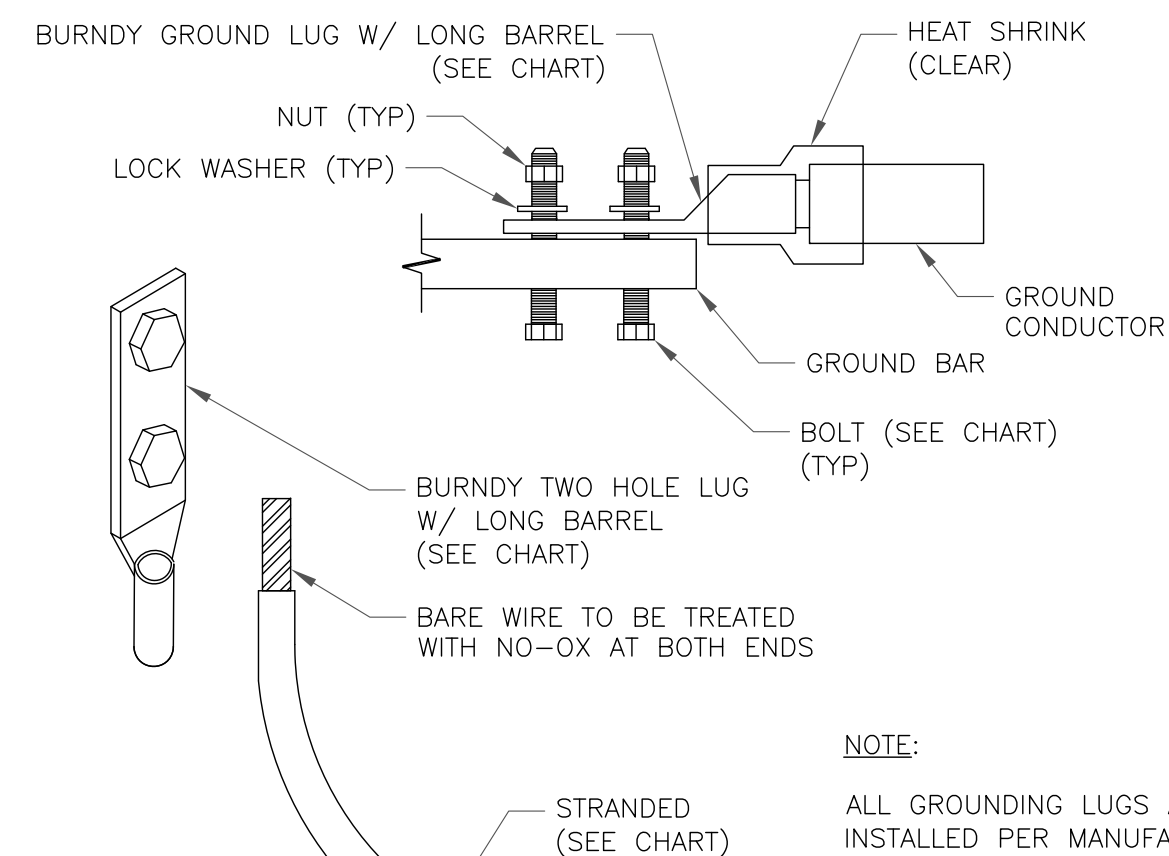


NOTES:

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

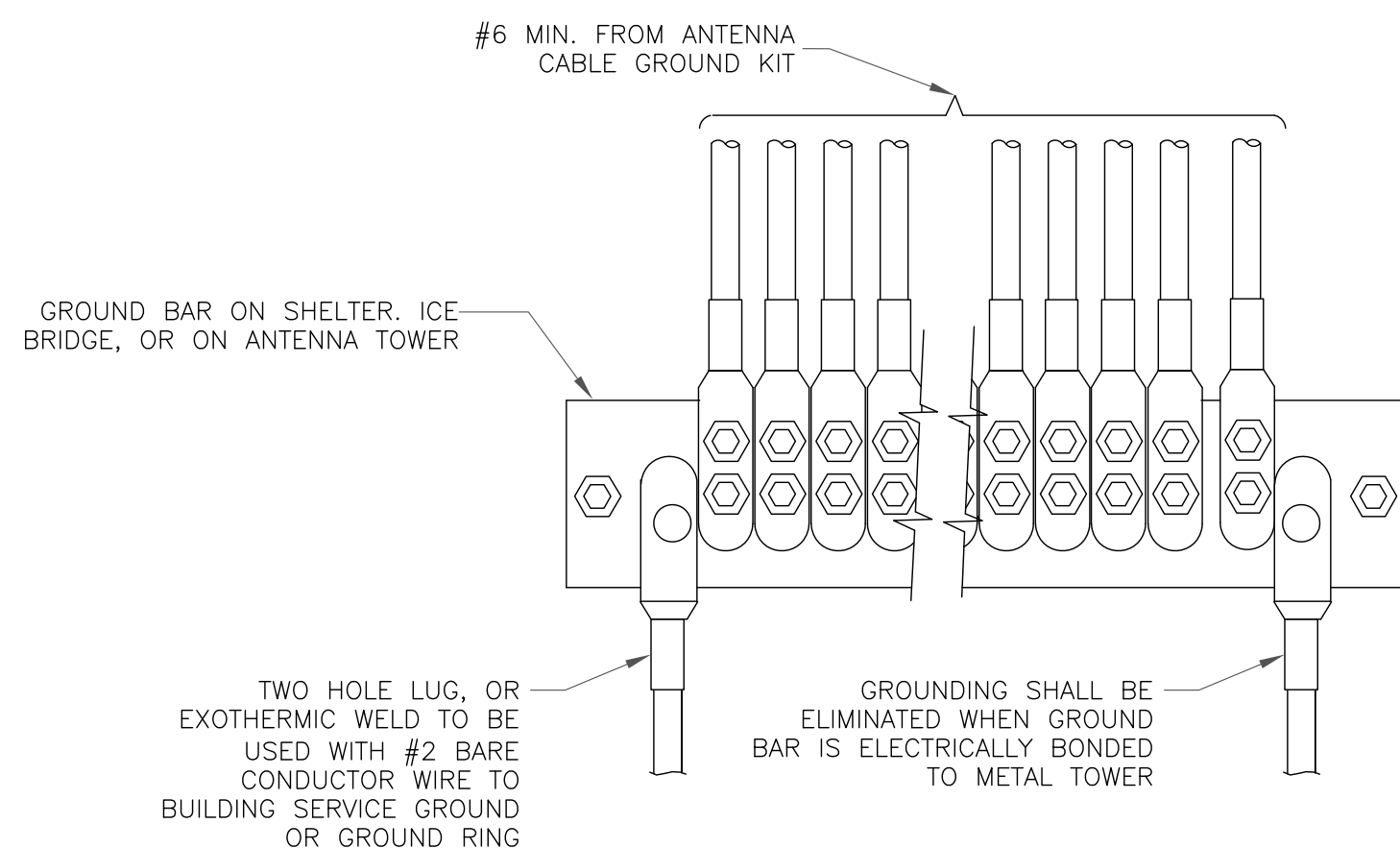
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



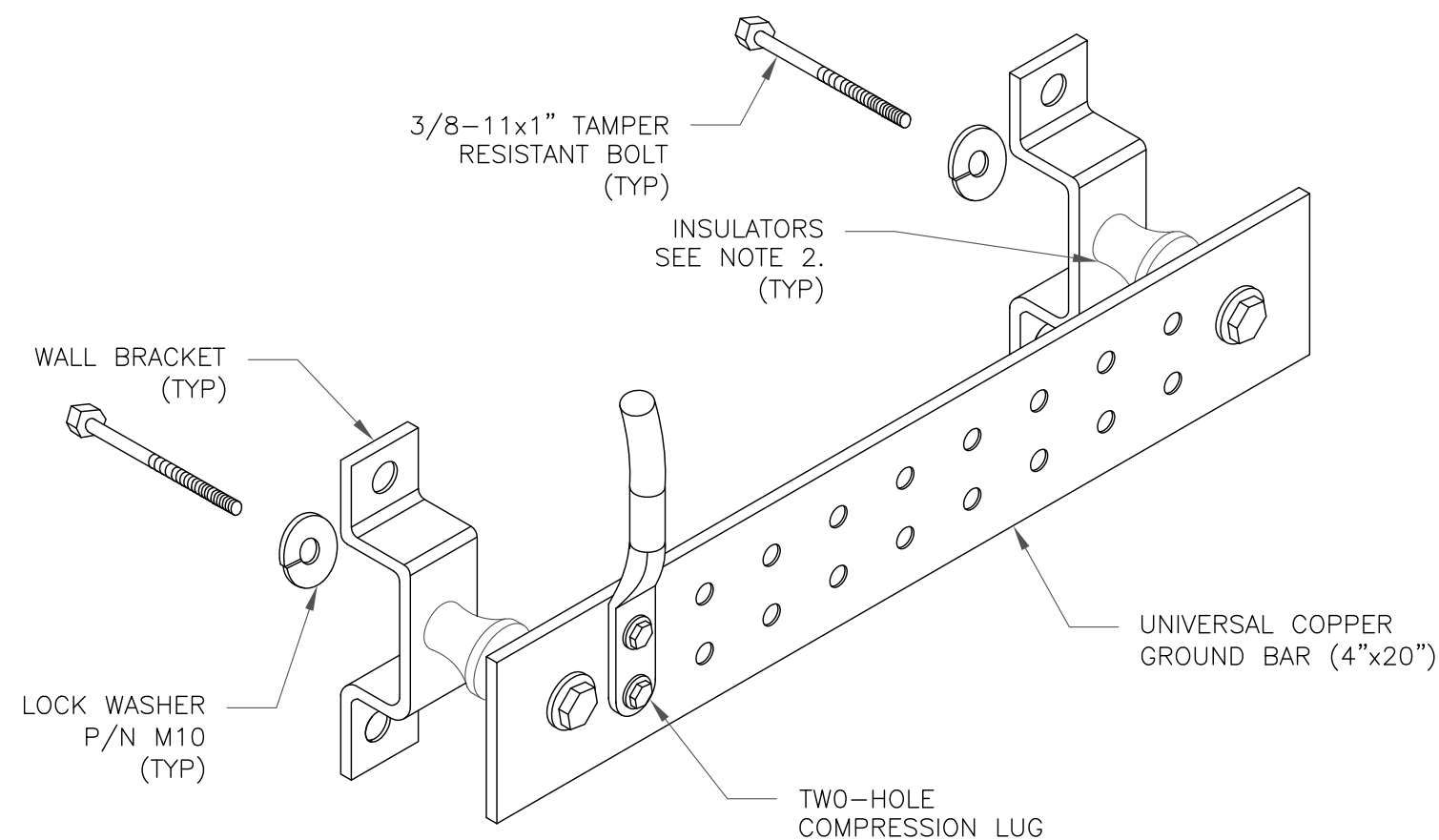
NOTE:

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



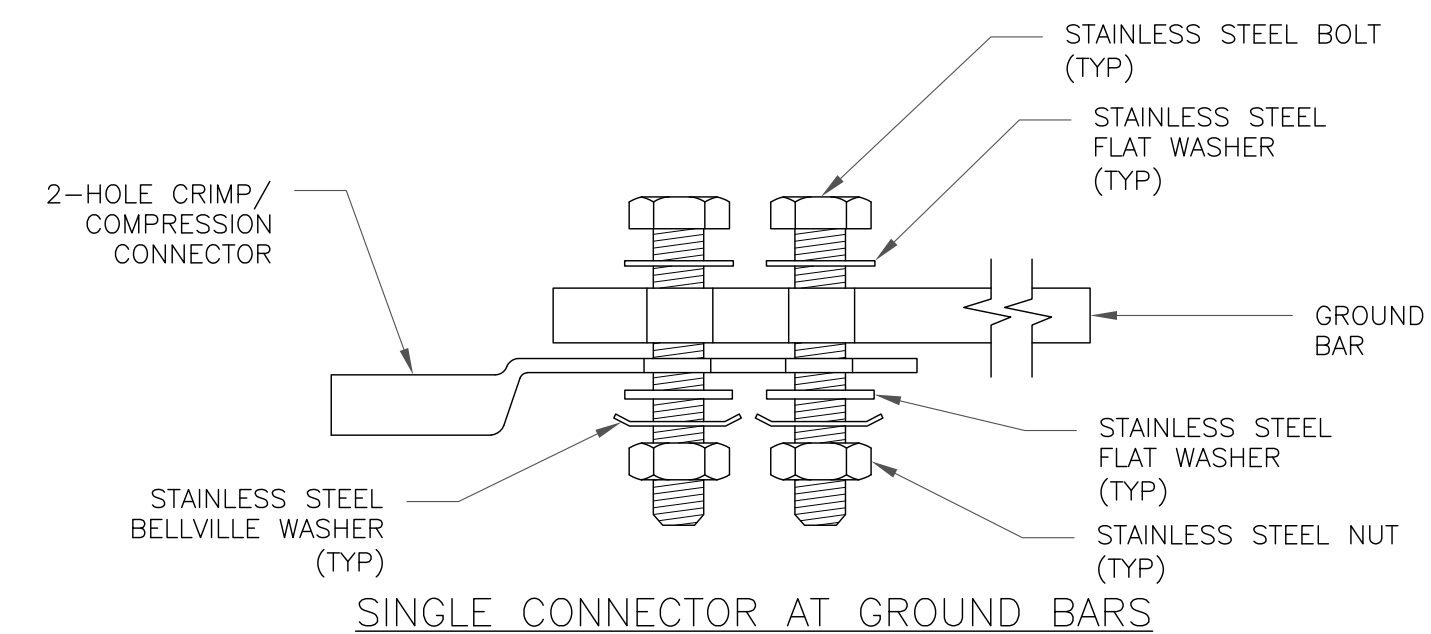
4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



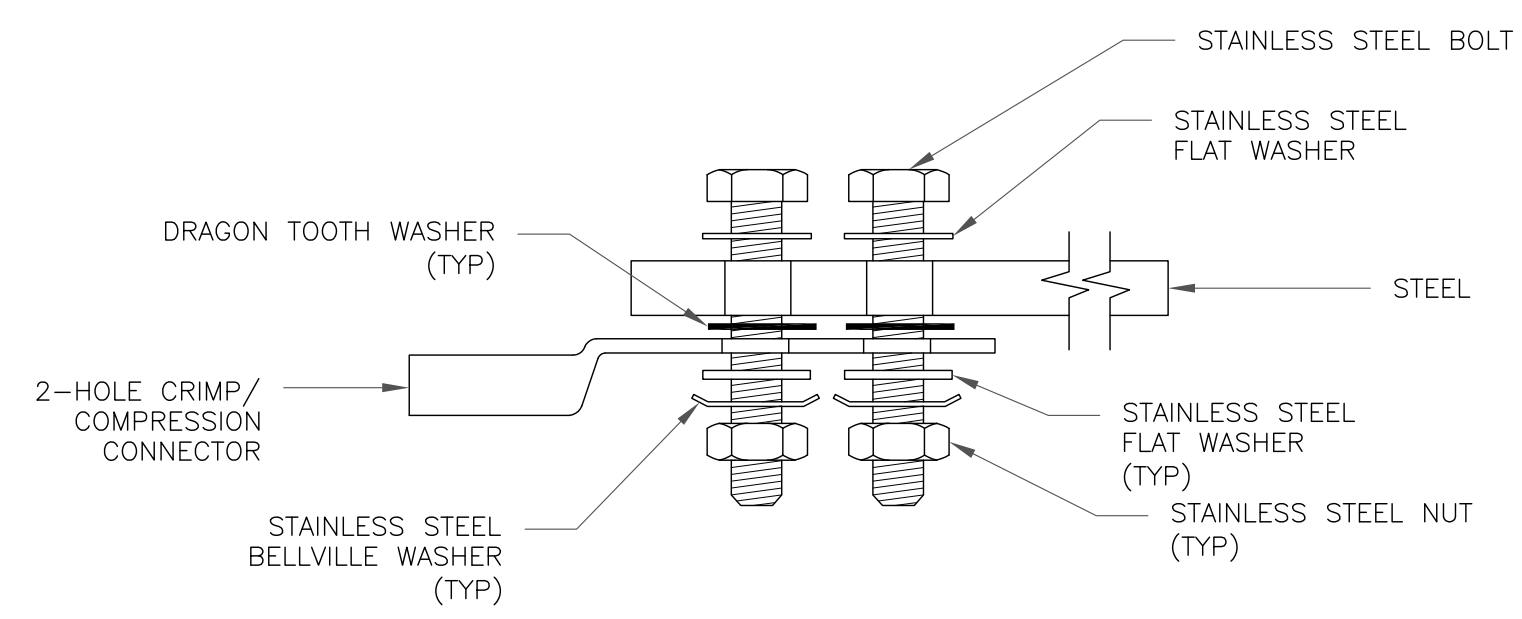
NOTES:

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.

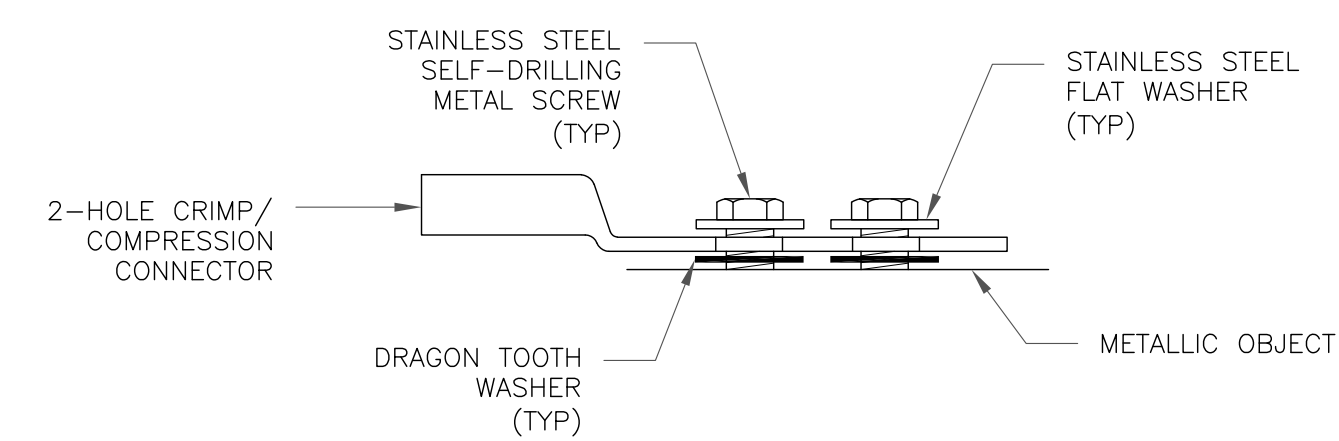
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



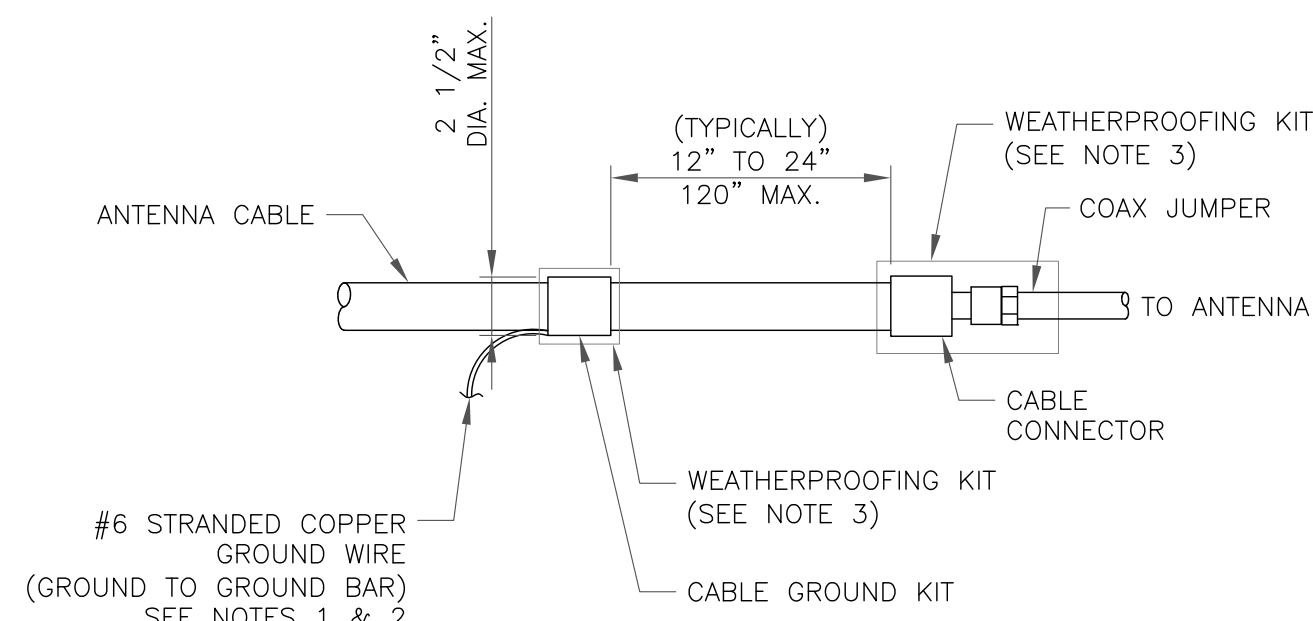
SINGLE CONNECTOR AT GROUND BARS



SINGLE CONNECTOR AT STEEL OBJECTS



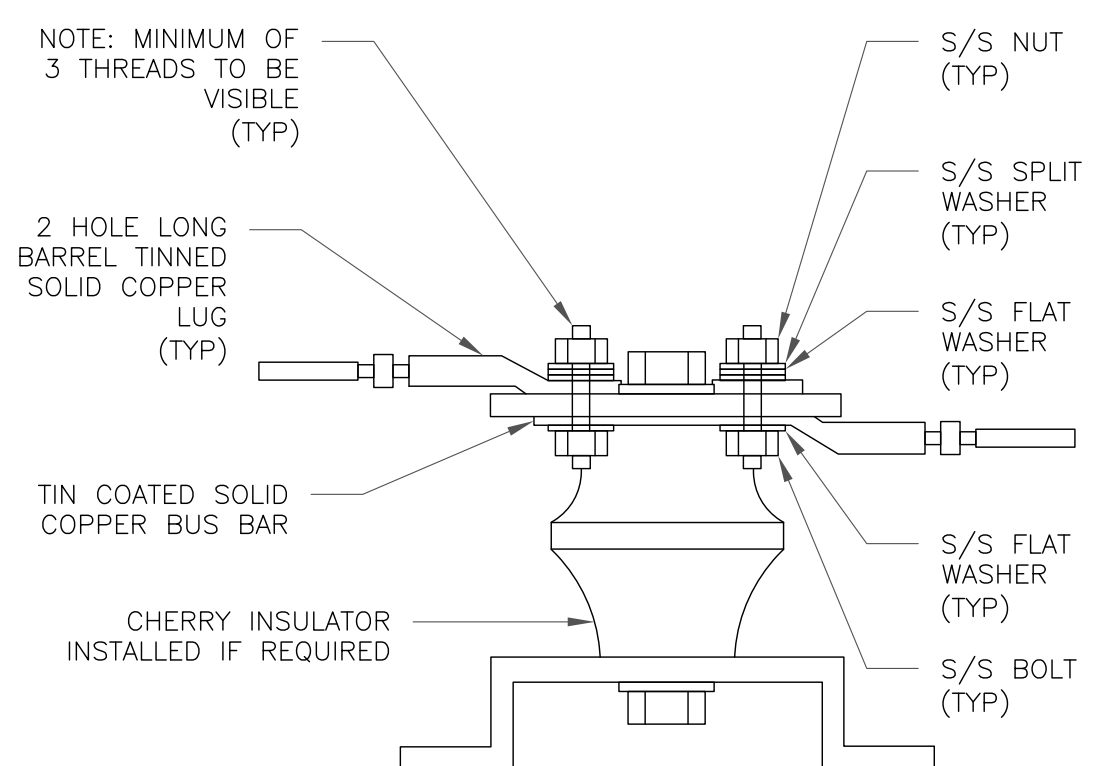
SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS



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

8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



AT&T SITE NUMBER:
CTL01266

BU #: 5800059
RIDGE ROAD, MADISON

258 RIDGE ROAD
MADISON, CT 06433

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

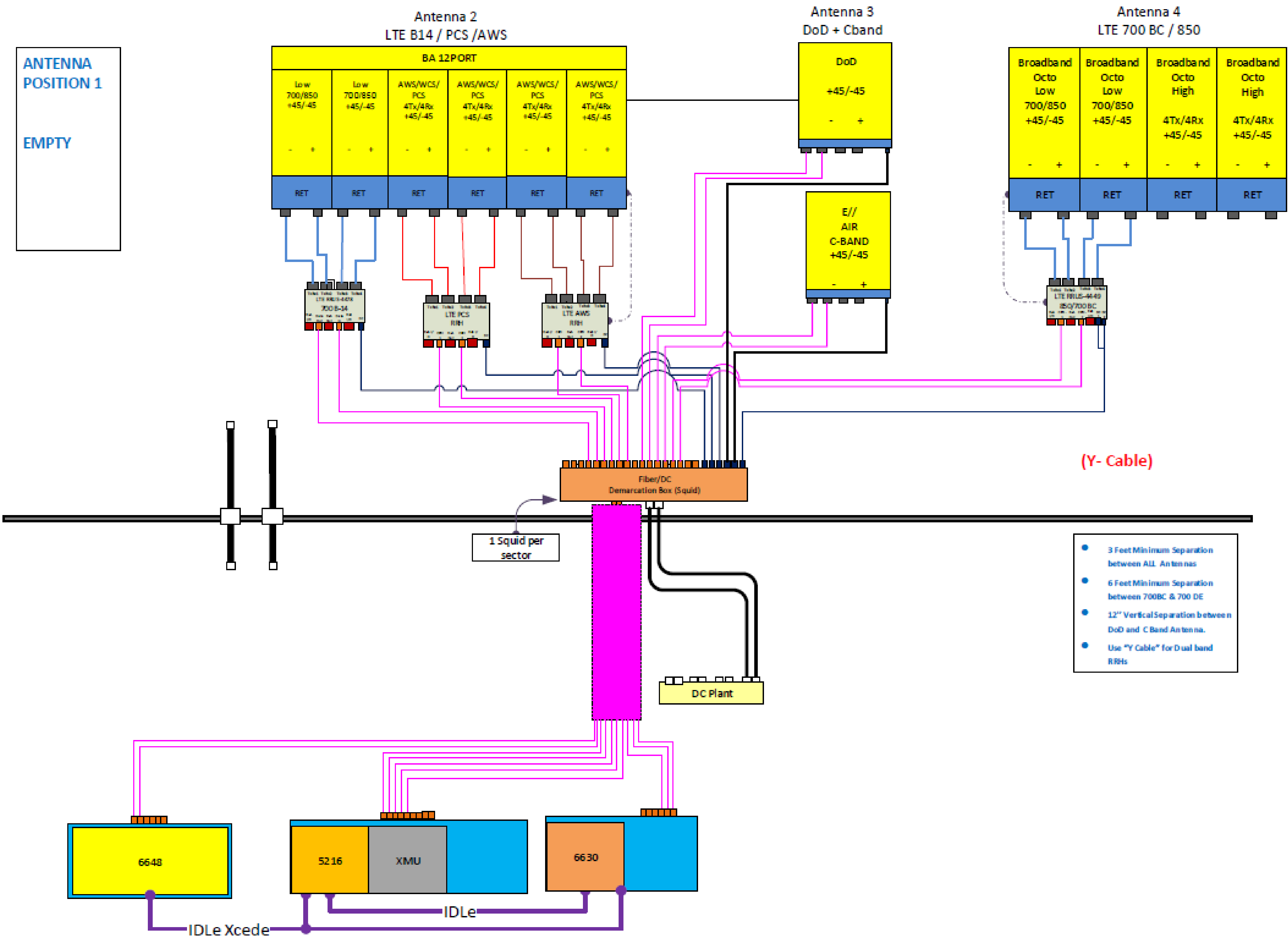
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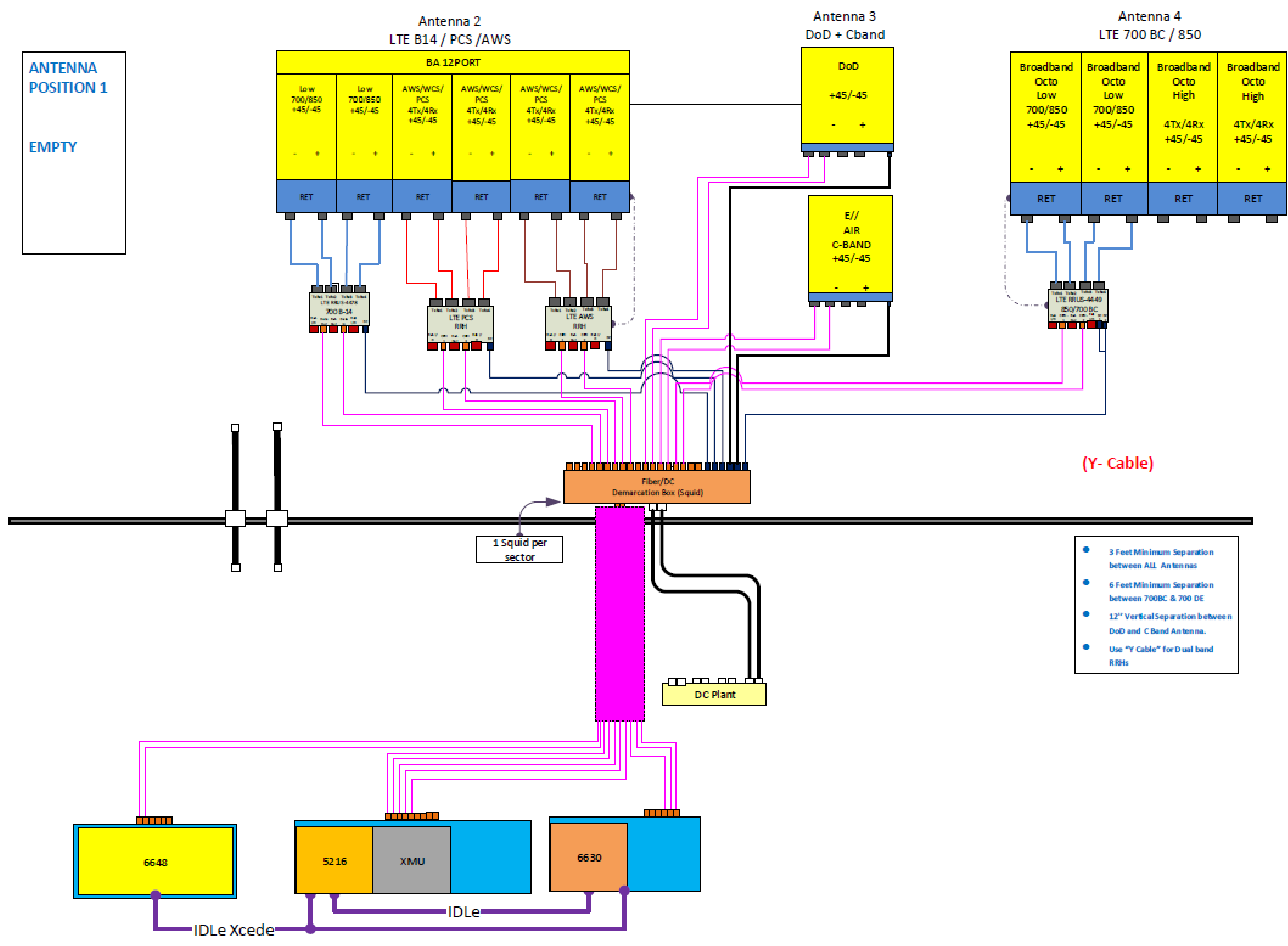


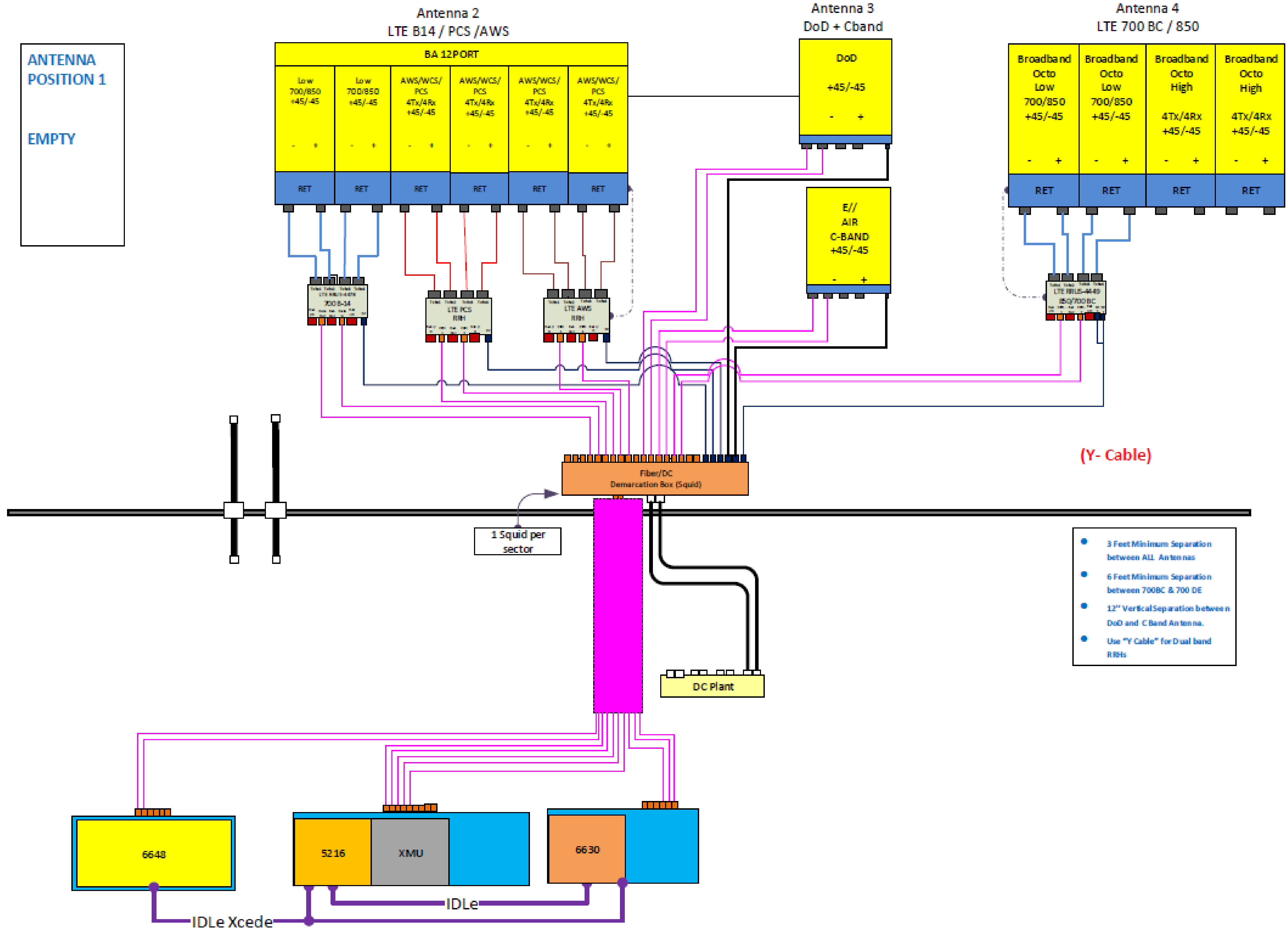
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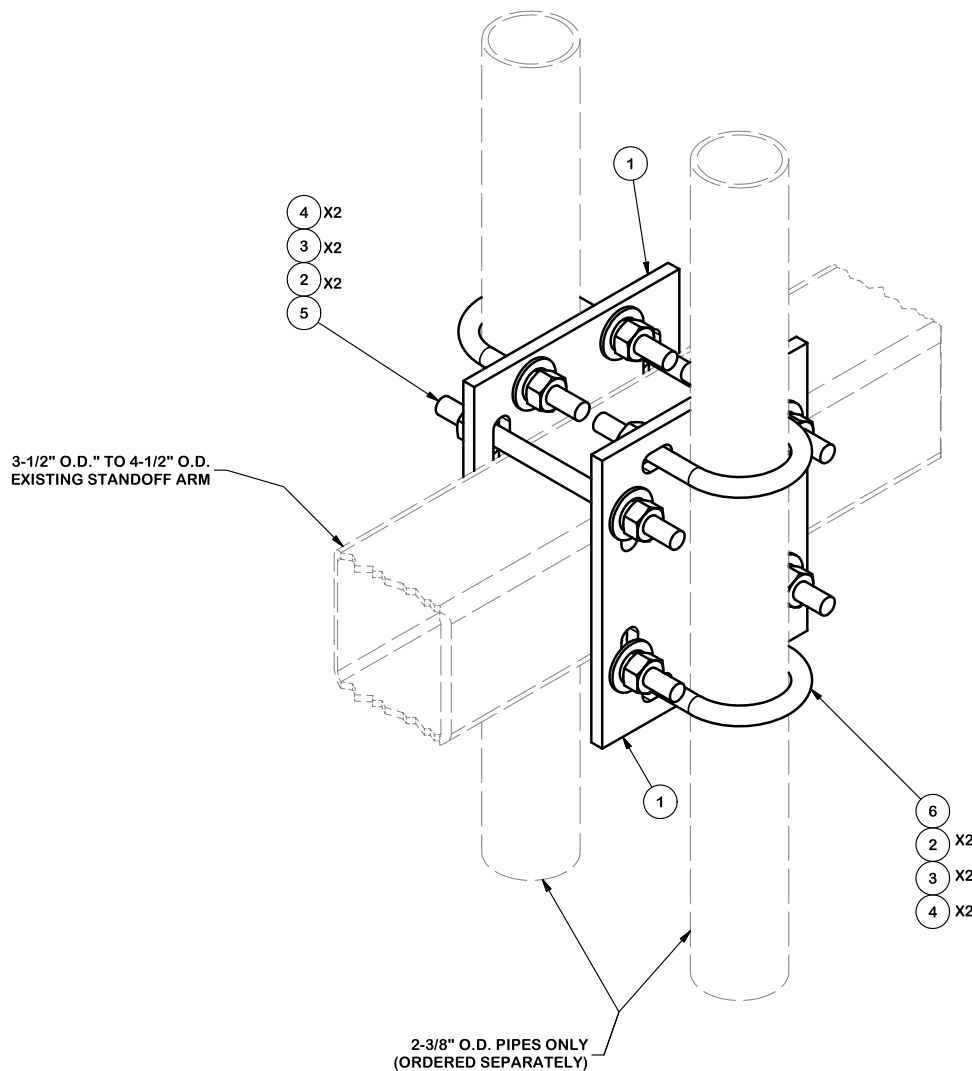
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SHEET NUMBER: **G-2** REVISION: **0**









PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	12.04
2	16	G12FW	1/2" HDG USS FLATWASHER		0.03	0.55
3	16	G12LW	1/2" HDG LOCKWASHER		0.01	0.22
4	16	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.15
5	4	G12R-8	1/2" x 8" THREADED ROD (HDG.)		0.35	1.41
6	4	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	2.50
TOTAL WT. #						17.87

3-1/2" O.D." TO 4-1/2" O.D.
EXISTING STANDOFF ARM

2-3/8" O.D. PIPES ONLY
(ORDERED SEPARATELY)

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

PROPRIETARY NOTE:
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION		
BACK TO BACK PIPE MOUNT		
CPD NO.	DRAWN BY	ENG. APPROVAL
	CEK 1/17/2013	
CLASS	SUB	DRAWING USAGE
81	03	CUSTOMER

 A valmont COMPANY	Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX
	Engineering Support Team: 1-888-753-7446
PART NO.	BBPM-K1
DWG. NO.	BBPM-K1