



QC Development

PO Box 916

Storrs, CT 06268

860-670-9068

Mark.Roberts@QCDevelopment.net

November 4, 2020

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

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T) – CT5310
60 Industrial Park Road, Vernon, CT 06066
N 41.8356138
W 72.454900

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 165-foot level of the existing 175-foot Monopole at 60 Industrial Park Road, Vernon, CT. The tower is owned by Millenicom, LLC and the property is owned by Industrial Park Road, LLC. AT&T now intends to add (3) CCI antennas. AT&T will also remove (3) Ericsson RRUS-11, and (3) RRUS-32 B2 and install (3) RRU 4449 B5/B12, (3) RRU 8843 B2/B66A and (3) RRUS-E2 B29. The new antennas and RRUs will also be installed at the 165' level of the tower. This modification/proposal includes B2, B5, and B12 hardware that is both 4G (LTE) and 5GNR capable through remote software configuration and either or both services may be turned on or off at various times.

AT&T's use of this facility was originally approved by the Siting Council on June 3, 2002 and the tower was originally approved by Town of Vernon on March 8, 2000. This modification complies with the aforementioned approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the

Honorable Daniel A. Champagne, Mayor of the Town of Vernon, as elected official and to the Vernon Planning and Development Department, as well as to the tower and property owner.

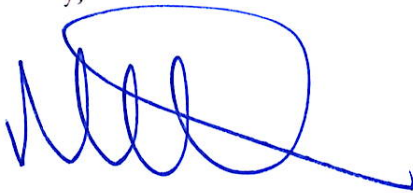
The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications 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, AT&T respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Please feel free to call me at (860) 670-9068 with any questions regarding this matter. Thank you for your consideration.

Sincerely,



Mark Roberts
QC Development
Consultant for AT&T

Attachments

cc: Mayor Daniel Champagne - Elected Official
George McGregor – Town Planner
Millenicom, LLC - Tower Owner
Industrial Park Road, LLC – Property Owner

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm ²)	Freq. Band (MHz ^{**})	Limit S (mW/cm ²)	%MPE
Other Carriers*							7.45%
AT&T UMTS	2	419	165	0.0115	850	0.5667	0.20%
AT&T LTE	2	730	165	0.0200	700	0.4667	0.43%
AT&T LTE	2	940	165	0.0258	700	0.4667	0.55%
AT&T LTE	4	1456	165	0.0798	1900	1.0000	0.80%
AT&T LTE	2	2010	165	0.0551	2300	1.0000	0.55%
Site Total							9.98%

*Per CSC Records (available upon request, includes calculation formulas)

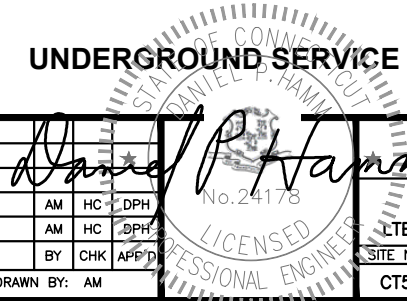
** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm ²)	Freq. Band (MHz ^{**})	Limit S (mW/cm ²)	%MPE
Other Carriers*							7.45%
AT&T UMTS	1	247	165	0.0035	850	0.5667	0.06%
AT&T LTE	2	1476	165	0.0420	700	0.4667	0.90%
AT&T LTE	1	2951	165	0.0420	700	0.4667	0.90%
AT&T LTE	1	1000	165	0.0142	850	0.5667	0.25%
AT&T 5G	1	1000	165	0.0142	850	0.5667	0.25%
AT&T LTE	3	3664	165	0.1564	1900	1.0000	1.56%
AT&T LTE	1	3837	165	0.0546	2100	1.0000	0.55%
AT&T LTE	1	1285	165	0.0183	2300	1.0000	0.18%
Site Total							12.11%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

PROJECT INFORMATION SCOPE OF WORK: ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE: - NEW AT&T ANTENNAS: (DMP65R-BU6DA) @ POS. 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3). - NEW AT&T RRUS: B5/B12 4449 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3). - NEW AT&T RRUS: 8843 B2/B66A (PCS/AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3). - NEW AT&T RRUS: RRUS-E2 B29 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3). - NEW AT&T DC ONLY SURGE ARRESTOR DC6-48-60-0-8C-EV (TOTAL OF 1) WITH (2) DC POWER IN (1) 2" FLEX CONDUIT (TO FOLLOW EXISTING ROUTING). - ADD Y-CABLES (TOTAL OF 6). - EXISTING ANTENNA MOUNT TO BE ROTATED TO MATCH LTE AZIMUTHS. ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION: - ADD RBS 6630 FOR 5G. - ADD IDLe. - PROPOSED PURCELL CABINET FOR UPCONVERTER WITH BREAKER PANEL. ITEMS TO BE REMOVED: - EXISTING AT&T RRUS-11 B12 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3). - EXISTING AT&T RRUS-32 B2 (PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3). - EXISTING AT&T RXAIT CABINET. ITEMS TO REMAIN: - EXISTING AT&T ANTENNAS (800-10121) @ POS. 1 (TYP. OF 1 PER SECTOR, TOTAL OF 3). - EXISTING AT&T ANTENNAS (QS66512-2) @ POS. 2 (TYP. OF 1 PER SECTOR, TOTAL OF 3). - EXISTING AT&T ANTENNAS (HPA-65R-BUU-H6) @ POS. 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3). - EXISTING AT&T RRUS 4478 B14 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3). - EXISTING AT&T RRUS-32 B30 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3). - EXISTING AT&T SURGE ARRESTOR (TOTAL OF 2). - EXISTING TMA'S (TYP. OF 2 PER SECTOR, TOTAL OF 6). (6) COAX CABLES, (4) DC POWER & (2) FIBER. SITE ADDRESS: 60 INDUSTRIAL PARK ROAD VERNON ROCKVILLE, CT 06066 LATITUDE: 41.835291° N, 41° 50' 07.05" N LONGITUDE: 72.455000° W, 72° 27' 18.00" W TYPE OF SITE: MONOPOLE / OUTDOOR EQUIPMENT STRUCTURE HEIGHT: 175'-0"± RAD CENTER: 165'-6"± CURRENT USE: TELECOMMUNICATIONS FACILITY PROPOSED USE: TELECOMMUNICATIONS FACILITY			 SITE NUMBER: CT5310 SITE NAME: VERNON CENTER FA CODE: 10071292 PACE ID: MRCTB048704, MRCTB048703, MRCTB048678, MRCTB048682, MRCTB048718 PROJECT: LTE 5C_6C_4TX4RX_5G_BWE 2021 UPGRADE																																						
VICINITY MAP DIRECTIONS TO SITE: I-84 EAST GET OFF AT EXIT 66.AT THE END OF THE EXIT TAKE A LEFT THEN RIGHT ONTO BOLTON ROAD.GO ABOUT 500 FEET AND TAKE A LEFT ONTO CLARK ROAD AND THEN TAKE A RIGHT ON INDUSTRIAL PARK ROAD,FOLLOW THE ROAD TO THE END AND LOOK TO YOUR RIGHT AND YOU WILL SEE THE MONOPOLE TO THE SIDE OF THE WAREHOUSE.. DEMARC IS IN TELCO BOX ON INSIDE OF GATE, RIGHT AFTER ENTRANCE TO THE SITE. 			GENERAL NOTES 1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED. 2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS. 3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME. 4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.																																						
DRAWING INDEX <table><tr><th>SHEET NO.</th><th>DESCRIPTION</th><th>REV.</th></tr><tr><td>T-1</td><td>TITLE SHEET</td><td>1</td></tr><tr><td>GN-1</td><td>GENERAL NOTES</td><td>1</td></tr><tr><td>A-1</td><td>COMPOUND & EQUIPMENT PLANS</td><td>1</td></tr><tr><td>A-2</td><td>ANTENNA LAYOUTS & ELEVATION</td><td>1</td></tr><tr><td>A-3</td><td>DETAILS</td><td>1</td></tr><tr><td>A-4</td><td>DETAILS</td><td>1</td></tr><tr><td>G-1</td><td>GROUNDING DETAILS</td><td>1</td></tr><tr><td>RF-1</td><td>RF PLUMBING DIAGRAM</td><td>1</td></tr></table>			SHEET NO.	DESCRIPTION	REV.	T-1	TITLE SHEET	1	GN-1	GENERAL NOTES	1	A-1	COMPOUND & EQUIPMENT PLANS	1	A-2	ANTENNA LAYOUTS & ELEVATION	1	A-3	DETAILS	1	A-4	DETAILS	1	G-1	GROUNDING DETAILS	1	RF-1	RF PLUMBING DIAGRAM	1	72 HOURS  CALL BEFORE YOU DIG  CALL TOLL FREE 1-800-922-4455 OR CALL 811 UNDERGROUND SERVICE ALERT											
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 45 BEECHWOOD DRIVE NORTH ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-5586		 12 INDUSTRIAL WAY SALEM, NH 03079		SITE NUMBER: CT5310 SITE NAME: VERNON CENTER 60 INDUSTRIAL PARK ROAD VERNON ROCKVILLE, CT 06066 TOLLAND COUNTY		 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067		<table><tr><td>1</td><td>10/26/20</td><td>ISSUED FOR CONSTRUCTION</td><td>AM</td><td>HC</td><td>DPH</td></tr><tr><td>A</td><td>10/01/20</td><td>ISSUED FOR REVIEW</td><td>AM</td><td>HC</td><td>DPH</td></tr><tr><td>NO.</td><td>DATE</td><td>REVISIONS</td><td>BY</td><td>CHK</td><td>APP'D</td></tr><tr><td colspan="2">SCALE: AS SHOWN</td><td>DESIGNED BY: HC</td><td colspan="3">DRAWN BY: AM</td></tr></table>		1	10/26/20	ISSUED FOR CONSTRUCTION	AM	HC	DPH	A	10/01/20	ISSUED FOR REVIEW	AM	HC	DPH	NO.	DATE	REVISIONS	BY	CHK	APP'D	SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: AM			 AT&T TITLE SHEET LTE 5C_6C_4TX4RX_5G_BWE 2021 UPGRADE <table><tr><td>SITE NUMBER</td><td>DRAWING NUMBER</td><td>REV</td></tr><tr><td>CT5310</td><td>T-1</td><td>1</td></tr></table>		SITE NUMBER	DRAWING NUMBER	REV	CT5310	T-1	1
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GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. 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.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR – SAI
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE: IBC 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

HDG

HUDSON
Design Group LLC

45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845

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

SAI

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5310
SITE NAME: VERNON CENTER

60 INDUSTRIAL PARK ROAD
VERNON ROCKVILLE, CT 06066
TOLLAND COUNTY

at&t

500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

110/26/20

ISSUED FOR CONSTRUCTION

AM

HC

DPH

10/01/20

ISSUED FOR REVIEW

AM

HC

DPH

NO.

DATE

REVISIONS

BY

CHK

APP'D

SCALE: AS SHOWN

DESIGNED BY: HC

DRAWN BY: AM

AT&T

GENERAL NOTES

LTE 5C_6C_4TX4RX_5G_BWE 2021 UPGRADE

SITE NUMBER

DRAWING NUMBER

REV

CT5310

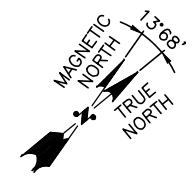
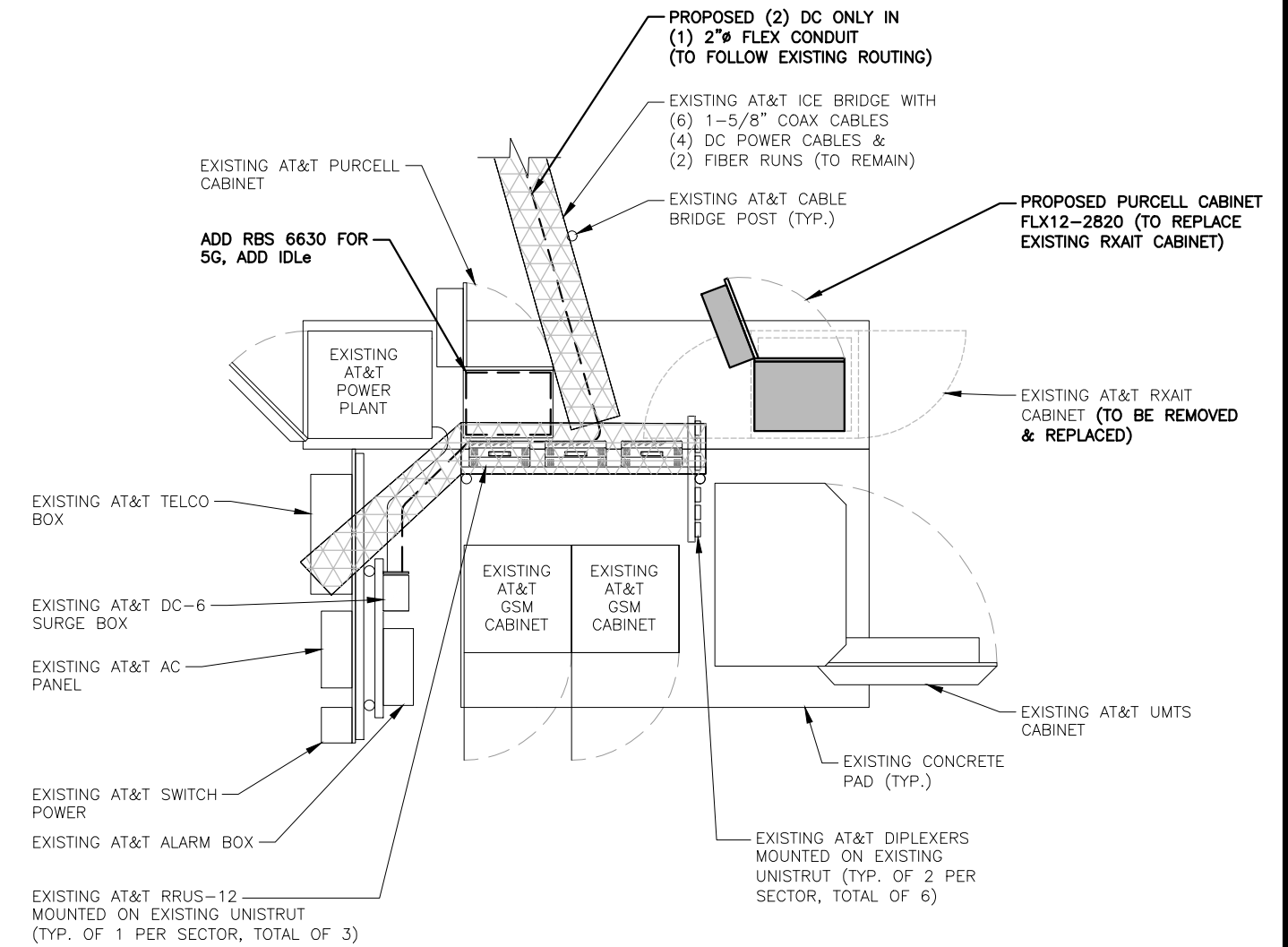
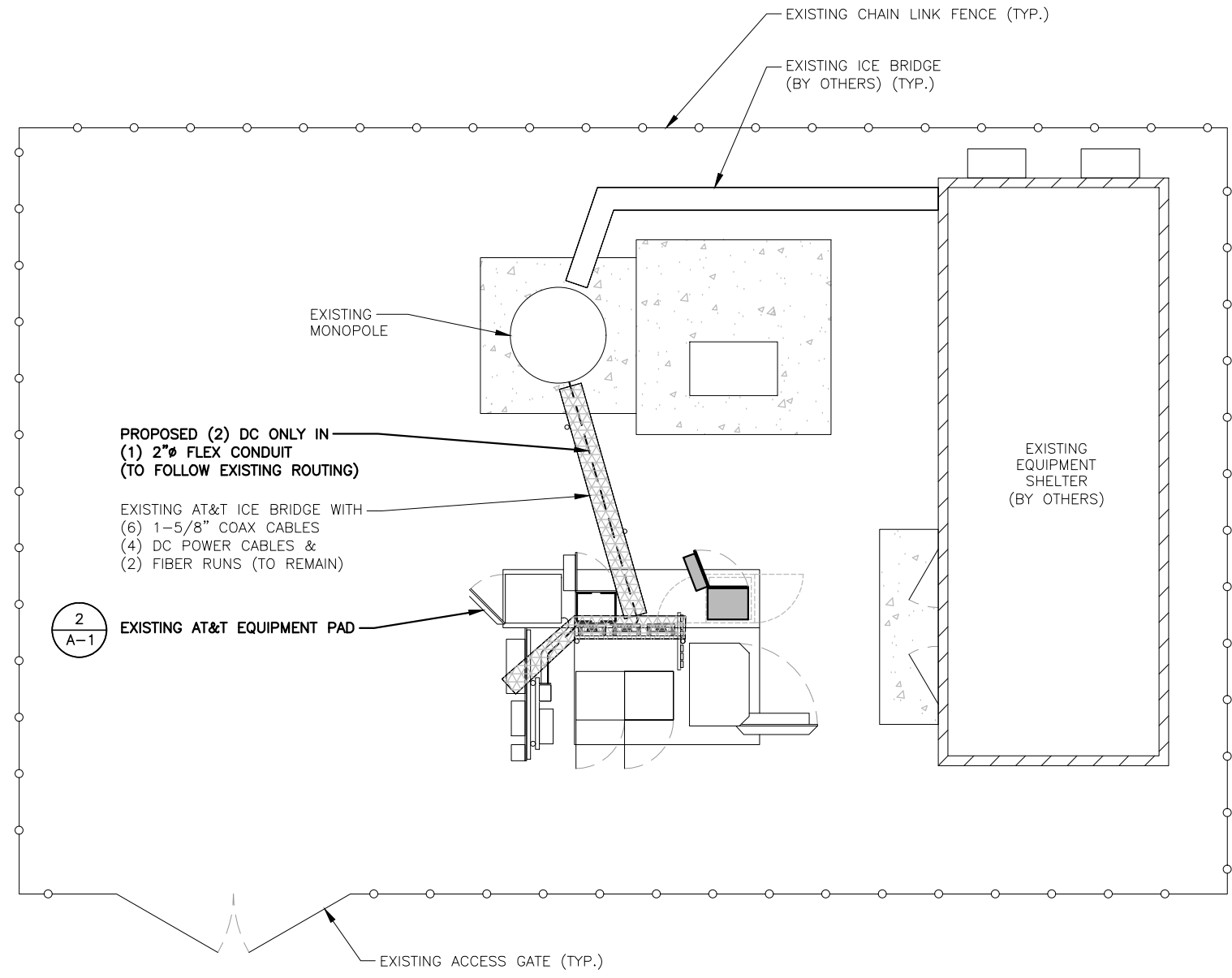
GN-1

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NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: SEPTEMBER 17, 2020

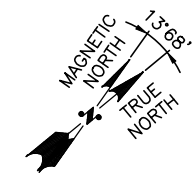
NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
REFER TO **STRUCTURAL ANALYSIS** BY: ALL-POINTS TECHNOLOGY CORPORATION, DATED: OCTOBER 13, 2020 (REV.1), FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.



COMPOUND PLAN
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"

1
A-1



EQUIPMENT PLAN
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

2
A-1



45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5310
SITE NAME: VERNON CENTER

60 INDUSTRIAL PARK ROAD
VERNON ROCKVILLE, CT 06066
TOLLAND COUNTY

500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

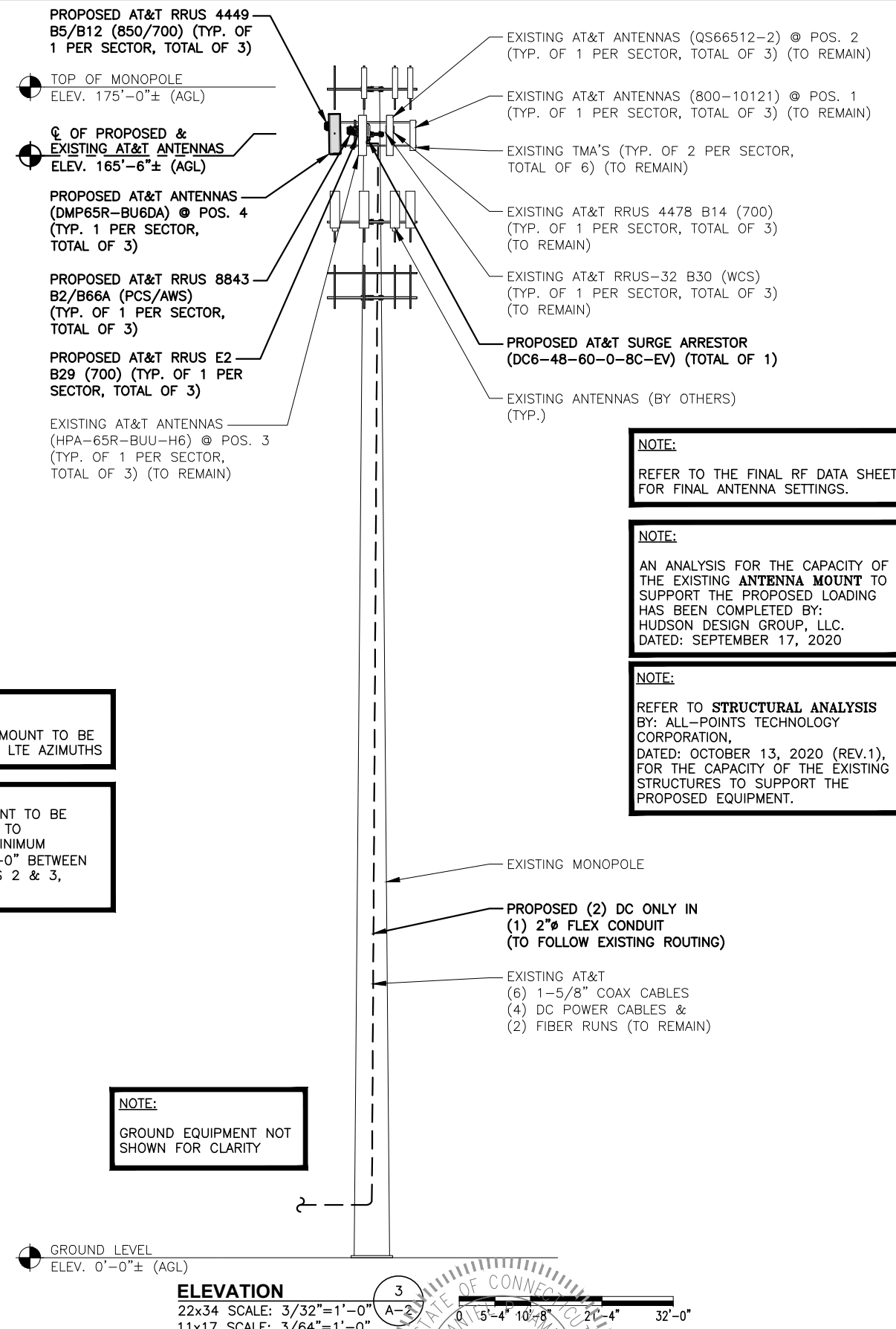
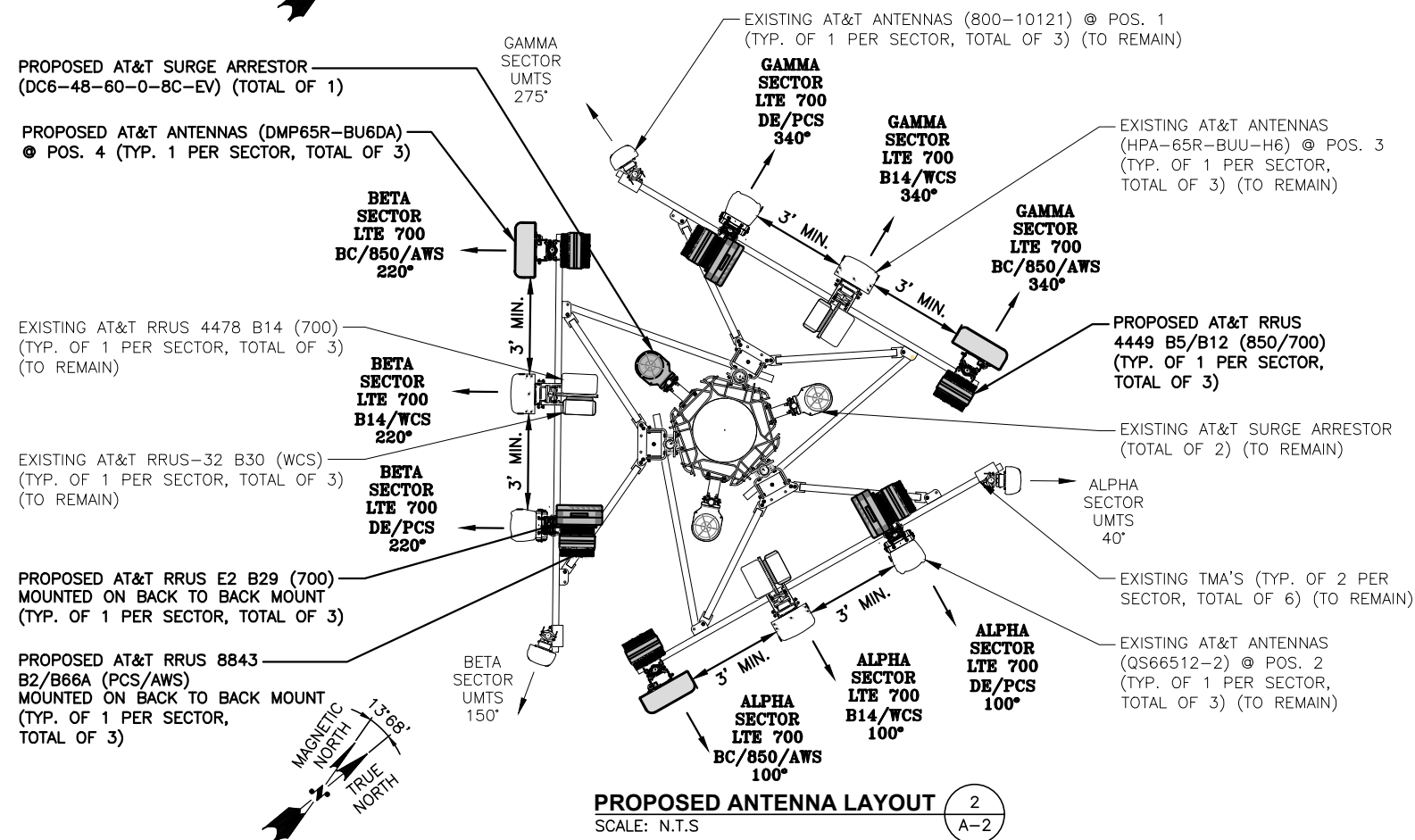
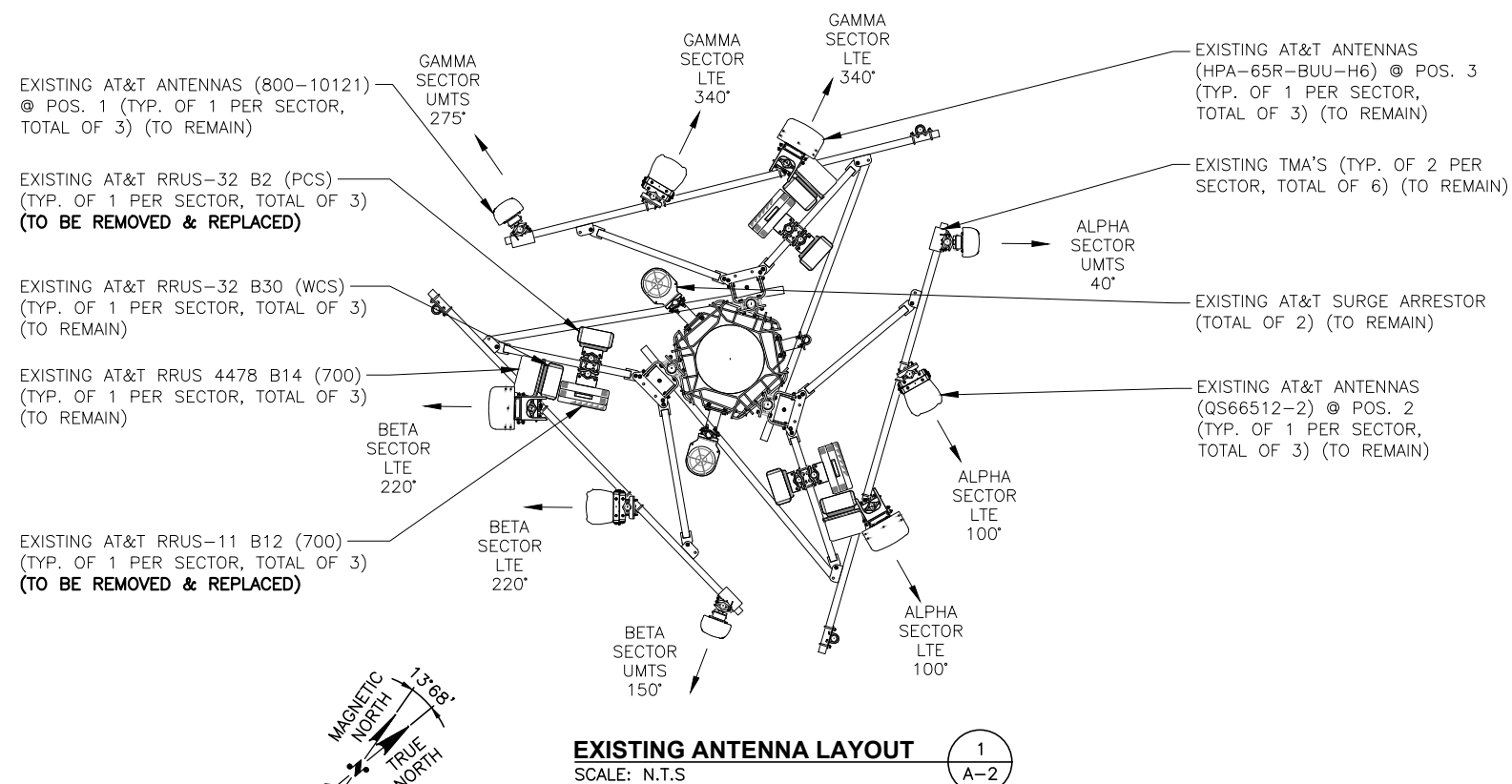
NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/26/20	ISSUED FOR CONSTRUCTION	AM	HC	DPH
A	10/01/20	ISSUED FOR REVIEW	AM	HC	DPH

SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: AM

AT&T

COMPOUND & EQUIPMENT PLANS
LTE 5C_6C_4TX4RX_5G_BWE 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5310	A-1	1



ANTENNA SCHEDULE												
SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA & HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	FREQUENCY	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS 850	800-10121	54.5X10.3X5.9	165'-6"±	40°	(2)(E) LGP21401	-		-	(2)1-5/8 COAX	(E) (1) RAYCAP DC6-48-60-18-8F
A2	EXISTING	LTE 700 DE/PCS	QS66512-2	72x12x9.6	165'-6"±	100°	-	(P)(1) RRUS-E2 B29 (P)(1) RRUS 8843 B2/B66A	(700) (AWS/PCS)	20.4"x18.5"x7.5" 14.9"x13.2"x10.9"	-	
A3	EXISTING	LTE 700 B14/WCS	HPA-65R-BUU-H6	72X14.8X9	165'-6"±	100°	-	(E)(1) RRUS 4478 B14 (E)(1) RRUS 32 B30	(700) (WCS)	- -	(E)(2) DC & (1) FIBER	
A4	PROPOSED	LTE 700 BC/850/AWS	DMP65R-BU6DA	71.2X20.7X7.7	165'-6"±	100°	-	(P)(1) RRUS 4449 B5/B12	(850/700)	14.9"x13.2"x10.4"	-	
B1	EXISTING	UMTS 850	800-10121	54.5X10.3X5.9	165'-6"±	150°	(2)(E) LGP21401	-		-	(2)1-5/8 COAX	(E) (1) RAYCAP DC6-48-60-18-8F
B2	EXISTING	LTE 700 DE/PCS	QS66512-2	72x12x9.6	165'-6"±	220°	-	(P)(1) RRUS-E2 B29 (P)(1) RRUS 8843 B2/B66A	(700) (AWS/PCS)	20.4"x18.5"x7.5" 14.9"x13.2"x10.9"	-	
B3	EXISTING	LTE 700 B14/WCS	HPA-65R-BUU-H6	72X14.8X9	165'-6"±	220°	-	(E)(1) RRUS 4478 B14 (E)(1) RRUS 32 B30	(700) (WCS)	- -	(E)(2) DC & (1) FIBER	
B4	PROPOSED	LTE 700 BC/850/AWS	DMP65R-BU6DA	71.2X20.7X7.7	165'-6"±	220°	-	(P)(1) RRUS 4449 B5/B12	(850/700)	14.9"x13.2"x10.4"	-	
C1	EXISTING	UMTS 850	800-10121	54.5X10.3X5.9	165'-6"±	275°	(2)(E) LGP21401	-		-	(2)1-5/8 COAX	(P) (1) RAYCAP DC6-48-60-0-8C-EV
C2	EXISTING	LTE 700 DE/PCS	QS66512-2	72x12x9.6	165'-6"±	340°	-	(P)(1) RRUS-E2 B29 (P)(1) RRUS 8843 B2/B66A	(700) (AWS/PCS)	20.4"x18.5"x7.5" 14.9"x13.2"x10.9"	-	
C3	EXISTING	LTE 700 B14/WCS	HPA-65R-BUU-H6	72X14.8X9	165'-6"±	340°	-	(E)(1) RRUS 4478 B14 (E)(1) RRUS 32 B30	(700) (WCS)	- -	-	
C4	PROPOSED	LTE 700 BC/850/AWS	DMP65R-BU6DA	71.2X20.7X7.7	165'-6"±	340°	-	(P)(1) RRUS 4449 B5/B12	(850/700)	14.9"x13.2"x10.4"	(P)(2) DC	

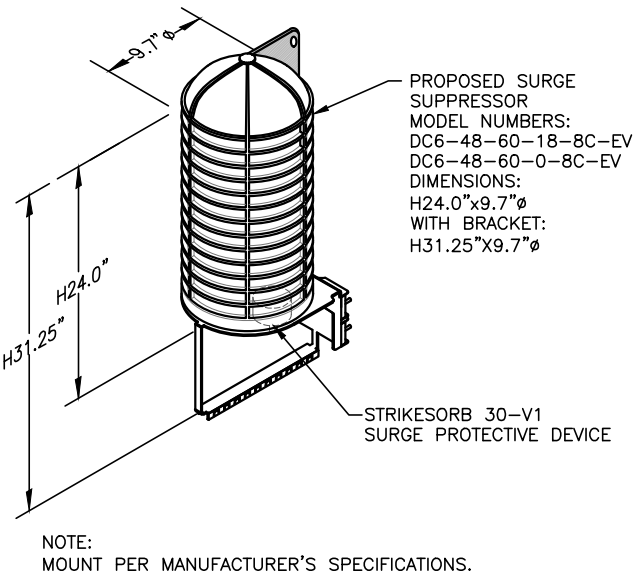
NOTE:
REFER TO THE FINAL RF DATA SHEET
FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF
THE EXISTING **ANTENNA MOUNT** TO
SUPPORT THE PROPOSED LOADING
HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: SEPTEMBER 17, 2020

NOTE:
REFER TO **STRUCTURAL ANALYSIS**
BY: ALL-POINTS TECHNOLOGY
CORPORATION,
DATED: OCTOBER 13, 2020 (REV.1),
FOR THE CAPACITY OF THE EXISTING
STRUCTURES TO SUPPORT THE
PROPOSED EQUIPMENT.

FINAL ANTENNA SCHEDULE
SCALE: N.T.S

1
A-3



DC SURGE SUPPRESSOR DETAIL
SCALE: N.T.S

2
A-3

RRU CHART		
QUANTITY	MODEL	SIZE (L x W x D)
3(P)	4449 B5/B12 (850/700)	14.9"x13.2"x10.4"
3(P)	8843 B2/B66A (AWS/PCS)	14.9"x13.2"x10.9"
3(P)	RRUS-E2 B29 (700)	20.4"x18.5"x7.5"
3(E)	RRUS-32 B30 (WCS)	27.2"x12.1"x7.0"
3(E)	4478 B14 (700)	18.1"x13.4"x8.3"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

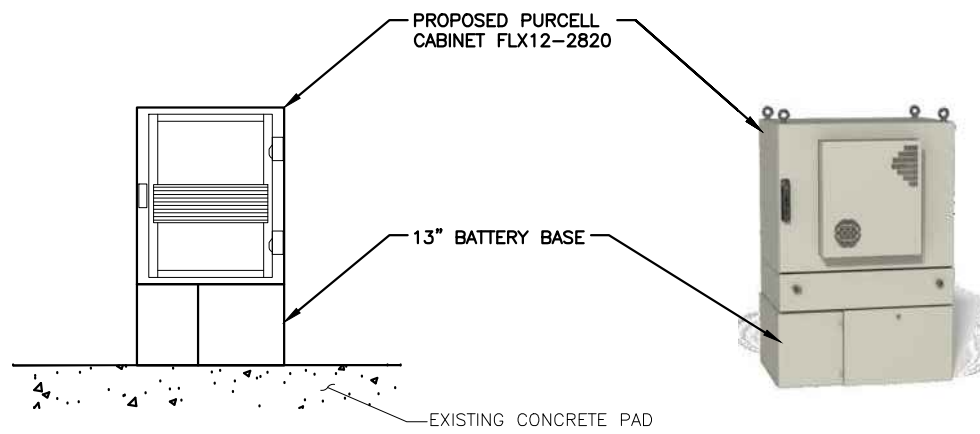
NOTE:
SEE RFDS FOR RRH
FREQUENCY AND
MODEL NUMBER

PROPOSED RRU REFER TO THE
FINAL RFDS AND CHART FOR
QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S
SPECIFICATIONS.

PROPOSED RRUS DETAIL
SCALE: N.T.S

3
A-3

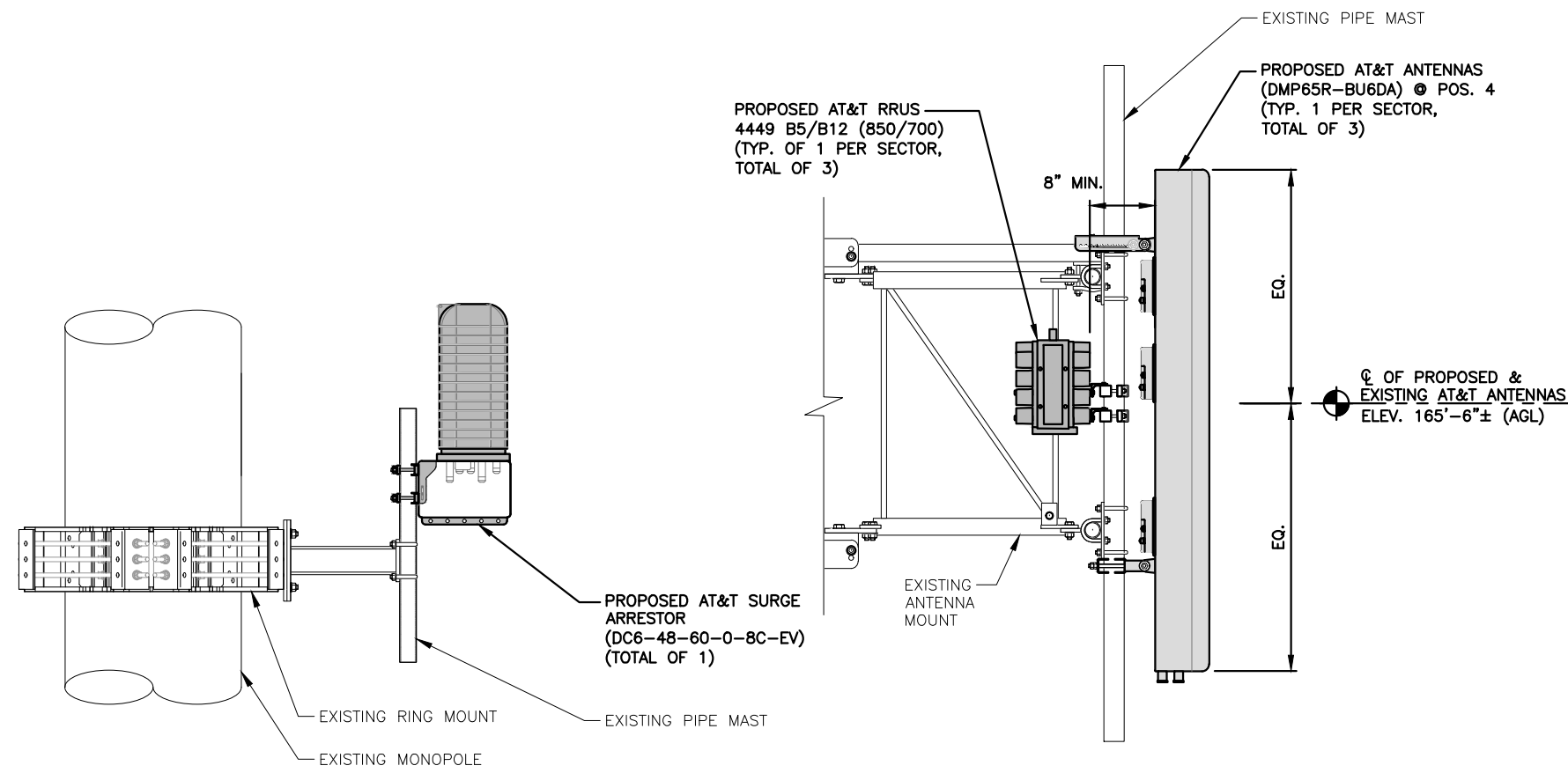


PROPOSED PURCELL CABINET DETAIL
SCALE: N.T.S.

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: SEPTEMBER 17, 2020

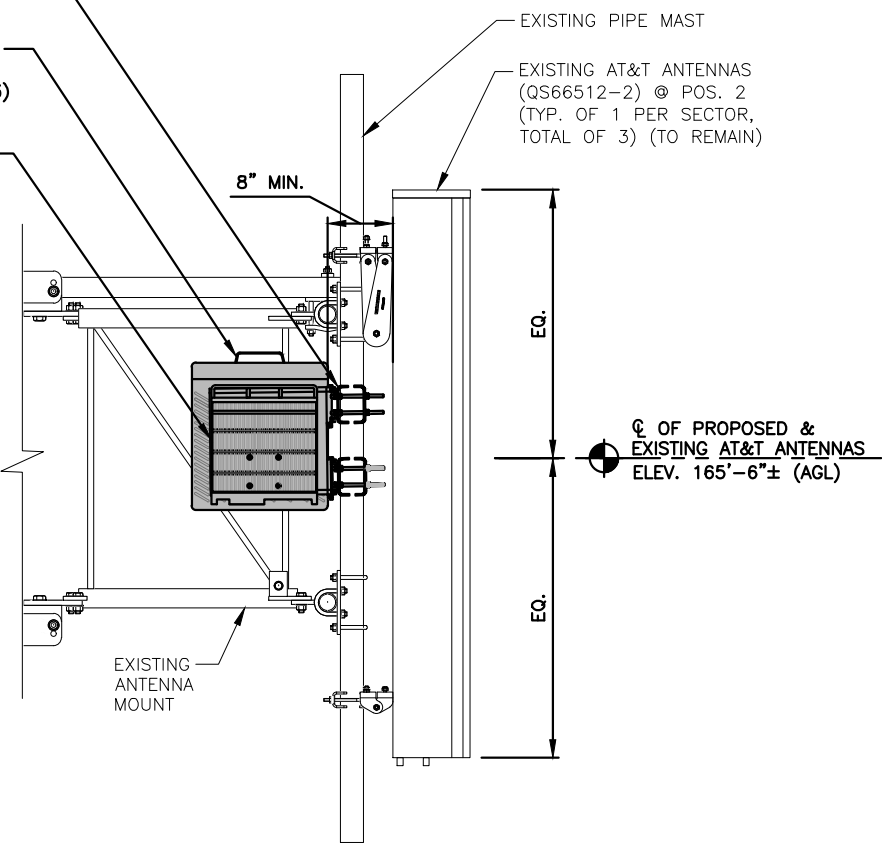
NOTE:
REFER TO **STRUCTURAL ANALYSIS** BY: ALL-POINTS TECHNOLOGY CORPORATION,
DATED: OCTOBER 13, 2020 (REV.1), FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.



PROPOSED RRU BACK TO BACK MOUNT
ERICSSON PART# SXX1250461-1
(OR APPROVED EQUAL)

PROPOSED AT&T RRUS E2 B29 (700)
MOUNTED ON BACK TO BACK MOUNT
(TYP. OF 1 PER SECTOR, TOTAL OF 3)

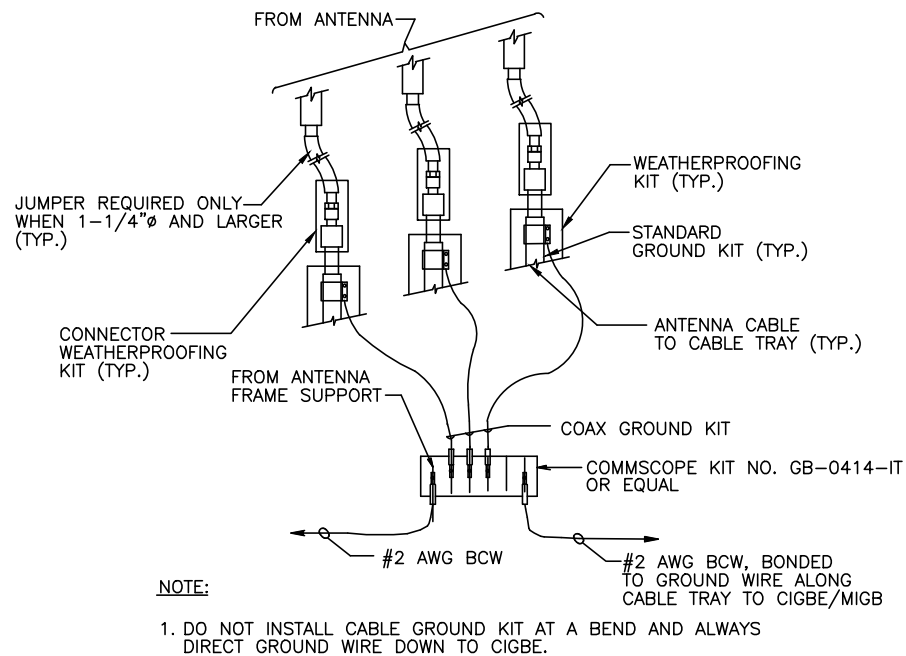
PROPOSED AT&T RRUS 8843
B2/B66A (PCS/AWS)
MOUNTED ON BACK TO BACK MOUNT
(TYP. OF 1 PER SECTOR, TOTAL OF 3)



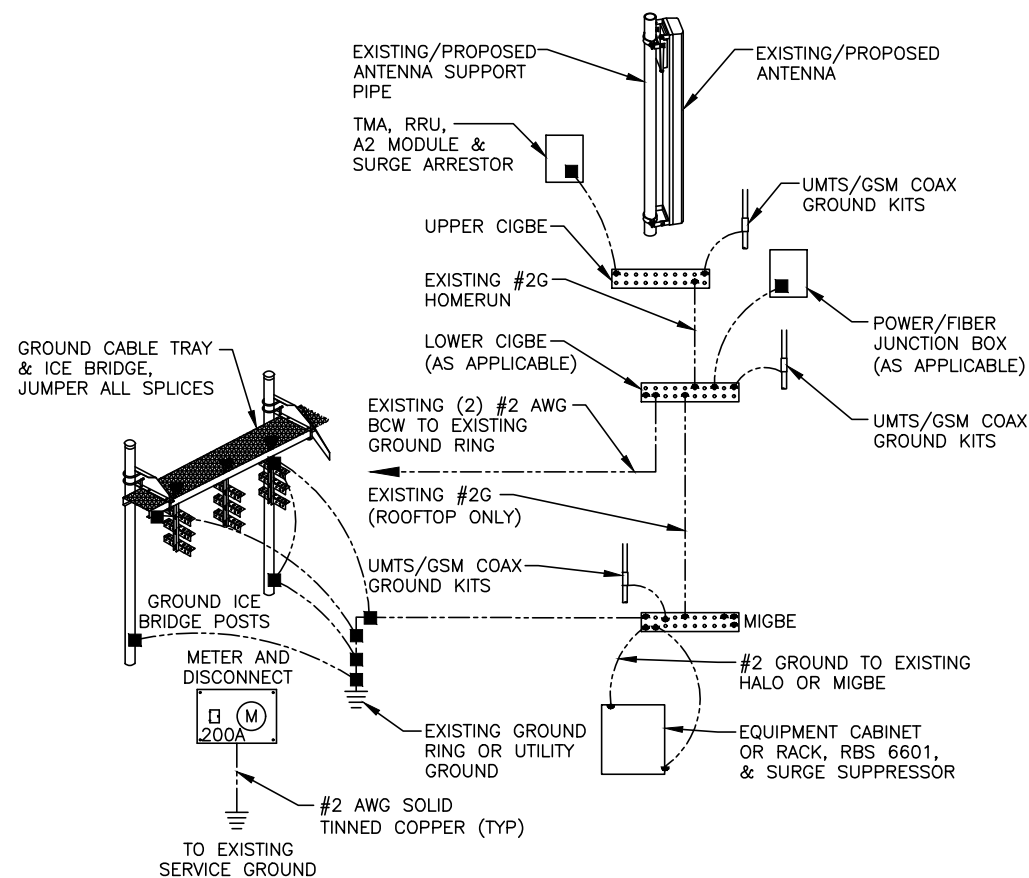
PROPOSED SURGE ARRESTOR MOUNTING DETAIL
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

PROPOSED LTE ANTENNA MOUNTING DETAIL @ POS. 4
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

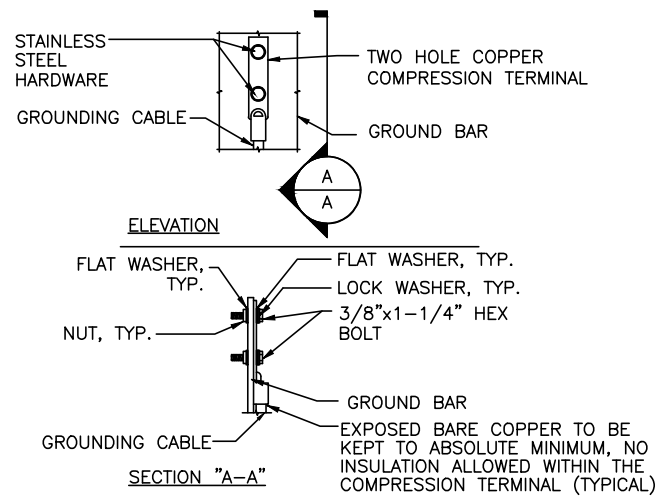
PROPOSED RRUS MOUNTING DETAIL @ POS. 2
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"



GROUND WIRE TO GROUND BAR CONNECTION DETAIL 1
SCALE: N.T.S. G-1



GROUNDING RISER DIAGRAM 2
SCALE: N.T.S. G-1



- NOTES:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
 3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

TYPICAL GROUND BAR CONNECTION DETAIL 3
SCALE: N.T.S. G-1

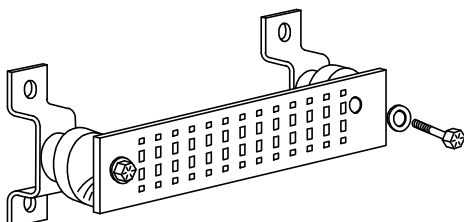
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

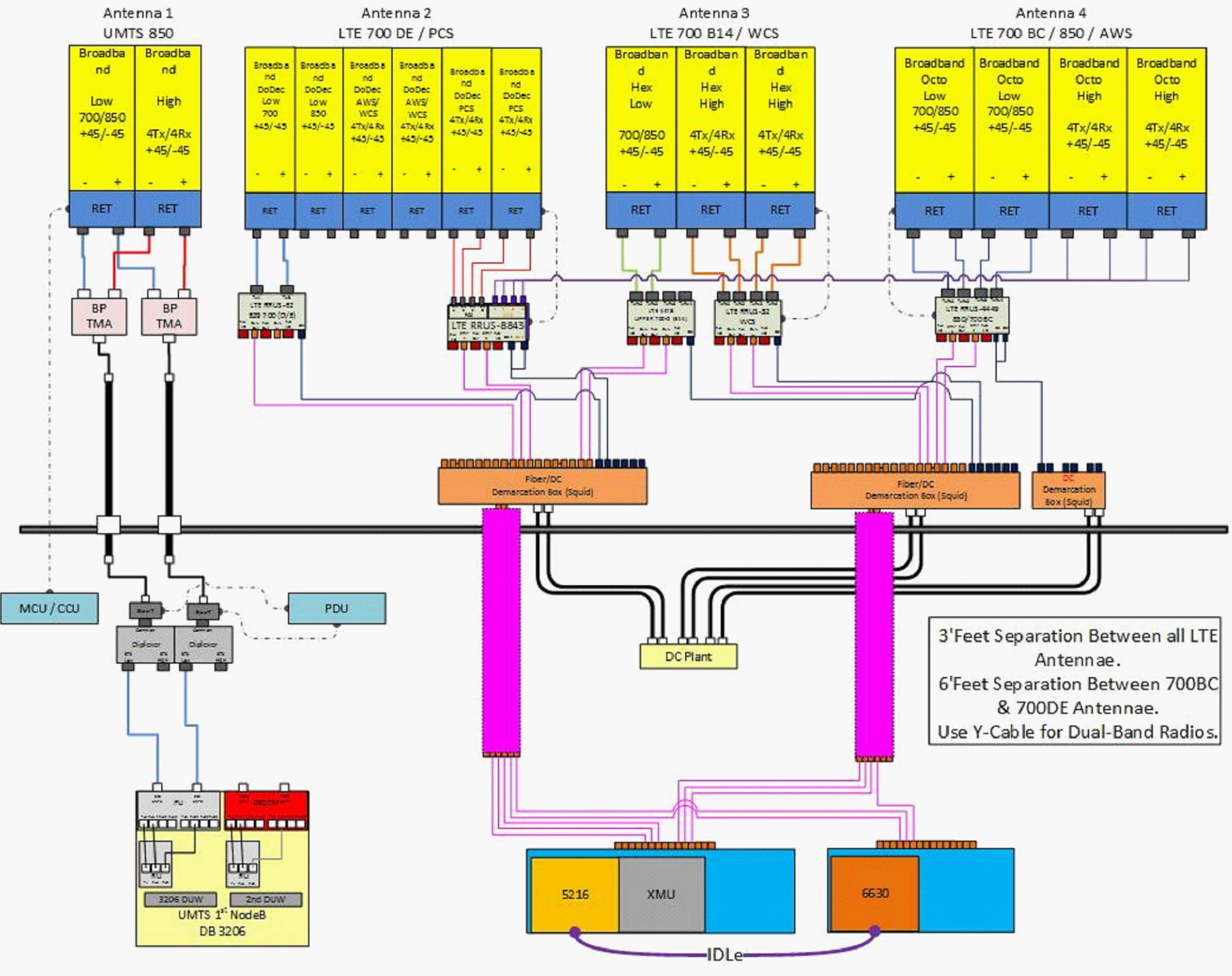
- CABLE ENTRY PORTS (HATCH PLATES) (#2 AWG)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2 AWG)
- +24V POWER SUPPLY RETURN BAR (#2 AWG)
- 48V POWER SUPPLY RETURN BAR (#2 AWG)
- RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS

- INTERIOR GROUND RING (#2 AWG)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2 AWG)
- BUILDING STEEL (IF AVAILABLE) (#2 AWG)



GROUND BAR - DETAIL (AS REQUIRED) 4
SCALE: N.T.S. G-1



RF PLUMBING DIAGRAM 1
SCALE: N.T.S. RF-1

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



**STRUCTURAL ANALYSIS REPORT
175' MONOPOLE TOWER
VERNON, CONNECTICUT**

Prepared for
SAI Communications, Inc.

AT&T Site #CT5310; Vernon Center

October 13, 2020



APT Project #CT1931631 Rev. 1

**STRUCTURAL ANALYSIS REPORT
175' MONOPOLE TOWER
VERNON, CONNECTICUT
prepared for
SAI Communications, Inc.**

EXECUTIVE SUMMARY:

All-Points Technology Corporation, P.C. (APT) performed a structural analysis of this 175-foot monopole tower. The analysis was performed for AT&T's proposed installation of three additional panel antennas, replacement of six remote radio heads (RRHs), installation of six additional RRHs to make a total of fifteen RRHs, and installation of two additional power-fiber "squid" distribution boxes (D-boxes). Equipment is to be fed by two DC power lines installed inside one 2.25" conduit as detailed below.

Our analysis indicates the tower and foundation meet the requirements of the Connecticut State Building Code, International Building Code 2015 (IBC 2015) and TIA-222 with the proposed equipment changes. Usage values are as follows:

Pole	83%
Base Plate	84%

Evaluation of the existing base foundation could not be performed as information on its design was not provided to APT.

INTRODUCTION:

A structural analysis was performed on the above-mentioned communications tower by APT for SAI Communications, Inc. The tower is located at 60 Industrial Park Road in Vernon, Connecticut.

APT visited the site on October 5, 2020 to record information necessary to perform this analysis. This analysis also utilized information provided by others including a Structural Analysis by Maser Consulting (project #17963005A dated December 4, 2017), As-Built Drawings by Empire Telecom (project #17963005A dated June 20, 2018) and a Mount Analysis by Hudson Design Group, LLC (dated September 17, 2020).

The structure is a 175-foot, 18-sided monopole tower likely manufactured by PiROD. The analysis was performed for the following antenna inventory (proposed changes shown in **bold text**):

Carrier	Equipment	Mount Ctr.	Mount	Feed line
T-Mobile	(3) rfs APXVARR24_43-C-NA20, (3) rfs APX16DWV-16DWV & (3) Air 32 panels, (3) RRHs, (6) TMAs	175'	10' low-profile platform	(12) 1-5/8", (3) 1.57" hybrid
AT&T	(3) cci HPA-65R-BUU-H6, (3) Quintel QS66512, (3) DMP65R-BU6DA & (3) Kathrein 800-10121 panels w/ (6) RETs, (3) 4478 RRHs, (3) RRUS-32 RRHs, (3) RRUS-E2 RRHs , (3) 8843 RRHs , (3) 4449 RRHs , (6) TMAs, (3) "squid" D-boxes ¹	165.5'	(3) 12' sector mounts	(6) 1-5/8", (2) 5/16" fiber & (4) 5/8" power in (2) 3" conduit, (2) 0.98" DC in 2.25" conduit
-	GPS	157'	Standoff	1/2"
Verizon Wireless	(6) LPA 80063/4CF & (6) NHH-65B-R2B panels, (3) RFV01U-D1A RRHs, (3) RFV01U-D2A RRHs, (1) D-box	155'	14' platform w/ rails	(9) 1-5/8", (3) 1-1/4"
-	Vacant Mounts	142.5'	14' low-profile platform w/ (12) 6' x 2-3/8" pipes	N.A.

¹ Currently installed – three cci HPA-65R-BUU-H6, three Quintel QS66512 & three Kathrein 800-10121 panel antennas w/ six RETs, three RRUS-11 RRHs, six RRUS-32 RRHs, three 4478 RRHs, six TMAs and one "squid" D-box fed by two fiber and four power lines run inside two 3" conduits.

STRUCTURAL ANALYSIS:

Methodology:

The structural analysis was done in accordance with TIA-222, Revision G (TIA), Structural Standards for Antenna Supporting Structures and Antennas.

The analysis was conducted using a 3-second gust wind speed of 125 miles per hour (Ultimate) with no ice and 50-mph with 1" radial ice in accordance with the TIA-222-G standard for Tolland County, Connecticut. The following additional design criteria were used:

Structure Class: II
Topographic Category: 1
Exposure Category: B

Analysis Results:

Our analysis determined the tower meets applicable Code requirements with the proposed and future equipment. The following table summarizes the capacity of the tower based on combined axial and bending stresses:

Elevation	Capacity
160'-175'	29%
140'-160'	55%
120'-140'	69%
100'-120'	77%
80'-100'	80%
60'-80'	82%
40'-60'	83%
20'-40'	73%
0'-20'	68%
Base plate	84%

Evaluation of the existing base foundation could not be performed as information on its design or construction was not provided to APT. Factored base reactions imposed with the proposed equipment changes were calculated to be as follows:

Compression: 115.1 kips
Total Shear: 31.0 kips
Overturning Moment: 4017 ft-kips

CONCLUSIONS AND RECOMMENDATIONS:

Our structural analysis indicates the 175-foot monopole tower and foundation located at 60 Industrial Park Road in Vernon, Connecticut meet the requirements of the Connecticut State Building Code, IBC 2015 and TIA-222 with AT&T's proposed equipment changes.

Evaluation of the existing base foundation could not be performed as information on its design or construction was not available.

LIMITATIONS:

This report is based on the following:

1. Tower is properly installed and maintained.
2. All members are in an undeteriorated condition.
3. All required members are in place.
4. All bolts are in place and are properly tightened.
5. Tower is in plumb condition.
6. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.

All-Points Technology Corp., P.C. (APT) is not responsible for any modifications completed prior to or hereafter which APT is not or was not directly involved. Modifications include but are not limited to:

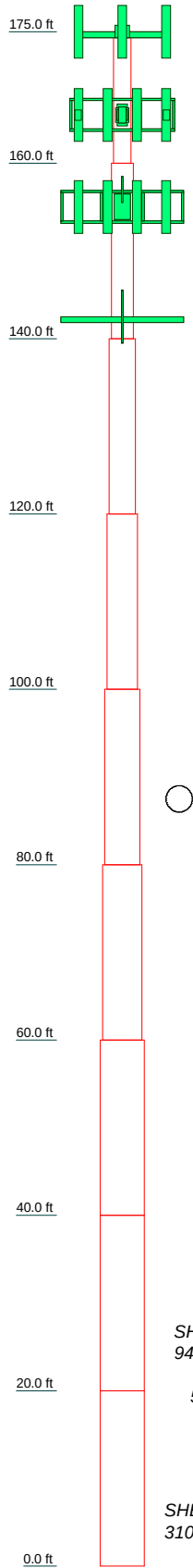
1. Replacing or strengthening bracing members.
2. Reinforcing vertical members in any manner.
3. Adding or relocating stabilizers.
4. Installing antenna mounting gates or side arms.
5. Extending tower.

APT hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon the information contained and set forth herein. If you are aware of any information which is contrary to that which is contained herein, or you are aware of any defects arising from the original design, material, fabrication and erection deficiencies, you should disregard this report and immediately contact APT. APT disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

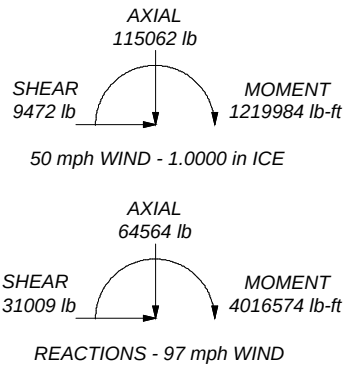
Appendix A

Tower Schematic

Section	1	2	3	4	5	6	7	8	9	
Size	P24x3/8	P30x3/8	P36x3/8	P42x3/8	P48x3/8	P54x3/8	P60x3/8	P60x1/2	P60x5/8	
Length (ft)	15.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	
Grade	A53-B-42									
Weight (lb)	1420.6	2375.2	2856.3	3337.3	3818.4	4299.5	4780.5	6360.7	7934.1	37182.6



ALL REACTIONS
ARE FACTORED



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
APXVARR24_43-C-NA20 (T-Mobile)	175	Radio 8843 (AT	165.5
APXVARR24_43-C-NA20 (T-Mobile)	175	Radio 8843 (AT	165.5
APXVARR24_43-C-NA20 (T-Mobile)	175	Radio 4449 (AT	165.5
APX16DWV-16DWVS (T-Mobile)	175	Radio 4449 (AT	165.5
APX16DWV-16DWVS (T-Mobile)	175	Radio 4449 (AT	165.5
APX16DWV-16DWVS (T-Mobile)	175	Raycap DC6-48-60-18-8F squid (AT	165.5
AIR32 B66Aa/B2a (T-Mobile)	175	Raycap DC6-48-60-18-8F squid (AT	165.5
AIR32 B66Aa/B2a (T-Mobile)	175	Raycap DC6-48-60-18-8F squid (AT	165.5
AIR32 B66Aa/B2a (T-Mobile)	175	Raycap DC6-48-60-18-8F squid (AT	165.5
AIR32 B66Aa/B2a (T-Mobile)	175	12' T-frame sector mnt (AT	165.5
Ericsson RRUS-11 (T-Mobile)	175	12' T-frame sector mnt (AT	165.5
Ericsson RRUS-11 (T-Mobile)	175	12' T-frame sector mnt (AT	165.5
Ericsson RRUS-11 (T-Mobile)	175	GPS on 3' standoff	157
(2) RFS ATM1900D TMA (T-Mobile)	175	(2) LPA-80063/4 (Verizon Wireless)	155
(2) RFS ATM1900D TMA (T-Mobile)	175	(2) LPA-80063/4 (Verizon Wireless)	155
(2) RFS ATM1900D TMA (T-Mobile)	175	(2) LPA-80063/4 (Verizon Wireless)	155
10' low-profile platform (T-Mobile)	175	(2) NHH-65B-R2B (Verizon Wireless)	155
HPA-65R-BUU-H6 (AT	165.5	(2) NHH-65B-R2B (Verizon Wireless)	155
HPA-65R-BUU-H6 (AT	165.5	(2) NHH-65B-R2B (Verizon Wireless)	155
HPA-65R-BUU-H6 (AT	165.5	B2/B66A RRHBRO49 (RFV01U-D1A)	155
Qunitel QS66512 (AT	165.5	(Verizon Wireless)	
Qunitel QS66512 (AT	165.5	B2/B66A RRHBRO49 (RFV01U-D1A)	155
Qunitel QS66512 (AT	165.5	(Verizon Wireless)	
Qunitel QS66512 (AT	165.5	B2/B66A RRHBRO49 (RFV01U-D1A)	155
800-10121 (AT	165.5	(Verizon Wireless)	
800-10121 (AT	165.5	B5/B13 RRHBRO4C (RFV01UD2A)	155
800-10121 (AT	165.5	(Verizon Wireless)	
cci DMP65R-BU6DA (AT	165.5	B5/B13 RRHBRO4C (RFV01UD2A)	155
cci DMP65R-BU6DA (AT	165.5	(Verizon Wireless)	
cci DMP65R-BU6DA (AT	165.5	B5/B13 RRHBRO4C (RFV01UD2A)	155
(2) 860-10025 RCU (AT	165.5	(Verizon Wireless)	
(2) 860-10025 RCU (AT	165.5	RVZDC-6627-PF-48 (Verizon	155
(2) 860-10025 RCU (AT	165.5	Wireless)	
(2) LGP2140X TMA (AT	165.5	14' low-profile platform (Verizon	155
(2) LGP2140X TMA (AT	165.5	Wireless)	
(2) LGP2140X TMA (AT	165.5	14' low-profile platform (Vacant	142.5
Ericsson RRUS-32 (AT	165.5	Mounts)	
Ericsson RRUS-32 (AT	165.5	(4) 6'x2 3/8" Pipe Mount (Vacant	142.5
Ericsson RRUS-32 (AT	165.5	Mounts)	
Ericsson RRUS-32 (AT	165.5	(4) 6'x2 3/8" Pipe Mount (Vacant	142.5
Radio 4478 (AT	165.5	Mounts)	
Radio 4478 (AT	165.5	(4) 6'x2 3/8" Pipe Mount (Vacant	142.5
Radio 4478 (AT	165.5	Mounts)	
Ericsson RRUS-E2 (AT	165.5		
Ericsson RRUS-E2 (AT	165.5		
Ericsson RRUS-E2 (AT	165.5		
Radio 8843 (AT	165.5		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-42	42 ksi	63 ksi			

All Points Technology Job: **175' Monopole Tower**

116 Grandview Road

Conway, NH 03818

Phone: (603) 496-5853

FAX: (603) 447-2124

Project: **CT1931631 Vernon**

Client: SAI Comm; AT&T Site #CT5310

Code: TIA-222-G

Path:

Drawn by: AMA

Date: 10/13/20

Scale: NTS

App'd:

Dwg No. E-1

Appendix B

Calculations

tnxTower All Points Technology 116 Grandview Road Conway, NH 03818 Phone: (603) 496-5853 FAX: (603) 447-2124	Job	175' Monopole Tower	Page	1 of 40
	Project	CT1931631 Vernon	Date	09:25:03 10/13/20
	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).

Basic wind speed of 97 mph.

Ultimate wind speed of 128 mph.

Structure Class II.

Exposure Category B.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

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

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

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Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	175.00-160.00	15.00	P24x3/8	A53-B-42 (42 ksi)	
L2	160.00-140.00	20.00	P30x3/8	A53-B-42 (42 ksi)	
L3	140.00-120.00	20.00	P36x3/8	A53-B-42 (42 ksi)	
L4	120.00-100.00	20.00	P42x3/8	A53-B-42 (42 ksi)	
L5	100.00-80.00	20.00	P48x3/8	A53-B-42 (42 ksi)	
L6	80.00-60.00	20.00	P54x3/8	A53-B-42 (42 ksi)	
L7	60.00-40.00	20.00	P60x3/8	A53-B-42 (42 ksi)	
L8	40.00-20.00	20.00	P60x1/2	A53-B-42 (42 ksi)	
L9	20.00-0.00	20.00	P60x5/8	A53-B-42 (42 ksi)	

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 175.00-160.00				1	1	1			
L2 160.00-140.00				1	1	1			
L3 140.00-120.00				1	1	1			
L4 120.00-100.00				1	1	1			
L5 100.00-80.00				1	1	1			
L6 80.00-60.00				1	1	1			
L7 60.00-40.00				1	1	1			
L8 40.00-20.00				1	1	1			
L9 20.00-0.00				1	1	1			

Monopole Base Plate Data

Base Plate Data	
Base plate is square	
Base plate is grouted	
Anchor bolt grade	A615-75
Anchor bolt size	1.2500 in
Number of bolts	52
Embedment length	60.0000 in
F _c	3 ksi
Grout space	4.2500 in
Base plate grade	A36
Base plate thickness	2.2500 in
Bolt circle diameter	64.0000 in
Outer diameter	70.0000 in
Inner diameter	36.0000 in

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Base Plate Data	
Base plate type	Stiffened Plate
Bolts per stiffener	1
Stiffener thickness	0.3750 in
Stiffener height	6.5000 in

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
1.57" Hybrid fiber-power cable (T-Mobile)	C	No	No	Inside Pole	175.00 - 5.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.50 1.50 1.50
1 5/8 (T-Mobile)	C	No	No	Inside Pole	175.00 - 5.00	12	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.04 1.04 1.04
1 5/8 (AT&T existing)	C	No	No	Inside Pole	165.50 - 5.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.04 1.04 1.04
5/8 power (AT&T existing)	C	No	No	Inside Pole	165.50 - 5.00	4	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.40 0.40 0.40
5/16" Fiberoptic cable (AT&T existing)	C	No	No	Inside Pole	165.50 - 5.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.25 0.25 0.25
3" conduit (AT&T existing)	C	No	No	Inside Pole	165.50 - 5.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.00 2.00 2.00
2.25" conduit (AT&T)	C	No	No	Inside Pole	165.50 - 5.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.00 2.00 2.00
.98" power (AT&T)	C	No	No	Inside Pole	165.50 - 5.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.00 2.00 2.00
1/2	C	No	No	Inside Pole	157.00 - 5.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.25 0.25 0.25
1 5/8 (VzW)	C	No	No	Inside Pole	155.00 - 5.00	9	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.04 1.04 1.04
1 1/4 (VzW)	C	No	No	Inside Pole	155.00 - 5.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.66 0.66 0.66

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
L1	175.00-160.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	355.57
L2	160.00-140.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	880.75
L3	140.00-120.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	938.20

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Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
L4	120.00-100.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	938.20
L5	100.00-80.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	938.20
L6	80.00-60.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	938.20
L7	60.00-40.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	938.20
L8	40.00-20.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	938.20
L9	20.00-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	703.65

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 _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
L1	175.00-160.00	A	2.353	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	355.57
L2	160.00-140.00	A	2.327	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	880.75
L3	140.00-120.00	A	2.294	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	938.20
L4	120.00-100.00	A	2.256	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	938.20
L5	100.00-80.00	A	2.211	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	938.20
L6	80.00-60.00	A	2.156	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	938.20
L7	60.00-40.00	A	2.085	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	938.20
L8	40.00-20.00	A	1.981	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	938.20
L9	20.00-0.00	A	1.775	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	703.65

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Feed Line Center of Pressure

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L1	175.00-160.00	0.0000	0.0000	0.0000	0.0000
L2	160.00-140.00	0.0000	0.0000	0.0000	0.0000
L3	140.00-120.00	0.0000	0.0000	0.0000	0.0000
L4	120.00-100.00	0.0000	0.0000	0.0000	0.0000
L5	100.00-80.00	0.0000	0.0000	0.0000	0.0000
L6	80.00-60.00	0.0000	0.0000	0.0000	0.0000
L7	60.00-40.00	0.0000	0.0000	0.0000	0.0000
L8	40.00-20.00	0.0000	0.0000	0.0000	0.0000
L9	20.00-0.00	0.0000	0.0000	0.0000	0.0000

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
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Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight lb
APXVARR24_43-C-NA20 (T-Mobile)	A	From Face	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	17.15 17.77 18.40	8.74 9.34 9.95	89.30 186.52 291.98
APXVARR24_43-C-NA20 (T-Mobile)	B	From Face	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	17.15 17.77 18.40	8.74 9.34 9.95	89.30 186.52 291.98
APXVARR24_43-C-NA20 (T-Mobile)	C	From Face	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	17.15 17.77 18.40	8.74 9.34 9.95	89.30 186.52 291.98
APX16DWV-16DWVS (T-Mobile)	A	From Face	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	6.08 6.44 6.80	2.00 2.33 2.66	25.00 56.34 92.36
APX16DWV-16DWVS (T-Mobile)	B	From Face	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	6.08 6.44 6.80	2.00 2.33 2.66	25.00 56.34 92.36
APX16DWV-16DWVS (T-Mobile)	C	From Face	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	6.08 6.44 6.80	2.00 2.33 2.66	25.00 56.34 92.36
AIR32 B66Aa/B2a (T-Mobile)	A	From Face	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	6.51 6.89 7.27	4.71 5.07 5.43	133.00 178.82 229.91
AIR32 B66Aa/B2a (T-Mobile)	B	From Face	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	6.51 6.89 7.27	4.71 5.07 5.43	133.00 178.82 229.91
AIR32 B66Aa/B2a (T-Mobile)	C	From Face	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	6.51 6.89 7.27	4.71 5.07 5.43	133.00 178.82 229.91
Ericsson RRUS-11	A	From Face	3.50	0.0000	175.00	No Ice	2.79	1.02	55.00

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight lb
(T-Mobile)			0.00			1/2" Ice	3.00	1.16	75.86
			0.00			1" Ice	3.21	1.30	99.77
Ericsson RRUS-11 (T-Mobile)	B	From Face	3.50	0.0000	175.00	No Ice	2.79	1.02	55.00
			0.00			1/2" Ice	3.00	1.16	75.86
			0.00			1" Ice	3.21	1.30	99.77
Ericsson RRUS-11 (T-Mobile)	C	From Face	3.50	0.0000	175.00	No Ice	2.79	1.02	55.00
			0.00			1/2" Ice	3.00	1.16	75.86
			0.00			1" Ice	3.21	1.30	99.77
(2) RFS ATM1900D TMA (T-Mobile)	A	From Face	3.50	0.0000	175.00	No Ice	0.72	0.19	10.00
			0.00			1/2" Ice	0.82	0.26	15.07
			0.00			1" Ice	0.94	0.33	21.72
(2) RFS ATM1900D TMA (T-Mobile)	B	From Face	3.50	0.0000	175.00	No Ice	0.72	0.19	10.00
			0.00			1/2" Ice	0.82	0.26	15.07
			0.00			1" Ice	0.94	0.33	21.72
(2) RFS ATM1900D TMA (T-Mobile)	C	From Face	3.50	0.0000	175.00	No Ice	0.72	0.19	10.00
			0.00			1/2" Ice	0.82	0.26	15.07
			0.00			1" Ice	0.94	0.33	21.72
10' low-profile platform (T-Mobile)	C	None		0.0000	175.00	No Ice	6.00	5.20	800.00
						1/2" Ice	6.70	5.81	1255.07
						1" Ice	7.41	6.43	1725.24
HPA-65R-BUU-H6 (AT&T existing)	A	From Face	4.00	0.0000	165.50	No Ice	9.66	6.45	55.00
			0.00			1/2" Ice	10.13	6.91	117.99
			0.00			1" Ice	10.61	7.38	187.38
HPA-65R-BUU-H6 (AT&T existing)	B	From Face	4.00	0.0000	165.50	No Ice	9.66	6.45	55.00
			0.00			1/2" Ice	10.13	6.91	117.99
			0.00			1" Ice	10.61	7.38	187.38
HPA-65R-BUU-H6 (AT&T existing)	C	From Face	4.00	0.0000	165.50	No Ice	9.66	6.45	55.00
			0.00			1/2" Ice	10.13	6.91	117.99
			0.00			1" Ice	10.61	7.38	187.38
Qunitel QS66512 (AT&T existing)	A	From Face	4.00	0.0000	165.50	No Ice	8.13	6.80	120.00
			0.00			1/2" Ice	8.59	7.27	177.20
			0.00			1" Ice	9.05	7.72	240.66
Qunitel QS66512 (AT&T existing)	B	From Face	4.00	0.0000	165.50	No Ice	8.13	6.80	120.00
			0.00			1/2" Ice	8.59	7.27	177.20
			0.00			1" Ice	9.05	7.72	240.66
Qunitel QS66512 (AT&T existing)	C	From Face	4.00	0.0000	165.50	No Ice	8.13	6.80	120.00
			0.00			1/2" Ice	8.59	7.27	177.20
			0.00			1" Ice	9.05	7.72	240.66
800-10121 (AT&T existing)	A	From Face	4.00	0.0000	165.50	No Ice	5.16	3.29	50.00
			0.00			1/2" Ice	5.51	3.64	82.91
			0.00			1" Ice	5.87	3.99	120.59
800-10121 (AT&T existing)	B	From Face	4.00	0.0000	165.50	No Ice	5.16	3.29	50.00
			0.00			1/2" Ice	5.51	3.64	82.91
			0.00			1" Ice	5.87	3.99	120.59
800-10121 (AT&T existing)	C	From Face	4.00	0.0000	165.50	No Ice	5.16	3.29	50.00
			0.00			1/2" Ice	5.51	3.64	82.91
			0.00			1" Ice	5.87	3.99	120.59
cci DMP65R-BU6DA (AT&T)	A	From Face	4.00	0.0000	165.50	No Ice	12.71	5.62	83.00
			0.00			1/2" Ice	13.21	6.07	156.96
			0.00			1" Ice	13.71	6.53	237.56
cci DMP65R-BU6DA (AT&T)	B	From Face	4.00	0.0000	165.50	No Ice	12.71	5.62	83.00
			0.00			1/2" Ice	13.21	6.07	156.96
			0.00			1" Ice	13.71	6.53	237.56
cci DMP65R-BU6DA (AT&T)	C	From Face	4.00	0.0000	165.50	No Ice	12.71	5.62	83.00
			0.00			1/2" Ice	13.21	6.07	156.96
			0.00			1" Ice	13.71	6.53	237.56
(2) 860-10025 RCU	A	From Face	4.00	0.0000	165.50	No Ice	0.12	0.10	3.00

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight lb
(AT&T existing)			0.00			1/2" Ice	0.17	0.15	4.36
			0.00			1" Ice	0.23	0.20	6.59
(2) 860-10025 RCU (AT&T existing)	B	From Face	4.00	0.0000	165.50	No Ice	0.12	0.10	3.00
			0.00			1/2" Ice	0.17	0.15	4.36
			0.00			1" Ice	0.23	0.20	6.59
(2) 860-10025 RCU (AT&T existing)	C	From Face	4.00	0.0000	165.50	No Ice	0.12	0.10	3.00
			0.00			1/2" Ice	0.17	0.15	4.36
			0.00			1" Ice	0.23	0.20	6.59
(2) LGP2140X TMA (AT&T existing)	A	From Face	4.00	0.0000	165.50	No Ice	1.08	0.36	20.00
			0.00			1/2" Ice	1.21	0.45	27.13
			0.00			1" Ice	1.35	0.56	36.14
(2) LGP2140X TMA (AT&T existing)	B	From Face	4.00	0.0000	165.50	No Ice	1.08	0.36	20.00
			0.00			1/2" Ice	1.21	0.45	27.13
			0.00			1" Ice	1.35	0.56	36.14
(2) LGP2140X TMA (AT&T existing)	C	From Face	4.00	0.0000	165.50	No Ice	1.08	0.36	20.00
			0.00			1/2" Ice	1.21	0.45	27.13
			0.00			1" Ice	1.35	0.56	36.14
Ericsson RRUS-32 (AT&T existing)	A	From Face	3.50	0.0000	165.50	No Ice	3.31	2.42	80.00
			0.00			1/2" Ice	3.56	2.64	107.93
			0.00			1" Ice	3.81	2.86	139.47
Ericsson RRUS-32 (AT&T existing)	B	From Face	3.50	0.0000	165.50	No Ice	3.31	2.42	80.00
			0.00			1/2" Ice	3.56	2.64	107.93
			0.00			1" Ice	3.81	2.86	139.47
Ericsson RRUS-32 (AT&T existing)	C	From Face	3.50	0.0000	165.50	No Ice	3.31	2.42	80.00
			0.00			1/2" Ice	3.56	2.64	107.93
			0.00			1" Ice	3.81	2.86	139.47
Radio 4478 (AT&T existing)	A	From Face	3.50	0.0000	165.50	No Ice	1.86	1.06	65.00
			0.00			1/2" Ice	2.03	1.20	80.96
			0.00			1" Ice	2.20	1.34	99.56
Radio 4478 (AT&T existing)	B	From Face	3.50	0.0000	165.50	No Ice	1.86	1.06	65.00
			0.00			1/2" Ice	2.03	1.20	80.96
			0.00			1" Ice	2.20	1.34	99.56
Radio 4478 (AT&T existing)	C	From Face	3.50	0.0000	165.50	No Ice	1.86	1.06	65.00
			0.00			1/2" Ice	2.03	1.20	80.96
			0.00			1" Ice	2.20	1.34	99.56
Ericsson RRUS-E2 (AT&T)	A	From Face	3.50	0.0000	165.50	No Ice	3.15	1.29	60.00
			0.00			1/2" Ice	3.36	1.44	83.22
			0.00			1" Ice	3.59	1.60	109.64
Ericsson RRUS-E2 (AT&T)	B	From Face	3.50	0.0000	165.50	No Ice	3.15	1.29	60.00
			0.00			1/2" Ice	3.36	1.44	83.22
			0.00			1" Ice	3.59	1.60	109.64
Ericsson RRUS-E2 (AT&T)	C	From Face	3.50	0.0000	165.50	No Ice	3.15	1.29	60.00
			0.00			1/2" Ice	3.36	1.44	83.22
			0.00			1" Ice	3.59	1.60	109.64
Radio 8843 (AT&T)	A	From Face	3.50	0.0000	165.50	No Ice	1.64	1.36	71.87
			0.00			1/2" Ice	1.80	1.51	89.45
			0.00			1" Ice	1.96	1.66	109.74
Radio 8843 (AT&T)	B	From Face	3.50	0.0000	165.50	No Ice	1.64	1.36	71.87
			0.00			1/2" Ice	1.80	1.51	89.45
			0.00			1" Ice	1.96	1.66	109.74
Radio 8843 (AT&T)	C	From Face	3.50	0.0000	165.50	No Ice	1.64	1.36	71.87
			0.00			1/2" Ice	1.80	1.51	89.45
			0.00			1" Ice	1.96	1.66	109.74
Radio 4449 (AT&T)	A	From Face	3.50	0.0000	165.50	No Ice	1.65	0.93	60.00
			0.00			1/2" Ice	1.81	1.05	74.37
			0.00			1" Ice	1.98	1.19	91.23
Radio 4449	B	From Face	3.50	0.0000	165.50	No Ice	1.65	0.93	60.00

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	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight lb
(AT&T)			0.00			1/2" Ice	1.81	1.05	74.37
			0.00			1" Ice	1.98	1.19	91.23
Radio 4449	C	From Face	3.50	0.0000	165.50	No Ice	1.65	0.93	60.00
(AT&T)			0.00			1/2" Ice	1.81	1.05	74.37
			0.00			1" Ice	1.98	1.19	91.23
Raycap DC6-48-60-18-8F squid	A	None		0.0000	165.50	No Ice	0.74	0.74	30.00
(AT&T)						1/2" Ice	1.20	1.20	44.34
						1" Ice	1.37	1.37	60.93
Raycap DC6-48-60-18-8F squid	B	None		0.0000	165.50	No Ice	0.74	0.74	30.00
(AT&T)						1/2" Ice	1.20	1.20	44.34
						1" Ice	1.37	1.37	60.93
Raycap DC6-48-60-18-8F squid	C	None		0.0000	165.50	No Ice	0.74	0.74	30.00
(AT&T existing)						1/2" Ice	1.20	1.20	44.34
						1" Ice	1.37	1.37	60.93
12' T-frame sector mnt (AT&T existing)	A	None		0.0000	165.50	No Ice	10.20	5.10	465.00
						1/2" Ice	13.80	6.90	600.00
						1" Ice	17.40	8.70	735.00
12' T-frame sector mnt (AT&T existing)	C	None		0.0000	165.50	No Ice	10.20	5.10	465.00
						1/2" Ice	13.80	6.90	600.00
						1" Ice	17.40	8.70	735.00
12' T-frame sector mnt (AT&T existing)	C	None		0.0000	165.50	No Ice	10.20	5.10	465.00
						1/2" Ice	13.80	6.90	600.00
						1" Ice	17.40	8.70	735.00
GPS on 3' standoff	B	None		0.0000	157.00	No Ice	0.60	0.60	50.00
						1/2" Ice	0.79	0.79	55.81
						1" Ice	0.99	0.99	63.86
(2) LPA-80063/4 (Verizon Wireless)	A	From Face	4.00	0.0000	155.00	No Ice	6.14	5.39	25.00
			0.00			1/2" Ice	6.48	5.72	77.41
			0.00			1" Ice	6.83	6.05	134.92
(2) LPA-80063/4 (Verizon Wireless)	B	From Face	4.00	0.0000	155.00	No Ice	6.14	5.39	25.00
			0.00			1/2" Ice	6.48	5.72	77.41
			0.00			1" Ice	6.83	6.05	134.92
(2) LPA-80063/4 (Verizon Wireless)	C	From Face	4.00	0.0000	155.00	No Ice	6.14	5.39	25.00
			0.00			1/2" Ice	6.48	5.72	77.41
			0.00			1" Ice	6.83	6.05	134.92
(2) NHH-65B-R2B (Verizon Wireless)	A	From Face	4.00	0.0000	155.00	No Ice	8.08	5.34	44.00
			0.00			1/2" Ice	8.53	5.79	94.05
			0.00			1" Ice	9.00	6.26	150.20
(2) NHH-65B-R2B (Verizon Wireless)	B	From Face	4.00	0.0000	155.00	No Ice	8.08	5.34	44.00
			0.00			1/2" Ice	8.53	5.79	94.05
			0.00			1" Ice	9.00	6.26	150.20
(2) NHH-65B-R2B (Verizon Wireless)	C	From Face	4.00	0.0000	155.00	No Ice	8.08	5.34	44.00
			0.00			1/2" Ice	8.53	5.79	94.05
			0.00			1" Ice	9.00	6.26	150.20
B2/B66A RRHBRO49 (RFV01U-D1A) (Verizon Wireless)	A	From Face	3.50	0.0000	155.00	No Ice	1.88	1.25	85.00
			0.00			1/2" Ice	2.05	1.39	103.34
			0.00			1" Ice	2.22	1.54	124.47
B2/B66A RRHBRO49 (RFV01U-D1A) (Verizon Wireless)	B	From Face	3.50	0.0000	155.00	No Ice	1.88	1.25	85.00
			0.00			1/2" Ice	2.05	1.39	103.34
			0.00			1" Ice	2.22	1.54	124.47
B2/B66A RRHBRO49 (RFV01U-D1A) (Verizon Wireless)	C	From Face	3.50	0.0000	155.00	No Ice	1.88	1.25	85.00
			0.00			1/2" Ice	2.05	1.39	103.34
			0.00			1" Ice	2.22	1.54	124.47
B5/B13 RRHBR04C (RFV01UD2A) (Verizon Wireless)	A	From Face	3.50	0.0000	155.00	No Ice	1.88	1.01	100.00
			0.00			1/2" Ice	2.05	1.14	116.43
			0.00			1" Ice	2.22	1.28	135.53
B5/B13 RRHBR04C	B	From Face	3.50	0.0000	155.00	No Ice	1.88	1.01	100.00

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
(RFV01UD2A)			0.00			1/2" Ice	2.05	1.14	116.43
(Verizon Wireless)			0.00			1" Ice	2.22	1.28	135.53
B5/B13 RRHBR04C	C	From Face	3.50	0.0000	155.00	No Ice	1.88	1.01	100.00
(RFV01UD2A)			0.00			1/2" Ice	2.05	1.14	116.43
(Verizon Wireless)			0.00			1" Ice	2.22	1.28	135.53
RVZDC-6627-PF-48	C	None		0.0000	155.00	No Ice	6.13	5.25	45.00
(Verizon Wireless)						1/2" Ice	6.44	5.55	103.92
						1" Ice	6.76	5.85	167.82
14' low-profile platform	C	None		0.0000	155.00	No Ice	8.40	7.28	1200.00
(Verizon Wireless)						1/2" Ice	9.37	8.12	2063.51
						1" Ice	10.35	8.97	2947.93
14' low-profile platform	C	None		0.0000	142.50	No Ice	8.40	7.28	1200.00
(Vacant Mounts)						1/2" Ice	9.37	8.12	2063.51
						1" Ice	10.35	8.97	2947.93
(4) 6'x2 3/8" Pipe Mount	A	None		0.0000	142.50	No Ice	1.43	1.43	21.90
(Vacant Mounts)						1/2" Ice	1.92	1.92	32.73
						1" Ice	2.29	2.29	47.61
(4) 6'x2 3/8" Pipe Mount	B	None		0.0000	142.50	No Ice	1.43	1.43	21.90
(Vacant Mounts)						1/2" Ice	1.92	1.92	32.73
						1" Ice	2.29	2.29	47.61
(4) 6'x2 3/8" Pipe Mount	C	None		0.0000	142.50	No Ice	1.43	1.43	21.90
(Vacant Mounts)						1/2" Ice	1.92	1.92	32.73
						1" Ice	2.29	2.29	47.61

222-G Verification Constants

Constant	Value
Wind Importance Factor Without Ice	1
Wind Importance Factor With Ice Factor	1
Ice Importance Factor	1
K _d	0.95
Z _g	1200
α	7
K _{zmin}	0.7
K _e	0.9
K _t	1
f	1

222-G Section Verification ArRr By Element

Section Elevation ft	Elem. Num.	Size	C	C w/Ice	F a c e	e	e w/Ice	A _r ft ²	A _r w/Ice ft ²	A _r R _r ft ²	A _r R _r w/Ice ft ²
L1 175.00-160.00	1	P24x3/8	207.603	127.993		1	1	30.000	35.882	30.000	35.882
L2 160.00-140.00	2	P30x3/8	255.445	152.099		1	Sum: 1	30.000 50.000	35.882 57.757	30.000 50.000	35.882 57.757
L3 140.00-120.00	3	P36x3/8	300.331	174.538		1	Sum: 1	50.000 60.000	57.757 67.646	50.000 60.000	57.757 67.646
							Sum:	60.000	67.646	60.000	67.646

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Section Elevation ft	Elem. Num.	Size	C	C w/Ice	F a c e	e	e w/Ice	A _r ft ²	A _r w/Ice ft ²	A _r R _r ft ²	A _r R _r w/Ice ft ²
L4 120.00-100.00	4	P42x3/8	342.123	195.296		1	1	70.000	77.520	70.000	77.520
L5 100.00-80.00	5	P48x3/8	379.948	213.893		1	1	Sum: 70.000 80.000	77.520 87.370	70.000 80.000	77.520 87.370
L6 80.00-60.00	6	P54x3/8	412.368	229.536		1	1	Sum: 80.000 90.000	87.370 97.187	80.000 90.000	87.370 97.187
L7 60.00-40.00	7	P60x3/8	436.683	240.738		1	1	Sum: 90.000 100.000	97.187 106.950	90.000 100.000	97.187 106.950
L8 40.00-20.00	8	P60x1/2	405.951	223.071		1	1	Sum: 100.000 100.000	106.950 106.603	100.000 100.000	106.950 106.603
L9 20.00-0.00	9	P60x5/8	405.78	221.54		1	1	Sum: 100.000 100.000	106.603 105.916	100.000 100.000	106.603 105.916

222-G Section Verification Tables - No Ice

Section Elevation ft	Z _{wind} ft	Z _{ice} ft	K _z	K _h	K _{zt}	t _z in	q _z psf	F a c e	e	A _r R _r ft ²
L1 175.00-160.00	167.50		1.145	1	1		26		1	30.000
L2 160.00-140.00	150.00		1.11	1	1		25		1	50.000
L3 140.00-120.00	130.00		1.065	1	1		24		1	60.000
L4 120.00-100.00	110.00		1.016	1	1		23		1	70.000
L5 100.00-80.00	90.00		0.959	1	1		22		1	80.000
L6 80.00-60.00	70.00		0.892	1	1		20		1	90.000
L7 60.00-40.00	50.00		0.811	1	1		19		1	100.000
L8 40.00-20.00	30.00		0.701	1	1		16		1	100.000
L9 20.00-0.00	10.00		0.7	1	1		16		1	100.000

222-G Section Verification Tables - Ice

Section Elevation ft	Z _{wind} ft	Z _{ice} ft	K _z	K _h	K _{zt}	t _z in	q _z psf	F a c e	e	A _r R _r ft ²
L1 175.00-160.00	167.50	167.50	1.145	1	1	2.3528	7		1	35.882
L2 160.00-140.00	150.00	150.00	1.11	1	1	2.3270	7		1	57.757
L3 140.00-120.00	130.00	130.00	1.065	1	1	2.2939	6		1	67.646
L4 120.00-100.00	110.00	110.00	1.016	1	1	2.2559	6		1	77.520
L5 100.00-80.00	90.00	90.00	0.959	1	1	2.2111	6		1	87.370
L6 80.00-60.00	70.00	70.00	0.892	1	1	2.1562	5		1	97.187
L7 60.00-40.00	50.00	50.00	0.811	1	1	2.0849	5		1	106.950
L8 40.00-20.00	30.00	30.00	0.701	1	1	1.9810	4		1	106.603
L9 20.00-0.00	10.00	10.00	0.7	1	1	1.7749	4		1	105.916

222-G Section Verification Tables - Service

Section Elevation ft	Z _{wind} ft	Z _{ice} ft	K _z	K _h	K _{zt}	t _z in	q _z psf	F a c e	e	A _r R _r ft ²
L1 175.00-160.00	167.50		1.145	1	1		9		1	30.000
L2 160.00-140.00	150.00		1.11	1	1		9		1	50.000

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Section Elevation	Z _{wind}	Z _{ice}	K _z	K _h	K _{xt}	t _z	q _z	F a c e	e	A _r R _r
ft	ft	ft				in	psf			ft ²
L3 140.00-120.00	130.00		1.065	1	1		8		1	60.000
L4 120.00-100.00	110.00		1.016	1	1		8		1	70.000
L5 100.00-80.00	90.00		0.959	1	1		8		1	80.000
L6 80.00-60.00	70.00		0.892	1	1		7		1	90.000
L7 60.00-40.00	50.00		0.811	1	1		6		1	100.000
L8 40.00-20.00	30.00		0.701	1	1		5		1	100.000
L9 20.00-0.00	10.00		0.7	1	1		5		1	100.000

Tower Pressures - No Ice

$$G_H = 1.100$$

Section Elevation	z	K _z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	ft ²		ft ²	ft ²	ft ²			
L1 175.00-160.00	167.50	1.145	26	30.000	A	0.000	30.000	30.000	100.00	0.000	0.000
					B	0.000	30.000		100.00	0.000	0.000
					C	0.000	30.000		100.00	0.000	0.000
L2 160.00-140.00	150.00	1.11	25	50.000	A	0.000	50.000	50.000	100.00	0.000	0.000
					B	0.000	50.000		100.00	0.000	0.000
					C	0.000	50.000		100.00	0.000	0.000
L3 140.00-120.00	130.00	1.065	24	60.000	A	0.000	60.000	60.000	100.00	0.000	0.000
					B	0.000	60.000		100.00	0.000	0.000
					C	0.000	60.000		100.00	0.000	0.000
L4 120.00-100.00	110.00	1.016	23	70.000	A	0.000	70.000	70.000	100.00	0.000	0.000
					B	0.000	70.000		100.00	0.000	0.000
					C	0.000	70.000		100.00	0.000	0.000
L5 100.00-80.00	90.00	0.959	22	80.000	A	0.000	80.000	80.000	100.00	0.000	0.000
					B	0.000	80.000		100.00	0.000	0.000
					C	0.000	80.000		100.00	0.000	0.000
L6 80.00-60.00	70.00	0.892	20	90.000	A	0.000	90.000	90.000	100.00	0.000	0.000
					B	0.000	90.000		100.00	0.000	0.000
					C	0.000	90.000		100.00	0.000	0.000
L7 60.00-40.00	50.00	0.811	19	100.000	A	0.000	100.000	100.000	100.00	0.000	0.000
					B	0.000	100.000		100.00	0.000	0.000
					C	0.000	100.000		100.00	0.000	0.000
L8 40.00-20.00	30.00	0.701	16	100.000	A	0.000	100.000	100.000	100.00	0.000	0.000
					B	0.000	100.000		100.00	0.000	0.000
					C	0.000	100.000		100.00	0.000	0.000
L9 20.00-0.00	10.00	0.7	16	100.000	A	0.000	100.000	100.000	100.00	0.000	0.000
					B	0.000	100.000		100.00	0.000	0.000
					C	0.000	100.000		100.00	0.000	0.000

Tower Pressure - With Ice

$$G_H = 1.100$$

Section Elevation	z	K _z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²			
L1 175.00-160.00	167.50	1.145	7	2.3528	35.882	A	0.000	35.882	35.882	100.00	0.000	0.000
						B	0.000	35.882		100.00	0.000	0.000
						C	0.000	35.882		100.00	0.000	0.000

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Section Elevation	z	K _Z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²			
L2 160.00-140.00	150.00	1.11	7	2.3270	57.757	A	0.000	57.757	57.757	100.00	0.000	0.000
						B	0.000	57.757		100.00	0.000	0.000
						C	0.000	57.757		100.00	0.000	0.000
L3 140.00-120.00	130.00	1.065	6	2.2939	67.646	A	0.000	67.646	67.646	100.00	0.000	0.000
						B	0.000	67.646		100.00	0.000	0.000
						C	0.000	67.646		100.00	0.000	0.000
L4 120.00-100.00	110.00	1.016	6	2.2559	77.520	A	0.000	77.520	77.520	100.00	0.000	0.000
						B	0.000	77.520		100.00	0.000	0.000
						C	0.000	77.520		100.00	0.000	0.000
L5 100.00-80.00	90.00	0.959	6	2.2111	87.370	A	0.000	87.370	87.370	100.00	0.000	0.000
						B	0.000	87.370		100.00	0.000	0.000
						C	0.000	87.370		100.00	0.000	0.000
L6 80.00-60.00	70.00	0.892	5	2.1562	97.187	A	0.000	97.187	97.187	100.00	0.000	0.000
						B	0.000	97.187		100.00	0.000	0.000
						C	0.000	97.187		100.00	0.000	0.000
L7 60.00-40.00	50.00	0.811	5	2.0849	106.950	A	0.000	106.950	106.950	100.00	0.000	0.000
						B	0.000	106.950		100.00	0.000	0.000
						C	0.000	106.950		100.00	0.000	0.000
L8 40.00-20.00	30.00	0.701	4	1.9810	106.603	A	0.000	106.603	106.603	100.00	0.000	0.000
						B	0.000	106.603		100.00	0.000	0.000
						C	0.000	106.603		100.00	0.000	0.000
L9 20.00-0.00	10.00	0.7	4	1.7749	105.916	A	0.000	105.916	105.916	100.00	0.000	0.000
						B	0.000	105.916		100.00	0.000	0.000
						C	0.000	105.916		100.00	0.000	0.000

Tower Pressure - Service

$$G_H = 1.100$$

Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	ft ²		ft ²	ft ²	ft ²			
L1 175.00-160.00	167.50	1.145	9	30.000	A	0.000	30.000	30.000	100.00	0.000	0.000
					B	0.000	30.000		100.00	0.000	0.000
					C	0.000	30.000		100.00	0.000	0.000
L2 160.00-140.00	150.00	1.11	9	50.000	A	0.000	50.000	50.000	100.00	0.000	0.000
					B	0.000	50.000		100.00	0.000	0.000
					C	0.000	50.000		100.00	0.000	0.000
L3 140.00-120.00	130.00	1.065	8	60.000	A	0.000	60.000	60.000	100.00	0.000	0.000
					B	0.000	60.000		100.00	0.000	0.000
					C	0.000	60.000		100.00	0.000	0.000
L4 120.00-100.00	110.00	1.016	8	70.000	A	0.000	70.000	70.000	100.00	0.000	0.000
					B	0.000	70.000		100.00	0.000	0.000
					C	0.000	70.000		100.00	0.000	0.000
L5 100.00-80.00	90.00	0.959	8	80.000	A	0.000	80.000	80.000	100.00	0.000	0.000
					B	0.000	80.000		100.00	0.000	0.000
					C	0.000	80.000		100.00	0.000	0.000
L6 80.00-60.00	70.00	0.892	7	90.000	A	0.000	90.000	90.000	100.00	0.000	0.000
					B	0.000	90.000		100.00	0.000	0.000
					C	0.000	90.000		100.00	0.000	0.000
L7 60.00-40.00	50.00	0.811	6	100.000	A	0.000	100.000	100.000	100.00	0.000	0.000
					B	0.000	100.000		100.00	0.000	0.000
					C	0.000	100.000		100.00	0.000	0.000
L8 40.00-20.00	30.00	0.701	5	100.000	A	0.000	100.000	100.000	100.00	0.000	0.000
					B	0.000	100.000		100.00	0.000	0.000
					C	0.000	100.000		100.00	0.000	0.000

tnxTower All Points Technology 116 Grandview Road Conway, NH 03818 Phone: (603) 496-5853 FAX: (603) 447-2124	Job	175' Monopole Tower	Page	13 of 40
	Project	CT1931631 Vernon	Date	09:25:03 10/13/20
	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Section Elevation	z	K _Z	q _z	A _G	F _{a c e}	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		psf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L9 20.00-0.00	10.00	0.7	5	100.000	A	0.000	100.000	100.000	100.00	0.000	0.000
					B	0.000	100.000		100.00	0.000	0.000
					C	0.000	100.000		100.00	0.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F _{a c e}	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
L1 175.00-160.00	355.57	1420.63	A	1	0.6	26	1	1	30.000	518.84	34.59	C
			B	1	0.6		1	1	30.000			
			C	1	0.6		1	1	30.000			
L2 160.00-140.00	880.75	2375.23	A	1	0.6	25	1	1	50.000	837.90	41.89	C
			B	1	0.6		1	1	50.000			
			C	1	0.6		1	1	50.000			
L3 140.00-120.00	938.20	2856.28	A	1	0.6	24	1	1	60.000	965.20	48.26	C
			B	1	0.6		1	1	60.000			
			C	1	0.6		1	1	60.000			
L4 120.00-100.00	938.20	3337.34	A	1	0.6	23	1	1	70.000	1073.58	53.68	C
			B	1	0.6		1	1	70.000			
			C	1	0.6		1	1	70.000			
L5 100.00-80.00	938.20	3818.40	A	1	0.6	22	1	1	80.000	1158.58	57.93	C
			B	1	0.6		1	1	80.000			
			C	1	0.6		1	1	80.000			
L6 80.00-60.00	938.20	4299.46	A	1	0.6	20	1	1	90.000	1213.09	60.65	C
			B	1	0.6		1	1	90.000			
			C	1	0.6		1	1	90.000			
L7 60.00-40.00	938.20	4780.52	A	1	0.6	19	1	1	100.000	1224.34	61.22	C
			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
L8 40.00-20.00	938.20	6360.66	A	1	0.6	16	1	1	100.000	1058.07	52.90	C
			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
L9 20.00-0.00	703.65	7934.12	A	1	0.6	16	1	1	100.000	1057.18	52.86	C
			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
Sum Weight:	7569.17	37182.64						OTM	748879.67 lb-ft	9106.78		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F _{a c e}	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
L1 175.00-160.00	355.57	1420.63	A	1	0.6	26	1	1	30.000	518.84	34.59	C
			B	1	0.6		1	1	30.000			
			C	1	0.6		1	1	30.000			
L2 160.00-140.00	880.75	2375.23	A	1	0.6	25	1	1	50.000	837.90	41.89	C
			B	1	0.6		1	1	50.000			
			C	1	0.6		1	1	50.000			
L3 140.00-120.00	938.20	2856.28	A	1	0.6	24	1	1	60.000	965.20	48.26	C
			B	1	0.6		1	1	60.000			
			C	1	0.6		1	1	60.000			
L4	938.20	3337.34	A	1	0.6	23	1	1	70.000	1073.58	53.68	C

tnxTower All Points Technology 116 Grandview Road Conway, NH 03818 Phone: (603) 496-5853 FAX: (603) 447-2124	Job	175' Monopole Tower	Page	14 of 40
	Project	CT1931631 Vernon	Date	09:25:03 10/13/20
	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
120.00-100.00			B	1	0.6		1	1	70.000			
			C	1	0.6		1	1	70.000			
L5	938.20	3818.40	A	1	0.6	22	1	1	80.000	1158.58	57.93	C
100.00-80.00			B	1	0.6		1	1	80.000			
			C	1	0.6		1	1	80.000			
L6	938.20	4299.46	A	1	0.6	20	1	1	90.000	1213.09	60.65	C
80.00-60.00			B	1	0.6		1	1	90.000			
			C	1	0.6		1	1	90.000			
L7	938.20	4780.52	A	1	0.6	19	1	1	100.000	1224.34	61.22	C
60.00-40.00			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
L8	938.20	6360.66	A	1	0.6	16	1	1	100.000	1058.07	52.90	C
40.00-20.00			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
L9 20.00-0.00	703.65	7934.12	A	1	0.6	16	1	1	100.000	1057.18	52.86	C
			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
Sum Weight:	7569.17	37182.64						OTM	748879.67 lb-ft	9106.78		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
L1	355.57	1420.63	A	1	0.6	26	1	1	30.000	518.84	34.59	C
175.00-160.00			B	1	0.6		1	1	30.000			
			C	1	0.6		1	1	30.000			
L2	880.75	2375.23	A	1	0.6	25	1	1	50.000	837.90	41.89	C
160.00-140.00			B	1	0.6		1	1	50.000			
			C	1	0.6		1	1	50.000			
L3	938.20	2856.28	A	1	0.6	24	1	1	60.000	965.20	48.26	C
140.00-120.00			B	1	0.6		1	1	60.000			
			C	1	0.6		1	1	60.000			
L4	938.20	3337.34	A	1	0.6	23	1	1	70.000	1073.58	53.68	C
120.00-100.00			B	1	0.6		1	1	70.000			
			C	1	0.6		1	1	70.000			
L5	938.20	3818.40	A	1	0.6	22	1	1	80.000	1158.58	57.93	C
100.00-80.00			B	1	0.6		1	1	80.000			
			C	1	0.6		1	1	80.000			
L6	938.20	4299.46	A	1	0.6	20	1	1	90.000	1213.09	60.65	C
80.00-60.00			B	1	0.6		1	1	90.000			
			C	1	0.6		1	1	90.000			
L7	938.20	4780.52	A	1	0.6	19	1	1	100.000	1224.34	61.22	C
60.00-40.00			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
L8	938.20	6360.66	A	1	0.6	16	1	1	100.000	1058.07	52.90	C
40.00-20.00			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
L9 20.00-0.00	703.65	7934.12	A	1	0.6	16	1	1	100.000	1057.18	52.86	C
			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
Sum Weight:	7569.17	37182.64						OTM	748879.67 lb-ft	9106.78		

tnxTower All Points Technology 116 Grandview Road Conway, NH 03818 Phone: (603) 496-5853 FAX: (603) 447-2124	Job	175' Monopole Tower	Page	15 of 40
	Project	CT1931631 Vernon	Date	09:25:03 10/13/20
	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 175.00-160.00	355.57	2556.87	A	1	1.2	7	1	1	35.882	329.77	21.98	C
			B	1	1.2		1	1	35.882			
			C	1	1.2		1	1	35.882			
L2 160.00-140.00	880.75	4213.28	A	1	1.2	7	1	1	57.757	514.34	25.72	C
			B	1	1.2		1	1	57.757			
			C	1	1.2		1	1	57.757			
L3 140.00-120.00	938.20	5002.67	A	1	1.2	6	1	1	67.646	578.28	28.91	C
			B	1	1.2		1	1	67.646			
			C	1	1.2		1	1	67.646			
L4 120.00-100.00	938.20	5776.81	A	1	1.2	6	1	1	77.520	631.79	31.59	C
			B	1	1.2		1	1	77.520			
			C	1	1.2		1	1	77.520			
L5 100.00-80.00	938.20	6531.14	A	1	1.2	6	1	1	87.370	672.40	33.62	C
			B	1	1.2		1	1	87.370			
			C	1	1.2		1	1	87.370			
L6 80.00-60.00	938.20	7258.10	A	1	1.2	5	1	1	97.187	696.13	34.81	C
			B	1	1.2		1	1	97.187			
			C	1	1.2		1	1	97.187			
L7 60.00-40.00	938.20	7943.28	A	1	1.2	5	1	1	106.950	695.84	34.79	C
			B	1	1.2		1	1	106.950			
			C	1	1.2		1	1	106.950			
L8 40.00-20.00	938.20	9360.89	A	1	1.2	4	1	1	106.603	599.40	29.97	C
			B	1	1.2		1	1	106.603			
			C	1	1.2		1	1	106.603			
L9 20.00-0.00	703.65	10613.27	A	1	1.2	4	1	1	105.916	595.03	29.75	C
			B	1	1.2		1	1	105.916			
			C	1	1.2		1	1	105.916			
Sum Weight:	7569.17	59256.30						OTM	445029.42 lb-ft	5312.96		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 175.00-160.00	355.57	2556.87	A	1	1.2	7	1	1	35.882	329.77	21.98	C
			B	1	1.2		1	1	35.882			
			C	1	1.2		1	1	35.882			
L2 160.00-140.00	880.75	4213.28	A	1	1.2	7	1	1	57.757	514.34	25.72	C
			B	1	1.2		1	1	57.757			
			C	1	1.2		1	1	57.757			
L3 140.00-120.00	938.20	5002.67	A	1	1.2	6	1	1	67.646	578.28	28.91	C
			B	1	1.2		1	1	67.646			
			C	1	1.2		1	1	67.646			
L4 120.00-100.00	938.20	5776.81	A	1	1.2	6	1	1	77.520	631.79	31.59	C
			B	1	1.2		1	1	77.520			
			C	1	1.2		1	1	77.520			
L5 100.00-80.00	938.20	6531.14	A	1	1.2	6	1	1	87.370	672.40	33.62	C
			B	1	1.2		1	1	87.370			
			C	1	1.2		1	1	87.370			
L6 80.00-60.00	938.20	7258.10	A	1	1.2	5	1	1	97.187	696.13	34.81	C
			B	1	1.2		1	1	97.187			
			C	1	1.2		1	1	97.187			
L7	938.20	7943.28	A	1	1.2	5	1	1	106.950	695.84	34.79	C

tnxTower All Points Technology 116 Grandview Road Conway, NH 03818 Phone: (603) 496-5853 FAX: (603) 447-2124	Job	175' Monopole Tower	Page	16 of 40
	Project	CT1931631 Vernon	Date	09:25:03 10/13/20
	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
60.00-40.00			B	1	1.2		1	1	106.950			
			C	1	1.2		1	1	106.950			
L8 40.00-20.00	938.20	9360.89	A	1	1.2	4	1	1	106.603	599.40	29.97	C
			B	1	1.2		1	1	106.603			
			C	1	1.2		1	1	106.603			
L9 20.00-0.00	703.65	10613.27	A	1	1.2	4	1	1	105.916	595.03	29.75	C
			B	1	1.2		1	1	105.916			
			C	1	1.2		1	1	105.916			
Sum Weight:	7569.17	59256.30						OTM	445029.42 lb-ft	5312.96		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
L1 175.00-160.00	355.57	2556.87	A	1	1.2	7	1	1	35.882	329.77	21.98	C
			B	1	1.2		1	1	35.882			
			C	1	1.2		1	1	35.882			
L2 160.00-140.00	880.75	4213.28	A	1	1.2	7	1	1	57.757	514.34	25.72	C
			B	1	1.2		1	1	57.757			
			C	1	1.2		1	1	57.757			
L3 140.00-120.00	938.20	5002.67	A	1	1.2	6	1	1	67.646	578.28	28.91	C
			B	1	1.2		1	1	67.646			
			C	1	1.2		1	1	67.646			
L4 120.00-100.00	938.20	5776.81	A	1	1.2	6	1	1	77.520	631.79	31.59	C
			B	1	1.2		1	1	77.520			
			C	1	1.2		1	1	77.520			
L5 100.00-80.00	938.20	6531.14	A	1	1.2	6	1	1	87.370	672.40	33.62	C
			B	1	1.2		1	1	87.370			
			C	1	1.2		1	1	87.370			
L6 80.00-60.00	938.20	7258.10	A	1	1.2	5	1	1	97.187	696.13	34.81	C
			B	1	1.2		1	1	97.187			
			C	1	1.2		1	1	97.187			
L7 60.00-40.00	938.20	7943.28	A	1	1.2	5	1	1	106.950	695.84	34.79	C
			B	1	1.2		1	1	106.950			
			C	1	1.2		1	1	106.950			
L8 40.00-20.00	938.20	9360.89	A	1	1.2	4	1	1	106.603	599.40	29.97	C
			B	1	1.2		1	1	106.603			
			C	1	1.2		1	1	106.603			
L9 20.00-0.00	703.65	10613.27	A	1	1.2	4	1	1	105.916	595.03	29.75	C
			B	1	1.2		1	1	105.916			
			C	1	1.2		1	1	105.916			
Sum Weight:	7569.17	59256.30						OTM	445029.42 lb-ft	5312.96		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
L1 175.00-160.00	355.57	1420.63	A	1	0.6	9	1	1	30.000	177.62	11.84	C
			B	1	0.6		1	1	30.000			
			C	1	0.6		1	1	30.000			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
L2 160.00-140.00	880.75	2375.23	A	1	0.6	9	1	1	50.000	286.84	14.34	C
			B	1	0.6		1	1	50.000			
			C	1	0.6		1	1	50.000			
L3 140.00-120.00	938.20	2856.28	A	1	0.6	8	1	1	60.000	330.42	16.52	C
			B	1	0.6		1	1	60.000			
			C	1	0.6		1	1	60.000			
L4 120.00-100.00	938.20	3337.34	A	1	0.6	8	1	1	70.000	367.53	18.38	C
			B	1	0.6		1	1	70.000			
			C	1	0.6		1	1	70.000			
L5 100.00-80.00	938.20	3818.40	A	1	0.6	8	1	1	80.000	396.63	19.83	C
			B	1	0.6		1	1	80.000			
			C	1	0.6		1	1	80.000			
L6 80.00-60.00	938.20	4299.46	A	1	0.6	7	1	1	90.000	415.29	20.76	C
			B	1	0.6		1	1	90.000			
			C	1	0.6		1	1	90.000			
L7 60.00-40.00	938.20	4780.52	A	1	0.6	6	1	1	100.000	419.14	20.96	C
			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
L8 40.00-20.00	938.20	6360.66	A	1	0.6	5	1	1	100.000	362.22	18.11	C
			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
L9 20.00-0.00	703.65	7934.12	A	1	0.6	5	1	1	100.000	361.91	18.10	C
			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
Sum Weight:	7569.17	37182.64						OTM	256369.52 lb-ft	3117.59		

Tower Forces - Service - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
L1 175.00-160.00	355.57	1420.63	A	1	0.6	9	1	1	30.000	177.62	11.84	C
			B	1	0.6		1	1	30.000			
			C	1	0.6		1	1	30.000			
L2 160.00-140.00	880.75	2375.23	A	1	0.6	9	1	1	50.000	286.84	14.34	C
			B	1	0.6		1	1	50.000			
			C	1	0.6		1	1	50.000			
L3 140.00-120.00	938.20	2856.28	A	1	0.6	8	1	1	60.000	330.42	16.52	C
			B	1	0.6		1	1	60.000			
			C	1	0.6		1	1	60.000			
L4 120.00-100.00	938.20	3337.34	A	1	0.6	8	1	1	70.000	367.53	18.38	C
			B	1	0.6		1	1	70.000			
			C	1	0.6		1	1	70.000			
L5 100.00-80.00	938.20	3818.40	A	1	0.6	8	1	1	80.000	396.63	19.83	C
			B	1	0.6		1	1	80.000			
			C	1	0.6		1	1	80.000			
L6 80.00-60.00	938.20	4299.46	A	1	0.6	7	1	1	90.000	415.29	20.76	C
			B	1	0.6		1	1	90.000			
			C	1	0.6		1	1	90.000			
L7 60.00-40.00	938.20	4780.52	A	1	0.6	6	1	1	100.000	419.14	20.96	C
			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
L8 40.00-20.00	938.20	6360.66	A	1	0.6	5	1	1	100.000	362.22	18.11	C
			B	1	0.6		1	1	100.000			
			C	1	0.6		1	1	100.000			
L9 20.00-0.00	703.65	7934.12	A	1	0.6	5	1	1	100.000	361.91	18.10	C

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
Sum Weight:	7569.17	37182.64	B C	1 1	0.6 0.6		1 1	1 1 OTM	100.000 100.000 256369.52 lb-ft	3117.59		

Tower Forces - Service - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
L1 175.00-160.00	355.57	1420.63	A B C	1 1 1	0.6 0.6 0.6	9	1 1 1	1 1 1	30.000 30.000 30.000	177.62	11.84	C
L2 160.00-140.00	880.75	2375.23	A B C	1 1 1	0.6 0.6 0.6	9	1 1 1	1 1 1	50.000 50.000 50.000	286.84	14.34	C
L3 140.00-120.00	938.20	2856.28	A B C	1 1 1	0.6 0.6 0.6	8	1 1 1	1 1 1	60.000 60.000 60.000	330.42	16.52	C
L4 120.00-100.00	938.20	3337.34	A B C	1 1 1	0.6 0.6 0.6	8	1 1 1	1 1 1	70.000 70.000 70.000	367.53	18.38	C
L5 100.00-80.00	938.20	3818.40	A B C	1 1 1	0.6 0.6 0.6	8	1 1 1	1 1 1	80.000 80.000 80.000	396.63	19.83	C
L6 80.00-60.00	938.20	4299.46	A B C	1 1 1	0.6 0.6 0.6	7	1 1 1	1 1 1	90.000 90.000 90.000	415.29	20.76	C
L7 60.00-40.00	938.20	4780.52	A B C	1 1 1	0.6 0.6 0.6	6	1 1 1	1 1 1	100.000 100.000 100.000	419.14	20.96	C
L8 40.00-20.00	938.20	6360.66	A B C	1 1 1	0.6 0.6 0.6	5	1 1 1	1 1 1	100.000 100.000 100.000	362.22	18.11	C
L9 20.00-0.00	703.65	7934.12	A B C	1 1 1	0.6 0.6 0.6	5	1 1 1	1 1 1	100.000 100.000 100.000	361.91	18.10	C
Sum Weight:	7569.17	37182.64						OTM	256369.52 lb-ft	3117.59		

Mast Vectors - No Ice

Section No.	Section Elevation	Wind Azimuth	Directionality	F	V _x	V _z	OTM _x	OTM _z	Torque
	ft	°		lb	lb	lb	lb-ft	lb-ft	lb-ft
L1	175.00-160.00	0	Wind Normal	518.84	0.00	-518.84	-86906.01	0.00	0.00
		30	Wind 90	518.84	259.42	-449.33	-75262.82	-43453.01	0.00
		60	Wind 60	518.84	449.33	-259.42	-43453.01	-75262.82	0.00
		90	Wind 90	518.84	518.84	0.00	0.00	-86906.01	0.00
		120	Wind Normal	518.84	449.33	259.42	43453.01	-75262.82	0.00
		150	Wind 90	518.84	259.42	449.33	75262.82	-43453.01	0.00
		180	Wind 60	518.84	0.00	518.84	86906.01	0.00	0.00
		210	Wind 90	518.84	-259.42	449.33	75262.82	43453.01	0.00
		240	Wind Normal	518.84	-449.33	259.42	43453.01	75262.82	0.00
		270	Wind 90	518.84	-518.84	0.00	0.00	86906.01	0.00

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Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
L2	160.00-140.00	300	Wind 60	518.84	-449.33	-259.42	-43453.01	75262.82	0.00
		330	Wind 90	518.84	-259.42	-449.33	-75262.82	43453.01	0.00
		0	Wind Normal	837.90	0.00	-837.90	-125684.75	0.00	0.00
		30	Wind 90	837.90	418.95	-725.64	-108846.19	-62842.37	0.00
		60	Wind 60	837.90	725.64	-418.95	-62842.37	-108846.19	0.00
		90	Wind 90	837.90	837.90	0.00	0.00	-125684.75	0.00
		120	Wind Normal	837.90	725.64	418.95	62842.37	-108846.19	0.00
		150	Wind 90	837.90	418.95	725.64	108846.19	-62842.37	0.00
		180	Wind 60	837.90	0.00	837.90	125684.75	0.00	0.00
		210	Wind 90	837.90	-418.95	725.64	108846.19	62842.37	0.00
		240	Wind Normal	837.90	-725.64	418.95	62842.37	108846.19	0.00
		270	Wind 90	837.90	-837.90	0.00	0.00	125684.75	0.00
L3	140.00-120.00	300	Wind 60	837.90	-725.64	-418.95	-62842.37	108846.19	0.00
		330	Wind 90	837.90	-418.95	-725.64	-108846.19	62842.37	0.00
		0	Wind Normal	965.20	0.00	-965.20	-125475.63	0.00	0.00
		30	Wind 90	965.20	482.60	-835.89	-108665.08	-62737.81	0.00
		60	Wind 60	965.20	835.89	-482.60	-62737.81	-108665.08	0.00
		90	Wind 90	965.20	965.20	0.00	0.00	-125475.63	0.00
		120	Wind Normal	965.20	835.89	482.60	62737.81	-108665.08	0.00
		150	Wind 90	965.20	482.60	835.89	108665.08	-62737.81	0.00
		180	Wind 60	965.20	0.00	965.20	125475.63	0.00	0.00
		210	Wind 90	965.20	-482.60	835.89	108665.08	62737.81	0.00
		240	Wind Normal	965.20	-835.89	482.60	62737.81	108665.08	0.00
		270	Wind 90	965.20	-965.20	0.00	0.00	125475.63	0.00
L4	120.00-100.00	300	Wind 60	965.20	-835.89	-482.60	-62737.81	108665.08	0.00
		330	Wind 90	965.20	-482.60	-835.89	-108665.08	62737.81	0.00
		0	Wind Normal	1073.58	0.00	-1073.58	-118093.70	0.00	0.00
		30	Wind 90	1073.58	536.79	-929.75	-102272.15	-59046.85	0.00
		60	Wind 60	1073.58	929.75	-536.79	-59046.85	-102272.15	0.00
		90	Wind 90	1073.58	1073.58	0.00	0.00	-118093.70	0.00
		120	Wind Normal	1073.58	929.75	536.79	59046.85	-102272.15	0.00
		150	Wind 90	1073.58	536.79	929.75	102272.15	-59046.85	0.00
		180	Wind 60	1073.58	0.00	1073.58	118093.70	0.00	0.00
		210	Wind 90	1073.58	-536.79	929.75	102272.15	59046.85	0.00
		240	Wind Normal	1073.58	-929.75	536.79	59046.85	102272.15	0.00
		270	Wind 90	1073.58	-1073.58	0.00	0.00	118093.70	0.00
L5	100.00-80.00	300	Wind 60	1073.58	-929.75	-536.79	-59046.85	102272.15	0.00
		330	Wind 90	1073.58	-536.79	-929.75	-102272.15	59046.85	0.00
		0	Wind Normal	1158.58	0.00	-1158.58	-104272.18	0.00	0.00
		30	Wind 90	1158.58	579.29	-1003.36	-90302.36	-52136.09	0.00
		60	Wind 60	1158.58	1003.36	-579.29	-52136.09	-90302.36	0.00
		90	Wind 90	1158.58	1158.58	0.00	0.00	-104272.18	0.00
		120	Wind Normal	1158.58	1003.36	579.29	52136.09	-90302.36	0.00
		150	Wind 90	1158.58	579.29	1003.36	90302.36	-52136.09	0.00
		180	Wind 60	1158.58	0.00	1158.58	104272.18	0.00	0.00
		210	Wind 90	1158.58	-579.29	1003.36	90302.36	52136.09	0.00
		240	Wind Normal	1158.58	-1003.36	579.29	52136.09	90302.36	0.00
		270	Wind 90	1158.58	-1158.58	0.00	0.00	104272.18	0.00
L6	80.00-60.00	300	Wind 60	1158.58	-1003.36	-579.29	-52136.09	90302.36	0.00
		330	Wind 90	1158.58	-579.29	-1003.36	-90302.36	52136.09	0.00
		0	Wind Normal	1213.09	0.00	-1213.09	-84916.56	0.00	0.00
		30	Wind 90	1213.09	606.55	-1050.57	-73539.90	-42458.28	0.00
		60	Wind 60	1213.09	1050.57	-606.55	-42458.28	-73539.90	0.00
		90	Wind 90	1213.09	1213.09	0.00	0.00	-84916.56	0.00
		120	Wind Normal	1213.09	1050.57	606.55	42458.28	-73539.90	0.00
		150	Wind 90	1213.09	606.55	1050.57	73539.90	-42458.28	0.00
		180	Wind 60	1213.09	0.00	1213.09	84916.56	0.00	0.00
		210	Wind 90	1213.09	-606.55	1050.57	73539.90	42458.28	0.00
		240	Wind Normal	1213.09	-1050.57	606.55	42458.28	73539.90	0.00
		270	Wind 90	1213.09	-1213.09	0.00	0.00	84916.56	0.00
		300	Wind 60	1213.09	-1050.57	-606.55	-42458.28	73539.90	0.00

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Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
L7	60.00-40.00	330	Wind 90	1213.09	-606.55	-1050.57	-73539.90	42458.28	0.00
		0	Wind Normal	1224.34	0.00	-1224.34	-61216.85	0.00	0.00
		30	Wind 90	1224.34	612.17	-1060.31	-53015.35	-30608.42	0.00
		60	Wind 60	1224.34	1060.31	-612.17	-30608.42	-53015.35	0.00
		90	Wind 90	1224.34	1224.34	0.00	0.00	-61216.85	0.00
		120	Wind Normal	1224.34	1060.31	612.17	30608.42	-53015.35	0.00
		150	Wind 90	1224.34	612.17	1060.31	53015.35	-30608.42	0.00
		180	Wind 60	1224.34	0.00	1224.34	61216.85	0.00	0.00
		210	Wind 90	1224.34	-612.17	1060.31	53015.35	30608.42	0.00
		240	Wind Normal	1224.34	-1060.31	612.17	30608.42	53015.35	0.00
		270	Wind 90	1224.34	-1224.34	0.00	0.00	61216.85	0.00
		300	Wind 60	1224.34	-1060.31	-612.17	-30608.42	53015.35	0.00
L8	40.00-20.00	330	Wind 90	1224.34	-612.17	-1060.31	-53015.35	30608.42	0.00
		0	Wind Normal	1058.07	0.00	-1058.07	-31742.19	0.00	0.00
		30	Wind 90	1058.07	529.04	-916.32	-27489.54	-15871.09	0.00
		60	Wind 60	1058.07	916.32	-529.04	-15871.09	-27489.54	0.00
		90	Wind 90	1058.07	1058.07	0.00	0.00	-31742.19	0.00
		120	Wind Normal	1058.07	916.32	529.04	15871.09	-27489.54	0.00
		150	Wind 90	1058.07	529.04	916.32	27489.54	-15871.09	0.00
		180	Wind 60	1058.07	0.00	1058.07	31742.19	0.00	0.00
		210	Wind 90	1058.07	-529.04	916.32	27489.54	15871.09	0.00
		240	Wind Normal	1058.07	-916.32	529.04	15871.09	27489.54	0.00
		270	Wind 90	1058.07	-1058.07	0.00	0.00	31742.19	0.00
		300	Wind 60	1058.07	-916.32	-529.04	-15871.09	27489.54	0.00
L9	20.00-0.00	330	Wind 90	1058.07	-529.04	-916.32	-27489.54	15871.09	0.00
		0	Wind Normal	1057.18	0.00	-1057.18	-10571.80	0.00	0.00
		30	Wind 90	1057.18	528.59	-915.54	-9155.45	-5285.90	0.00
		60	Wind 60	1057.18	915.54	-528.59	-5285.90	-9155.45	0.00
		90	Wind 90	1057.18	1057.18	0.00	0.00	-10571.80	0.00
		120	Wind Normal	1057.18	915.54	528.59	5285.90	-9155.45	0.00
		150	Wind 90	1057.18	528.59	915.54	9155.45	-5285.90	0.00
		180	Wind 60	1057.18	0.00	1057.18	10571.80	0.00	0.00
		210	Wind 90	1057.18	-528.59	915.54	9155.45	5285.90	0.00
		240	Wind Normal	1057.18	-915.54	528.59	5285.90	9155.45	0.00
		270	Wind 90	1057.18	-1057.18	0.00	0.00	10571.80	0.00
		300	Wind 60	1057.18	-915.54	-528.59	-5285.90	9155.45	0.00
		330	Wind 90	1057.18	-528.59	-915.54	-9155.45	5285.90	0.00

Mast Totals - No Ice

Wind Azimuth °	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	0.00	-9106.78	-748879.67	0.00	0.00
30	4553.39	-7886.70	-648548.82	-374439.84	0.00
60	7886.70	-4553.39	-374439.84	-648548.82	0.00
90	9106.78	0.00	0.00	-748879.67	0.00
120	7886.70	4553.39	374439.84	-648548.82	0.00
150	4553.39	7886.70	648548.82	-374439.84	0.00
180	0.00	9106.78	748879.67	0.00	0.00
210	-4553.39	7886.70	648548.82	374439.84	0.00
240	-7886.70	4553.39	374439.84	648548.82	0.00
270	-9106.78	0.00	0.00	748879.67	0.00
300	-7886.70	-4553.39	-374439.84	648548.82	0.00
330	-4553.39	-7886.70	-648548.82	374439.84	0.00

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Mast Vectors - With Ice

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
L1	175.00-160.00	0	Wind Normal	329.77	0.00	-329.77	-55237.11	0.00	0.00
		30	Wind 90	329.77	164.89	-285.59	-47836.74	-27618.55	0.00
		60	Wind 60	329.77	285.59	-164.89	-27618.55	-47836.74	0.00
		90	Wind 90	329.77	329.77	0.00	0.00	-55237.11	0.00
		120	Wind Normal	329.77	285.59	164.89	27618.55	-47836.74	0.00
		150	Wind 90	329.77	164.89	285.59	47836.74	-27618.55	0.00
		180	Wind 60	329.77	0.00	329.77	55237.11	0.00	0.00
		210	Wind 90	329.77	-164.89	285.59	47836.74	27618.55	0.00
		240	Wind Normal	329.77	-285.59	164.89	27618.55	47836.74	0.00
		270	Wind 90	329.77	-329.77	0.00	0.00	55237.11	0.00
		300	Wind 60	329.77	-285.59	-164.89	-27618.55	47836.74	0.00
		330	Wind 90	329.77	-164.89	-285.59	-47836.74	27618.55	0.00
L2	160.00-140.00	0	Wind Normal	514.34	0.00	-514.34	-77150.74	0.00	0.00
		30	Wind 90	514.34	257.17	-445.43	-66814.50	-38575.37	0.00
		60	Wind 60	514.34	445.43	-257.17	-38575.37	-66814.50	0.00
		90	Wind 90	514.34	514.34	0.00	0.00	-77150.74	0.00
		120	Wind Normal	514.34	445.43	257.17	38575.37	-66814.50	0.00
		150	Wind 90	514.34	257.17	445.43	66814.50	-38575.37	0.00
		180	Wind 60	514.34	0.00	514.34	77150.74	0.00	0.00
		210	Wind 90	514.34	-257.17	445.43	66814.50	38575.37	0.00
		240	Wind Normal	514.34	-445.43	257.17	38575.37	66814.50	0.00
		270	Wind 90	514.34	-514.34	0.00	0.00	77150.74	0.00
		300	Wind 60	514.34	-445.43	-257.17	-38575.37	66814.50	0.00
		330	Wind 90	514.34	-257.17	-445.43	-66814.50	38575.37	0.00
L3	140.00-120.00	0	Wind Normal	578.28	0.00	-578.28	-75175.92	0.00	0.00
		30	Wind 90	578.28	289.14	-500.80	-65104.26	-37587.96	0.00
		60	Wind 60	578.28	500.80	-289.14	-37587.96	-65104.26	0.00
		90	Wind 90	578.28	578.28	0.00	0.00	-75175.92	0.00
		120	Wind Normal	578.28	500.80	289.14	37587.96	-65104.26	0.00
		150	Wind 90	578.28	289.14	500.80	65104.26	-37587.96	0.00
		180	Wind 60	578.28	0.00	578.28	75175.92	0.00	0.00
		210	Wind 90	578.28	-289.14	500.80	65104.26	37587.96	0.00
		240	Wind Normal	578.28	-500.80	289.14	37587.96	65104.26	0.00
		270	Wind 90	578.28	-578.28	0.00	0.00	75175.92	0.00
		300	Wind 60	578.28	-500.80	-289.14	-37587.96	65104.26	0.00
		330	Wind 90	578.28	-289.14	-500.80	-65104.26	37587.96	0.00
L4	120.00-100.00	0	Wind Normal	631.79	0.00	-631.79	-69497.14	0.00	0.00
		30	Wind 90	631.79	315.90	-547.15	-60186.29	-34748.57	0.00
		60	Wind 60	631.79	547.15	-315.90	-34748.57	-60186.29	0.00
		90	Wind 90	631.79	631.79	0.00	0.00	-69497.14	0.00
		120	Wind Normal	631.79	547.15	315.90	34748.57	-60186.29	0.00
		150	Wind 90	631.79	315.90	547.15	60186.29	-34748.57	0.00
		180	Wind 60	631.79	0.00	631.79	69497.14	0.00	0.00
		210	Wind 90	631.79	-315.90	547.15	60186.29	34748.57	0.00
		240	Wind Normal	631.79	-547.15	315.90	34748.57	60186.29	0.00
		270	Wind 90	631.79	-631.79	0.00	0.00	69497.14	0.00
		300	Wind 60	631.79	-547.15	-315.90	-34748.57	60186.29	0.00
		330	Wind 90	631.79	-315.90	-547.15	-60186.29	34748.57	0.00
L5	100.00-80.00	0	Wind Normal	672.40	0.00	-672.40	-60515.77	0.00	0.00
		30	Wind 90	672.40	336.20	-582.31	-52408.19	-30257.88	0.00
		60	Wind 60	672.40	582.31	-336.20	-30257.88	-52408.19	0.00
		90	Wind 90	672.40	672.40	0.00	0.00	-60515.77	0.00
		120	Wind Normal	672.40	582.31	336.20	30257.88	-52408.19	0.00
		150	Wind 90	672.40	336.20	582.31	52408.19	-30257.88	0.00
		180	Wind 60	672.40	0.00	672.40	60515.77	0.00	0.00
		210	Wind 90	672.40	-336.20	582.31	52408.19	30257.88	0.00
		240	Wind Normal	672.40	-582.31	336.20	30257.88	52408.19	0.00
		270	Wind 90	672.40	-672.40	0.00	0.00	60515.77	0.00

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	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
L6	80.00-60.00	300	Wind 60	672.40	-582.31	-336.20	-30257.88	52408.19	0.00
		330	Wind 90	672.40	-336.20	-582.31	-52408.19	30257.88	0.00
		0	Wind Normal	696.13	0.00	-696.13	-48728.83	0.00	0.00
		30	Wind 90	696.13	348.06	-602.86	-42200.41	-24364.42	0.00
		60	Wind 60	696.13	602.86	-348.06	-24364.42	-42200.41	0.00
		90	Wind 90	696.13	696.13	0.00	0.00	-48728.83	0.00
		120	Wind Normal	696.13	602.86	348.06	24364.42	-42200.41	0.00
		150	Wind 90	696.13	348.06	602.86	42200.41	-24364.42	0.00
		180	Wind 60	696.13	0.00	696.13	48728.83	0.00	0.00
		210	Wind 90	696.13	-348.06	602.86	42200.41	24364.42	0.00
		240	Wind Normal	696.13	-602.86	348.06	24364.42	42200.41	0.00
		270	Wind 90	696.13	-696.13	0.00	0.00	48728.83	0.00
L7	60.00-40.00	300	Wind 60	696.13	-602.86	-348.06	-24364.42	42200.41	0.00
		330	Wind 90	696.13	-348.06	-602.86	-42200.41	24364.42	0.00
		0	Wind Normal	695.84	0.00	-695.84	-34791.75	0.00	0.00
		30	Wind 90	695.84	347.92	-602.61	-30130.54	-17395.88	0.00
		60	Wind 60	695.84	602.61	-347.92	-17395.88	-30130.54	0.00
		90	Wind 90	695.84	695.84	0.00	0.00	-34791.75	0.00
		120	Wind Normal	695.84	602.61	347.92	17395.88	-30130.54	0.00
		150	Wind 90	695.84	347.92	602.61	30130.54	-17395.88	0.00
		180	Wind 60	695.84	0.00	695.84	34791.75	0.00	0.00
		210	Wind 90	695.84	-347.92	602.61	30130.54	17395.88	0.00
		240	Wind Normal	695.84	-602.61	347.92	17395.88	30130.54	0.00
		270	Wind 90	695.84	-695.84	0.00	0.00	34791.75	0.00
L8	40.00-20.00	300	Wind 60	695.84	-602.61	-347.92	-17395.88	30130.54	0.00
		330	Wind 90	695.84	-347.92	-602.61	-30130.54	17395.88	0.00
		0	Wind Normal	599.40	0.00	-599.40	-17981.86	0.00	0.00
		30	Wind 90	599.40	299.70	-519.09	-15572.75	-8990.93	0.00
		60	Wind 60	599.40	519.09	-299.70	-8990.93	-15572.75	0.00
		90	Wind 90	599.40	599.40	0.00	0.00	-17981.86	0.00
		120	Wind Normal	599.40	519.09	299.70	8990.93	-15572.75	0.00
		150	Wind 90	599.40	299.70	519.09	15572.75	-8990.93	0.00
		180	Wind 60	599.40	0.00	599.40	17981.86	0.00	0.00
		210	Wind 90	599.40	-299.70	519.09	15572.75	8990.93	0.00
		240	Wind Normal	599.40	-519.09	299.70	8990.93	15572.75	0.00
		270	Wind 90	599.40	-599.40	0.00	0.00	17981.86	0.00
L9	20.00-0.00	300	Wind 60	599.40	-519.09	-299.70	-8990.93	15572.75	0.00
		330	Wind 90	599.40	-299.70	-519.09	-15572.75	8990.93	0.00
		0	Wind Normal	595.03	0.00	-595.03	-5950.30	0.00	0.00
		30	Wind 90	595.03	297.51	-515.31	-5153.11	-2975.15	0.00
		60	Wind 60	595.03	515.31	-297.51	-2975.15	-5153.11	0.00
		90	Wind 90	595.03	595.03	0.00	0.00	-5950.30	0.00
		120	Wind Normal	595.03	515.31	297.51	2975.15	-5153.11	0.00
		150	Wind 90	595.03	297.51	515.31	5153.11	-2975.15	0.00
		180	Wind 60	595.03	0.00	595.03	5950.30	0.00	0.00
		210	Wind 90	595.03	-297.51	515.31	5153.11	2975.15	0.00
		240	Wind Normal	595.03	-515.31	297.51	2975.15	5153.11	0.00
		270	Wind 90	595.03	-595.03	0.00	0.00	5950.30	0.00
		300	Wind 60	595.03	-515.31	-297.51	-2975.15	5153.11	0.00
		330	Wind 90	595.03	-297.51	-515.31	-5153.11	2975.15	0.00

Mast Totals - With Ice

Wind Azimuth °	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	0.00	-5312.96	-445029.42	0.00	0.00
30	2656.48	-4601.16	-385406.78	-222514.71	0.00
60	4601.16	-2656.48	-222514.71	-385406.78	0.00

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	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Wind Azimuth °	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
90	5312.96	0.00	0.00	-445029.42	0.00
120	4601.16	2656.48	222514.71	-385406.78	0.00
150	2656.48	4601.16	385406.78	-222514.71	0.00
180	0.00	5312.96	445029.42	0.00	0.00
210	-2656.48	4601.16	385406.78	222514.71	0.00
240	-4601.16	2656.48	222514.71	385406.78	0.00
270	-5312.96	0.00	0.00	445029.42	0.00
300	-4601.16	-2656.48	-222514.71	385406.78	0.00
330	-2656.48	-4601.16	-385406.78	222514.71	0.00

Mast Vectors - Service

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
L1	175.00-160.00	0	Wind Normal	177.62	0.00	-177.62	-29751.18	0.00	0.00
		30	Wind 90	177.62	88.81	-153.82	-25765.28	-14875.59	0.00
		60	Wind 60	177.62	153.82	-88.81	-14875.59	-25765.28	0.00
		90	Wind 90	177.62	177.62	0.00	0.00	-29751.18	0.00
		120	Wind Normal	177.62	153.82	88.81	14875.59	-25765.28	0.00
		150	Wind 90	177.62	88.81	153.82	25765.28	-14875.59	0.00
		180	Wind 60	177.62	0.00	177.62	29751.18	0.00	0.00
		210	Wind 90	177.62	-88.81	153.82	25765.28	14875.59	0.00
		240	Wind Normal	177.62	-153.82	88.81	14875.59	25765.28	0.00
		270	Wind 90	177.62	-177.62	0.00	0.00	29751.18	0.00
		300	Wind 60	177.62	-153.82	-88.81	-14875.59	25765.28	0.00
		330	Wind 90	177.62	-88.81	-153.82	-25765.28	14875.59	0.00
L2	160.00-140.00	0	Wind Normal	286.84	0.00	-286.84	-43026.59	0.00	0.00
		30	Wind 90	286.84	143.42	-248.41	-37262.12	-21513.30	0.00
		60	Wind 60	286.84	248.41	-143.42	-21513.30	-37262.12	0.00
		90	Wind 90	286.84	286.84	0.00	0.00	-43026.59	0.00
		120	Wind Normal	286.84	248.41	143.42	21513.30	-37262.12	0.00
		150	Wind 90	286.84	143.42	248.41	37262.12	-21513.30	0.00
		180	Wind 60	286.84	0.00	286.84	43026.59	0.00	0.00
		210	Wind 90	286.84	-143.42	248.41	37262.12	21513.30	0.00
		240	Wind Normal	286.84	-248.41	143.42	21513.30	37262.12	0.00
		270	Wind 90	286.84	-286.84	0.00	0.00	43026.59	0.00
		300	Wind 60	286.84	-248.41	-143.42	-21513.30	37262.12	0.00
		330	Wind 90	286.84	-143.42	-248.41	-37262.12	21513.30	0.00
L3	140.00-120.00	0	Wind Normal	330.42	0.00	-330.42	-42955.00	0.00	0.00
		30	Wind 90	330.42	165.21	-286.15	-37200.12	-21477.50	0.00
		60	Wind 60	330.42	286.15	-165.21	-21477.50	-37200.12	0.00
		90	Wind 90	330.42	330.42	0.00	0.00	-42955.00	0.00
		120	Wind Normal	330.42	286.15	165.21	21477.50	-37200.12	0.00
		150	Wind 90	330.42	165.21	286.15	37200.12	-21477.50	0.00
		180	Wind 60	330.42	0.00	330.42	42955.00	0.00	0.00
		210	Wind 90	330.42	-165.21	286.15	37200.12	21477.50	0.00
		240	Wind Normal	330.42	-286.15	165.21	21477.50	37200.12	0.00
		270	Wind 90	330.42	-330.42	0.00	0.00	42955.00	0.00
		300	Wind 60	330.42	-286.15	-165.21	-21477.50	37200.12	0.00
		330	Wind 90	330.42	-165.21	-286.15	-37200.12	21477.50	0.00
L4	120.00-100.00	0	Wind Normal	367.53	0.00	-367.53	-40427.89	0.00	0.00
		30	Wind 90	367.53	183.76	-318.29	-35011.58	-20213.95	0.00
		60	Wind 60	367.53	318.29	-183.76	-20213.95	-35011.58	0.00
		90	Wind 90	367.53	367.53	0.00	0.00	-40427.89	0.00
		120	Wind Normal	367.53	318.29	183.76	20213.95	-35011.58	0.00
		150	Wind 90	367.53	183.76	318.29	35011.58	-20213.95	0.00
		180	Wind 60	367.53	0.00	367.53	40427.89	0.00	0.00
		210	Wind 90	367.53	-183.76	318.29	35011.58	20213.95	0.00

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	Project	CT1931631 Vernon	Date	09:25:03 10/13/20
	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
L5	100.00-80.00	240	Wind Normal	367.53	-318.29	183.76	20213.95	35011.58	0.00
		270	Wind 90	367.53	-367.53	0.00	0.00	40427.89	0.00
		300	Wind 60	367.53	-318.29	-183.76	-20213.95	35011.58	0.00
		330	Wind 90	367.53	-183.76	-318.29	-35011.58	20213.95	0.00
		0	Wind Normal	396.63	0.00	-396.63	-35696.27	0.00	0.00
		30	Wind 90	396.63	198.31	-343.49	-30913.87	-17848.13	0.00
		60	Wind 60	396.63	343.49	-198.31	-17848.13	-30913.87	0.00
		90	Wind 90	396.63	396.63	0.00	0.00	-35696.27	0.00
		120	Wind Normal	396.63	343.49	198.31	17848.13	-30913.87	0.00
		150	Wind 90	396.63	198.31	343.49	30913.87	-17848.13	0.00
		180	Wind 60	396.63	0.00	396.63	35696.27	0.00	0.00
		210	Wind 90	396.63	-198.31	343.49	30913.87	17848.13	0.00
L6	80.00-60.00	240	Wind Normal	396.63	-343.49	198.31	17848.13	30913.87	0.00
		270	Wind 90	396.63	-396.63	0.00	0.00	35696.27	0.00
		300	Wind 60	396.63	-343.49	-198.31	-17848.13	30913.87	0.00
		330	Wind 90	396.63	-198.31	-343.49	-30913.87	17848.13	0.00
		0	Wind Normal	415.29	0.00	-415.29	-29070.11	0.00	0.00
		30	Wind 90	415.29	207.64	-359.65	-25175.46	-14535.06	0.00
		60	Wind 60	415.29	359.65	-207.64	-14535.06	-25175.46	0.00
		90	Wind 90	415.29	415.29	0.00	0.00	-29070.11	0.00
		120	Wind Normal	415.29	359.65	207.64	14535.06	-25175.46	0.00
		150	Wind 90	415.29	207.64	359.65	25175.46	-14535.06	0.00
		180	Wind 60	415.29	0.00	415.29	29070.11	0.00	0.00
		210	Wind 90	415.29	-207.64	359.65	25175.46	14535.06	0.00
L7	60.00-40.00	240	Wind Normal	415.29	-359.65	207.64	14535.06	25175.46	0.00
		270	Wind 90	415.29	-415.29	0.00	0.00	29070.11	0.00
		300	Wind 60	415.29	-359.65	-207.64	-14535.06	25175.46	0.00
		330	Wind 90	415.29	-207.64	-359.65	-25175.46	14535.06	0.00
		0	Wind Normal	419.14	0.00	-419.14	-20956.82	0.00	0.00
		30	Wind 90	419.14	209.57	-362.98	-18149.14	-10478.41	0.00
		60	Wind 60	419.14	362.98	-209.57	-10478.41	-18149.14	0.00
		90	Wind 90	419.14	419.14	0.00	0.00	-20956.82	0.00
		120	Wind Normal	419.14	362.98	209.57	10478.41	-18149.14	0.00
		150	Wind 90	419.14	209.57	362.98	18149.14	-10478.41	0.00
		180	Wind 60	419.14	0.00	419.14	20956.82	0.00	0.00
		210	Wind 90	419.14	-209.57	362.98	18149.14	10478.41	0.00
L8	40.00-20.00	240	Wind Normal	419.14	-362.98	209.57	10478.41	18149.14	0.00
		270	Wind 90	419.14	-419.14	0.00	0.00	20956.82	0.00
		300	Wind 60	419.14	-362.98	-209.57	-10478.41	18149.14	0.00
		330	Wind 90	419.14	-209.57	-362.98	-18149.14	10478.41	0.00
		0	Wind Normal	362.22	0.00	-362.22	-10866.54	0.00	0.00
		30	Wind 90	362.22	181.11	-313.69	-9410.70	-5433.27	0.00
		60	Wind 60	362.22	313.69	-181.11	-5433.27	-9410.70	0.00
		90	Wind 90	362.22	362.22	0.00	0.00	-10866.54	0.00
		120	Wind Normal	362.22	313.69	181.11	5433.27	-9410.70	0.00
		150	Wind 90	362.22	181.11	313.69	9410.70	-5433.27	0.00
		180	Wind 60	362.22	0.00	362.22	10866.54	0.00	0.00
		210	Wind 90	362.22	-181.11	313.69	9410.70	5433.27	0.00
L9	20.00-0.00	240	Wind Normal	362.22	-313.69	181.11	5433.27	9410.70	0.00
		270	Wind 90	362.22	-362.22	0.00	0.00	10866.54	0.00
		300	Wind 60	362.22	-313.69	-181.11	-5433.27	9410.70	0.00
		330	Wind 90	362.22	-181.11	-313.69	-9410.70	5433.27	0.00
		0	Wind Normal	361.91	0.00	-361.91	-3619.12	0.00	0.00
		30	Wind 90	361.91	180.96	-313.43	-3134.25	-1809.56	0.00
		60	Wind 60	361.91	313.43	-180.96	-1809.56	-3134.25	0.00
		90	Wind 90	361.91	361.91	0.00	0.00	-3619.12	0.00
		120	Wind Normal	361.91	313.43	180.96	1809.56	-3134.25	0.00
		150	Wind 90	361.91	180.96	313.43	3134.25	-1809.56	0.00
		180	Wind 60	361.91	0.00	361.91	3619.12	0.00	0.00
		210	Wind 90	361.91	-180.96	313.43	3134.25	1809.56	0.00
		240	Wind Normal	361.91	-313.43	180.96	1809.56	3134.25	0.00

tnxTower All Points Technology 116 Grandview Road Conway, NH 03818 Phone: (603) 496-5853 FAX: (603) 447-2124	Job	175' Monopole Tower	Page	25 of 40
	Project	CT1931631 Vernon	Date	09:25:03 10/13/20
	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
		270	Wind 90	361.91	-361.91	0.00	0.00	3619.12	0.00
		300	Wind 60	361.91	-313.43	-180.96	-1809.56	3134.25	0.00
		330	Wind 90	361.91	-180.96	-313.43	-3134.25	1809.56	0.00

Mast Totals - Service

Wind Azimuth °	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	0.00	-3117.59	-256369.52	0.00	0.00
30	1558.80	-2699.91	-222022.52	-128184.76	0.00
60	2699.91	-1558.80	-128184.76	-222022.52	0.00
90	3117.59	0.00	0.00	-256369.52	0.00
120	2699.91	1558.80	128184.76	-222022.52	0.00
150	1558.80	2699.91	222022.52	-128184.76	0.00
180	0.00	3117.59	256369.52	0.00	0.00
210	-1558.80	2699.91	222022.52	128184.76	0.00
240	-2699.91	1558.80	128184.76	222022.52	0.00
270	-3117.59	0.00	0.00	256369.52	0.00
300	-2699.91	-1558.80	-128184.76	222022.52	0.00
330	-1558.80	-2699.91	-222022.52	128184.76	0.00

Discrete Appurtenance Pressures - No Ice

G_H = 1.100

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _A A _C Front ft ²	C _A A _C Side ft ²
APXVARR24_43-C-NA 20	300.0000	89.30	-4.33	-2.50	175.00	1.160	27	17.15	8.74
APXVARR24_43-C-NA 20	60.0000	89.30	4.33	-2.50	175.00	1.160	27	17.15	8.74
APXVARR24_43-C-NA 20	180.0000	89.30	0.00	5.00	175.00	1.160	27	17.15	8.74
APX16DWV-16DWVS	300.0000	25.00	-4.33	-2.50	175.00	1.160	27	6.08	2.00
APX16DWV-16DWVS	60.0000	25.00	4.33	-2.50	175.00	1.160	27	6.08	2.00
APX16DWV-16DWVS	180.0000	25.00	0.00	5.00	175.00	1.160	27	6.08	2.00
AIR32 B66Aa/B2a	300.0000	133.00	-4.33	-2.50	175.00	1.160	27	6.51	4.71
AIR32 B66Aa/B2a	60.0000	133.00	4.33	-2.50	175.00	1.160	27	6.51	4.71
AIR32 B66Aa/B2a	180.0000	133.00	0.00	5.00	175.00	1.160	27	6.51	4.71
Ericsson RRUS-11	300.0000	55.00	-3.90	-2.25	175.00	1.160	27	2.79	1.02
Ericsson RRUS-11	60.0000	55.00	3.90	-2.25	175.00	1.160	27	2.79	1.02
Ericsson RRUS-11	180.0000	55.00	0.00	4.50	175.00	1.160	27	2.79	1.02
RFS ATM1900D TMA	300.0000	20.00	-3.90	-2.25	175.00	1.160	27	1.43	0.38
RFS ATM1900D TMA	60.0000	20.00	3.90	-2.25	175.00	1.160	27	1.43	0.38
RFS ATM1900D TMA	180.0000	20.00	0.00	4.50	175.00	1.160	27	1.43	0.38
10' low-profile platform	0.0000	800.00	0.00	0.00	175.00	1.160	27	6.00	5.20
HPA-65R-BUU-H6	300.0000	55.00	-4.33	-2.50	165.50	1.141	26	9.66	6.45
HPA-65R-BUU-H6	60.0000	55.00	4.33	-2.50	165.50	1.141	26	9.66	6.45
HPA-65R-BUU-H6	180.0000	55.00	0.00	5.00	165.50	1.141	26	9.66	6.45
Qunitel QS66512	300.0000	120.00	-4.33	-2.50	165.50	1.141	26	8.13	6.80
Qunitel QS66512	60.0000	120.00	4.33	-2.50	165.50	1.141	26	8.13	6.80
Qunitel QS66512	180.0000	120.00	0.00	5.00	165.50	1.141	26	8.13	6.80
800-10121	300.0000	50.00	-4.33	-2.50	165.50	1.141	26	5.16	3.29
800-10121	60.0000	50.00	4.33	-2.50	165.50	1.141	26	5.16	3.29
800-10121	180.0000	50.00	0.00	5.00	165.50	1.141	26	5.16	3.29
cci DMP65R-BU6DA	300.0000	83.00	-4.33	-2.50	165.50	1.141	26	12.71	5.62
cci DMP65R-BU6DA	60.0000	83.00	4.33	-2.50	165.50	1.141	26	12.71	5.62

tnxTower All Points Technology 116 Grandview Road Conway, NH 03818 Phone: (603) 496-5853 FAX: (603) 447-2124	Job	175' Monopole Tower	Page	28 of 40
	Project	CT1931631 Vernon	Date	09:25:03 10/13/20
	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAc} Front ft ²	C _{AAc} Side ft ²	t _z in
12' T-frame sector mnt	0.0000	1066.49	0.00	0.00	165.50	1.141	7	27.12	13.56	2.3499
12' T-frame sector mnt	0.0000	1066.49	0.00	0.00	165.50	1.141	7	27.12	13.56	2.3499
12' T-frame sector mnt	0.0000	1066.49	0.00	0.00	165.50	1.141	7	27.12	13.56	2.3499
GPS on 3' standoff	0.0000	100.87	0.00	0.00	157.00	1.124	7	1.57	1.57	2.3376
LPA-80063/4	300.0000	643.13	-4.55	-2.63	155.00	1.120	7	15.58	13.98	2.3346
LPA-80063/4	60.0000	643.13	4.55	-2.63	155.00	1.120	7	15.58	13.98	2.3346
LPA-80063/4	180.0000	643.13	0.00	5.25	155.00	1.120	7	15.58	13.98	2.3346
NHH-65B-R2B	300.0000	678.31	-4.55	-2.63	155.00	1.120	7	20.55	15.04	2.3346
NHH-65B-R2B	60.0000	678.31	4.55	-2.63	155.00	1.120	7	20.55	15.04	2.3346
NHH-65B-R2B	180.0000	678.31	0.00	5.25	155.00	1.120	7	20.55	15.04	2.3346
B2/B66A RRHBR049 (RFV01U-D1A)	300.0000	200.09	-4.11	-2.38	155.00	1.120	7	2.74	1.99	2.3346
B2/B66A RRHBR049 (RFV01U-D1A)	60.0000	200.09	4.11	-2.38	155.00	1.120	7	2.74	1.99	2.3346
B2/B66A RRHBR049 (RFV01U-D1A)	180.0000	200.09	0.00	4.75	155.00	1.120	7	2.74	1.99	2.3346
B5/B13 RRHBR04C (RFV01UD2A)	300.0000	204.99	-4.11	-2.38	155.00	1.120	7	2.74	1.70	2.3346
B5/B13 RRHBR04C (RFV01UD2A)	60.0000	204.99	4.11	-2.38	155.00	1.120	7	2.74	1.70	2.3346
B5/B13 RRHBR04C (RFV01UD2A)	180.0000	204.99	0.00	4.75	155.00	1.120	7	2.74	1.70	2.3346
RVZDC-6627-PF-48	0.0000	370.88	0.00	0.00	155.00	1.120	7	7.67	6.71	2.3346
14' low-profile platform	0.0000	5436.72	0.00	0.00	155.00	1.120	7	13.00	11.29	2.3346
14' low-profile platform	0.0000	5398.37	0.00	0.00	142.50	1.093	7	12.96	11.26	2.3150
6x2 3/8" Pipe Mount	0.0000	449.28	0.00	0.00	142.50	1.093	7	13.27	13.27	2.3150
6x2 3/8" Pipe Mount	0.0000	449.28	0.00	0.00	142.50	1.093	7	13.27	13.27	2.3150
6x2 3/8" Pipe Mount	0.0000	449.28	0.00	0.00	142.50	1.093	7	13.27	13.27	2.3150
Sum Weight:		37476.40								

Discrete Appurtenance Pressures - Service

G_H = 1.100

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAc} Front ft ²	C _{AAc} Side ft ²
APXVARR24_43-C-NA 20	300.0000	89.30	-4.33	-2.50	175.00	1.160	9	17.15	8.74
APXVARR24_43-C-NA 20	60.0000	89.30	4.33	-2.50	175.00	1.160	9	17.15	8.74
APXVARR24_43-C-NA 20	180.0000	89.30	0.00	5.00	175.00	1.160	9	17.15	8.74
APX16DWV-16DWVS	300.0000	25.00	-4.33	-2.50	175.00	1.160	9	6.08	2.00
APX16DWV-16DWVS	60.0000	25.00	4.33	-2.50	175.00	1.160	9	6.08	2.00
APX16DWV-16DWVS	180.0000	25.00	0.00	5.00	175.00	1.160	9	6.08	2.00
AIR32 B66Aa/B2a	300.0000	133.00	-4.33	-2.50	175.00	1.160	9	6.51	4.71
AIR32 B66Aa/B2a	60.0000	133.00	4.33	-2.50	175.00	1.160	9	6.51	4.71
AIR32 B66Aa/B2a	180.0000	133.00	0.00	5.00	175.00	1.160	9	6.51	4.71
Ericsson RRUS-11	300.0000	55.00	-3.90	-2.25	175.00	1.160	9	2.79	1.02
Ericsson RRUS-11	60.0000	55.00	3.90	-2.25	175.00	1.160	9	2.79	1.02
Ericsson RRUS-11	180.0000	55.00	0.00	4.50	175.00	1.160	9	2.79	1.02
RFS ATM1900D TMA	300.0000	20.00	-3.90	-2.25	175.00	1.160	9	1.43	0.38
RFS ATM1900D TMA	60.0000	20.00	3.90	-2.25	175.00	1.160	9	1.43	0.38
RFS ATM1900D TMA	180.0000	20.00	0.00	4.50	175.00	1.160	9	1.43	0.38
10' low-profile platform	0.0000	800.00	0.00	0.00	175.00	1.160	9	6.00	5.20
HPA-65R-BUU-H6	300.0000	55.00	-4.33	-2.50	165.50	1.141	9	9.66	6.45
HPA-65R-BUU-H6	60.0000	55.00	4.33	-2.50	165.50	1.141	9	9.66	6.45
HPA-65R-BUU-H6	180.0000	55.00	0.00	5.00	165.50	1.141	9	9.66	6.45
Qunitel QS66512	300.0000	120.00	-4.33	-2.50	165.50	1.141	9	8.13	6.80

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	Project	CT1931631 Vernon	Date 09:25:03 10/13/20
	Client	SAI Comm; AT&T Site #CT5310	Designed by AMA

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAC} Front ft ²	C _{AAC} Side ft ²
Qunitel QS66512	60.0000	120.00	4.33	-2.50	165.50	1.141	9	8.13	6.80
Qunitel QS66512	180.0000	120.00	0.00	5.00	165.50	1.141	9	8.13	6.80
800-10121	300.0000	50.00	-4.33	-2.50	165.50	1.141	9	5.16	3.29
800-10121	60.0000	50.00	4.33	-2.50	165.50	1.141	9	5.16	3.29
800-10121	180.0000	50.00	0.00	5.00	165.50	1.141	9	5.16	3.29
cci DMP65R-BU6DA	300.0000	83.00	-4.33	-2.50	165.50	1.141	9	12.71	5.62
cci DMP65R-BU6DA	60.0000	83.00	4.33	-2.50	165.50	1.141	9	12.71	5.62
cci DMP65R-BU6DA	180.0000	83.00	0.00	5.00	165.50	1.141	9	12.71	5.62
860-10025 RCU	300.0000	6.00	-4.33	-2.50	165.50	1.141	9	0.24	0.20
860-10025 RCU	60.0000	6.00	4.33	-2.50	165.50	1.141	9	0.24	0.20
860-10025 RCU	180.0000	6.00	0.00	5.00	165.50	1.141	9	0.24	0.20
LGP2140X TMA	300.0000	40.00	-4.33	-2.50	165.50	1.141	9	2.16	0.72
LGP2140X TMA	60.0000	40.00	4.33	-2.50	165.50	1.141	9	2.16	0.72
LGP2140X TMA	180.0000	40.00	0.00	5.00	165.50	1.141	9	2.16	0.72
Ericsson RRUS-32	300.0000	80.00	-3.90	-2.25	165.50	1.141	9	3.31	2.42
Ericsson RRUS-32	60.0000	80.00	3.90	-2.25	165.50	1.141	9	3.31	2.42
Ericsson RRUS-32	180.0000	80.00	0.00	4.50	165.50	1.141	9	3.31	2.42
Radio 4478	300.0000	65.00	-3.90	-2.25	165.50	1.141	9	1.86	1.06
Radio 4478	60.0000	65.00	3.90	-2.25	165.50	1.141	9	1.86	1.06
Radio 4478	180.0000	65.00	0.00	4.50	165.50	1.141	9	1.86	1.06
Ericsson RRUS-E2	300.0000	60.00	-3.90	-2.25	165.50	1.141	9	3.15	1.29
Ericsson RRUS-E2	60.0000	60.00	3.90	-2.25	165.50	1.141	9	3.15	1.29
Ericsson RRUS-E2	180.0000	60.00	0.00	4.50	165.50	1.141	9	3.15	1.29
Radio 8843	300.0000	71.87	-3.90	-2.25	165.50	1.141	9	1.64	1.36
Radio 8843	60.0000	71.87	3.90	-2.25	165.50	1.141	9	1.64	1.36
Radio 8843	180.0000	71.87	0.00	4.50	165.50	1.141	9	1.64	1.36
Radio 4449	300.0000	60.00	-3.90	-2.25	165.50	1.141	9	1.65	0.93
Radio 4449	60.0000	60.00	3.90	-2.25	165.50	1.141	9	1.65	0.93
Radio 4449	180.0000	60.00	0.00	4.50	165.50	1.141	9	1.65	0.93
Raycap	0.0000	30.00	0.00	0.00	165.50	1.141	9	0.74	0.74
DC6-48-60-18-8F squid									
Raycap	0.0000	30.00	0.00	0.00	165.50	1.141	9	0.74	0.74
DC6-48-60-18-8F squid									
Raycap	0.0000	30.00	0.00	0.00	165.50	1.141	9	0.74	0.74
DC6-48-60-18-8F squid									
12' T-frame sector mnt	0.0000	465.00	0.00	0.00	165.50	1.141	9	10.20	5.10
12' T-frame sector mnt	0.0000	465.00	0.00	0.00	165.50	1.141	9	10.20	5.10
12' T-frame sector mnt	0.0000	465.00	0.00	0.00	165.50	1.141	9	10.20	5.10
GPS on 3' standoff	0.0000	50.00	0.00	0.00	157.00	1.124	9	0.60	0.60
LPA-80063/4	300.0000	50.00	-4.55	-2.63	155.00	1.120	9	12.28	10.78
LPA-80063/4	60.0000	50.00	4.55	-2.63	155.00	1.120	9	12.28	10.78
LPA-80063/4	180.0000	50.00	0.00	5.25	155.00	1.120	9	12.28	10.78
NHH-65B-R2B	300.0000	88.00	-4.55	-2.63	155.00	1.120	9	16.16	10.68
NHH-65B-R2B	60.0000	88.00	4.55	-2.63	155.00	1.120	9	16.16	10.68
NHH-65B-R2B	180.0000	88.00	0.00	5.25	155.00	1.120	9	16.16	10.68
B2/B66A RRHBRO49	300.0000	85.00	-4.11	-2.38	155.00	1.120	9	1.88	1.25
(RFV01U-D1A)									
B2/B66A RRHBRO49	60.0000	85.00	4.11	-2.38	155.00	1.120	9	1.88	1.25
(RFV01U-D1A)									
B2/B66A RRHBRO49	180.0000	85.00	0.00	4.75	155.00	1.120	9	1.88	1.25
(RFV01U-D1A)									
B5/B13 RRHBR04C	300.0000	100.00	-4.11	-2.38	155.00	1.120	9	1.88	1.01
(RFV01UD2A)									
B5/B13 RRHBR04C	60.0000	100.00	4.11	-2.38	155.00	1.120	9	1.88	1.01
(RFV01UD2A)									
B5/B13 RRHBR04C	180.0000	100.00	0.00	4.75	155.00	1.120	9	1.88	1.01
(RFV01UD2A)									
RVZDC-6627-PF-48	0.0000	45.00	0.00	0.00	155.00	1.120	9	6.13	5.25
14' low-profile platform	0.0000	1200.00	0.00	0.00	155.00	1.120	9	8.40	7.28
14' low-profile platform	0.0000	1200.00	0.00	0.00	142.50	1.093	9	8.40	7.28
6'x2 3/8" Pipe Mount	0.0000	87.60	0.00	0.00	142.50	1.093	9	5.70	5.70

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	Project	CT1931631 Vernon	Date	09:25:03 10/13/20
	Client	SAI Comm; AT&T Site #CT5310	Designed by	AMA

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _A A _C Front ft ²	C _A A _C Side ft ²
6"x2 3/8" Pipe Mount	0.0000	87.60	0.00	0.00	142.50	1.093	9	5.70	5.70
6"x2 3/8" Pipe Mount	0.0000	87.60	0.00	0.00	142.50	1.093	9	5.70	5.70
Sum Weight:		9051.31							

Force Totals

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M _x lb-ft	Sum of Overturning Moments, M _z lb-ft	Sum of Torques lb-ft
Leg Weight	37182.64					
Bracing Weight	0.00					
Total Member Self-Weight	37182.64			0.00	0.00	
Total Weight	53803.12			0.00	0.00	
Wind 0 deg - No Ice		0.00	-19380.45	-2426557.59	0.00	0.00
Wind 30 deg - No Ice		9690.23	-16783.97	-2101460.52	-1213278.80	0.00
Wind 60 deg - No Ice		16783.97	-9690.23	-1213278.80	-2101460.52	0.00
Wind 90 deg - No Ice		19380.45	0.00	0.00	-2426557.59	0.00
Wind 120 deg - No Ice		16783.97	9690.23	1213278.80	-2101460.52	0.00
Wind 150 deg - No Ice		9690.23	16783.97	2101460.52	-1213278.80	0.00
Wind 180 deg - No Ice		0.00	19380.45	2426557.59	0.00	0.00
Wind 210 deg - No Ice		-9690.23	16783.97	2101460.52	1213278.80	0.00
Wind 240 deg - No Ice		-16783.97	9690.23	1213278.80	2101460.52	0.00
Wind 270 deg - No Ice		-19380.45	0.00	0.00	2426557.59	0.00
Wind 300 deg - No Ice		-16783.97	-9690.23	-1213278.80	2101460.52	0.00
Wind 330 deg - No Ice		-9690.23	-16783.97	-2101460.52	1213278.80	0.00
Member Ice	22073.66					
Total Weight Ice	104301.87			0.00	0.00	
Wind 0 deg - Ice		0.00	-9471.97	-1122114.63	0.00	0.00
Wind 30 deg - Ice		4735.98	-8202.97	-971779.78	-561057.32	0.00
Wind 60 deg - Ice		8202.97	-4735.98	-561057.32	-971779.78	0.00
Wind 90 deg - Ice		9471.97	0.00	0.00	-1122114.63	0.00
Wind 120 deg - Ice		8202.97	4735.98	561057.32	-971779.78	0.00
Wind 150 deg - Ice		4735.98	8202.97	971779.78	-561057.32	0.00
Wind 180 deg - Ice		0.00	9471.97	1122114.63	0.00	0.00
Wind 210 deg - Ice		-4735.98	8202.97	971779.78	561057.32	0.00
Wind 240 deg - Ice		-8202.97	4735.98	561057.32	971779.78	0.00
Wind 270 deg - Ice		-9471.97	0.00	0.00	1122114.63	0.00
Wind 300 deg - Ice		-8202.97	-4735.98	-561057.32	971779.78	0.00
Wind 330 deg - Ice		-4735.98	-8202.97	-971779.78	561057.32	0.00
Total Weight	53803.12			0.00	0.00	
Wind 0 deg - Service		0.00	-6634.65	-830701.43	0.00	0.00
Wind 30 deg - Service		3317.33	-5745.78	-719408.54	-415350.71	0.00
Wind 60 deg - Service		5745.78	-3317.33	-415350.71	-719408.54	0.00
Wind 90 deg - Service		6634.65	0.00	0.00	-830701.43	0.00
Wind 120 deg - Service		5745.78	3317.33	415350.71	-719408.54	0.00
Wind 150 deg - Service		3317.33	5745.78	719408.54	-415350.71	0.00
Wind 180 deg - Service		0.00	6634.65	830701.43	0.00	0.00
Wind 210 deg - Service		-3317.33	5745.78	719408.54	415350.71	0.00
Wind 240 deg - Service		-5745.78	3317.33	415350.71	719408.54	0.00
Wind 270 deg - Service		-6634.65	0.00	0.00	830701.43	0.00
Wind 300 deg - Service		-5745.78	-3317.33	-415350.71	719408.54	0.00
Wind 330 deg - Service		-3317.33	-5745.78	-719408.54	415350.71	0.00

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Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L1	175 - 160	Pole	Max Tension	9	0.03	0.06	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L2	160 - 140	Pole	Max. Compression	26	-23974.73	0.00	-0.00
			Max. Mx	8	-7713.20	-106991.07	0.00
			Max. My	2	-7713.20	0.00	106991.07
			Max. Vy	8	12227.05	-106991.07	0.00
			Max. Vx	2	-12227.05	0.00	106991.07
			Max. Torque	25		0.00	
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48299.57	0.00	-0.00
			Max. Mx	8	-15735.75	-439534.15	0.00
			Max. My	2	-15735.75	0.00	439534.15
			Max. Vy	8	19602.31	-439534.15	0.00
			Max. Vx	2	-19602.31	0.00	439534.15
L3	140 - 120	Pole	Max. Torque	17			-0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54999.33	0.00	-0.00
			Max. Mx	8	-20389.81	-848016.55	0.00
			Max. My	2	-20389.81	0.00	848016.55
			Max. Vy	8	21227.76	-848016.55	0.00
			Max. Vx	2	-21227.76	0.00	848016.55
			Max. Torque	17			-0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62569.45	0.00	-0.00
			Max. Mx	8	-25655.77	-1289947.9	0.00
				7			
L4	120 - 100	Pole	Max. My	2	-25655.77	0.00	1289947.97
			Max. Vy	8	22952.28	-1289947.9	0.00
				7			
			Max. Vx	2	-22952.28	0.00	1289947.97
			Max. Torque	17			-0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70990.11	0.00	0.00
			Max. Mx	8	-31519.64	-1766969.4	0.00
				8			
			Max. My	2	-31519.64	0.00	1766969.48
			Max. Vy	8	24741.45	-1766969.4	0.00
				8			
L5	100 - 80	Pole	Max. Vx	2	-24741.45	0.00	1766969.48
			Max. Torque	11			-0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80233.93	0.00	0.00
			Max. Mx	8	-37976.45	-2279894.5	0.00
				3			
			Max. My	2	-37976.45	0.00	2279894.53
			Max. Vy	8	26546.51	-2279894.5	0.00
				3			
			Max. Vx	2	-26546.51	0.00	2279894.53
			Max. Torque	11			-0.00
			Max Tension	1	0.00	0.00	0.00
L6	80 - 60	Pole	Max. Compression	26	-90259.16	0.00	0.00
			Max. Mx	8	-45023.78	-2828349.4	0.00
				2			
			Max. My	2	-45023.78	0.00	2828349.42
			Max. Vy	8	28296.98	-2828349.4	0.00
				2			
			Max. Vx	2	-28296.98	0.00	2828349.42
			Max. Torque	17			-0.01
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-102018.02	0.00	0.00
			Max. Mx	8	-53980.63	-3408511.3	0.00
				5			
L7	60 - 40	Pole	Max. My	2	-53980.63	0.00	3408511.35
L8	40 - 20	Pole					

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L9	20 - 0	Pole	Max. Vy	8	29714.04	-3408511.35	0.00
			Max. Vx	2	-29714.04	0.00	3408511.35
			Max. Torque	17			-0.01
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-115062.50	0.00	0.00
			Max. Mx	8	-64557.57	-4015920.24	0.00
			Max. My	2	-64557.57	0.00	4015920.24
			Max. Vy	8	31016.59	-4015920.24	0.00
			Max. Vx	2	-31016.59	0.00	4015920.24
			Max. Torque	17			-0.01

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	26	115062.50	0.00	0.00
	Max. H _x	20	64563.57	31004.10	0.00
	Max. H _z	2	64563.57	0.00	31004.10
	Max. M _x	2	4015920.24	0.00	31004.10
	Max. M _z	8	4015920.24	-31004.10	0.00
	Max. Torsion	7	0.01	-26854.23	15504.30
	Min. Vert	3	48422.56	0.00	31001.87
	Min. H _x	8	64563.57	-31004.10	0.00
	Min. H _z	14	64563.57	0.00	-31004.10
	Min. M _x	14	-4015920.24	0.00	-31004.10
	Min. M _z	20	-4015920.24	31004.10	0.00
	Min. Torsion	17	-0.01	15504.30	-26854.23

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead Only	53803.12	0.00	0.00	0.00	0.00	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	64563.57	0.00	-31004.10	-4015920.24	0.00	0.00
0.9 Dead+1.6 Wind 0 deg - No Ice	48422.56	0.00	-31001.87	-3980365.55	0.00	0.00
1.2 Dead+1.6 Wind 30 deg - No Ice	64563.74	15504.32	-26854.27	-3478454.93	-2008287.02	0.00
0.9 Dead+1.6 Wind 30 deg - No Ice	48422.80	15504.30	-26854.23	-3447916.20	-1990655.54	0.01
1.2 Dead+1.6 Wind 60 deg - No Ice	64563.74	26854.27	-15504.32	-2008287.02	-3478454.93	-0.00
0.9 Dead+1.6 Wind 60 deg - No Ice	48422.80	26854.23	-15504.30	-1990655.54	-3447916.20	-0.01
1.2 Dead+1.6 Wind 90 deg - No Ice	64563.57	31004.10	0.00	0.00	-4015920.24	0.00
0.9 Dead+1.6 Wind 90 deg - No Ice	48422.56	31001.87	0.00	0.00	-3980365.55	0.00
1.2 Dead+1.6 Wind 120 deg -	64563.74	26854.27	15504.32	2008287.02	-3478454.93	0.00

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Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
No Ice						
0.9 Dead+1.6 Wind 120 deg - No Ice	48422.80	26854.23	15504.30	1990655.54	-3447916.20	0.01
1.2 Dead+1.6 Wind 150 deg - No Ice	64563.74	15504.32	26854.27	3478454.93	-2008287.02	-0.00
0.9 Dead+1.6 Wind 150 deg - No Ice	48422.80	15504.30	26854.23	3447916.20	-1990655.54	-0.01
1.2 Dead+1.6 Wind 180 deg - No Ice	64563.57	0.00	31004.10	4015920.24	0.00	0.00
0.9 Dead+1.6 Wind 180 deg - No Ice	48422.56	0.00	31001.87	3980365.55	0.00	0.00
1.2 Dead+1.6 Wind 210 deg - No Ice	64563.74	-15504.32	26854.27	3478454.93	2008287.02	0.00
0.9 Dead+1.6 Wind 210 deg - No Ice	48422.80	-15504.30	26854.23	3447916.20	1990655.54	0.01
1.2 Dead+1.6 Wind 240 deg - No Ice	64563.74	-26854.27	15504.32	2008287.02	3478454.93	-0.00
0.9 Dead+1.6 Wind 240 deg - No Ice	48422.80	-26854.23	15504.30	1990655.54	3447916.20	-0.01
1.2 Dead+1.6 Wind 270 deg - No Ice	64563.57	-31004.10	0.00	0.00	4015920.24	0.00
0.9 Dead+1.6 Wind 270 deg - No Ice	48422.56	-31001.87	0.00	0.00	3980365.55	0.00
1.2 Dead+1.6 Wind 300 deg - No Ice	64563.74	-26854.27	-15504.32	-2008287.02	3478454.93	0.00
0.9 Dead+1.6 Wind 300 deg - No Ice	48422.80	-26854.23	-15504.30	-1990655.54	3447916.20	0.01
1.2 Dead+1.6 Wind 330 deg - No Ice	64563.74	-15504.32	-26854.27	-3478454.93	2008287.02	-0.00
0.9 Dead+1.6 Wind 330 deg - No Ice	48422.80	-15504.30	-26854.23	-3447916.20	1990655.54	-0.01
1.2 Dead+1.0 Ice+1.0 Temp	115062.50	0.00	0.00	0.00	0.00	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	115062.49	0.00	-9471.54	-1219931.72	0.00	0.00
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	115062.49	4735.88	-8202.79	-1056537.16	-609992.04	0.00
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	115062.49	8202.79	-4735.88	-609992.04	-1056537.16	-0.00
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	115062.49	9471.54	0.00	0.00	-1219931.72	0.00
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	115062.49	8202.79	4735.88	609992.04	-1056537.16	0.00
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	115062.49	4735.88	8202.79	1056537.16	-609992.04	-0.00
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	115062.49	0.00	9471.54	1219931.72	0.00	0.00
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	115062.49	-4735.88	8202.79	1056537.16	609992.04	0.00
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	115062.49	-8202.79	4735.88	609992.04	1056537.16	-0.00
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	115062.49	-9471.54	0.00	0.00	1219931.72	0.00
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	115062.49	-8202.79	-4735.88	-609992.04	1056537.16	0.00
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	115062.49	-4735.88	-8202.79	-1056537.16	609992.04	-0.00
Dead+Wind 0 deg - Service	53803.10	0.00	-6632.94	-854654.05	0.00	0.00
Dead+Wind 30 deg - Service	53803.10	3316.47	-5744.30	-740152.18	-427327.14	0.00
Dead+Wind 60 deg - Service	53803.10	5744.30	-3316.47	-427327.14	-740152.18	-0.00
Dead+Wind 90 deg - Service	53803.10	6632.94	0.00	0.00	-854654.05	0.00
Dead+Wind 120 deg - Service	53803.10	5744.30	3316.47	427327.14	-740152.18	0.00

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Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead+Wind 150 deg - Service	53803.10	3316.47	5744.30	740152.18	-427327.14	-0.00
Dead+Wind 180 deg - Service	53803.10	0.00	6632.94	854654.05	0.00	0.00
Dead+Wind 210 deg - Service	53803.10	-3316.47	5744.30	740152.18	427327.14	0.00
Dead+Wind 240 deg - Service	53803.10	-5744.30	3316.47	427327.14	740152.18	-0.00
Dead+Wind 270 deg - Service	53803.10	-6632.94	0.00	0.00	854654.05	0.00
Dead+Wind 300 deg - Service	53803.10	-5744.30	-3316.47	-427327.14	740152.18	0.00
Dead+Wind 330 deg - Service	53803.10	-3316.47	-5744.30	-740152.18	427327.14	-0.00

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
1	0.00	-53803.12	0.00	0.00	53803.12	0.00	0.000%
2	0.00	-64563.74	-31008.73	0.00	64563.57	31004.10	0.006%
3	0.00	-48422.81	-31008.73	0.00	48422.56	31001.87	0.012%
4	15504.36	-64563.74	-26854.35	-15504.32	64563.74	26854.27	0.000%
5	15504.36	-48422.81	-26854.35	-15504.30	48422.80	26854.23	0.000%
6	26854.35	-64563.74	-15504.36	-26854.27	64563.74	15504.32	0.000%
7	26854.35	-48422.81	-15504.36	-26854.23	48422.80	15504.30	0.000%
8	31008.73	-64563.74	0.00	-31004.10	64563.57	0.00	0.006%
9	31008.73	-48422.81	0.00	-31001.87	48422.56	0.00	0.012%
10	26854.35	-64563.74	15504.36	-26854.27	64563.74	-15504.32	0.000%
11	26854.35	-48422.81	15504.36	-26854.23	48422.80	-15504.30	0.000%
12	15504.36	-64563.74	26854.35	-15504.32	64563.74	-26854.27	0.000%
13	15504.36	-48422.81	26854.35	-15504.30	48422.80	-26854.23	0.000%
14	0.00	-64563.74	31008.73	0.00	64563.57	-31004.10	0.006%
15	0.00	-48422.81	31008.73	0.00	48422.56	-31001.87	0.012%
16	-15504.36	-64563.74	26854.35	15504.32	64563.74	-26854.27	0.000%
17	-15504.36	-48422.81	26854.35	15504.30	48422.80	-26854.23	0.000%
18	-26854.35	-64563.74	15504.36	26854.27	64563.74	-15504.32	0.000%
19	-26854.35	-48422.81	15504.36	26854.23	48422.80	-15504.30	0.000%
20	-31008.73	-64563.74	0.00	31004.10	64563.57	0.00	0.006%
21	-31008.73	-48422.81	0.00	31001.87	48422.56	0.00	0.012%
22	-26854.35	-64563.74	-15504.36	26854.27	64563.74	15504.32	0.000%
23	-26854.35	-48422.81	-15504.36	26854.23	48422.80	15504.30	0.000%
24	-15504.36	-64563.74	-26854.35	15504.32	64563.74	26854.27	0.000%
25	-15504.36	-48422.81	-26854.35	15504.30	48422.80	26854.23	0.000%
26	0.00	-115062.50	0.00	0.00	115062.50	0.00	0.000%
27	0.00	-115062.50	-9471.97	0.00	115062.49	9471.54	0.000%
28	4735.98	-115062.50	-8202.97	-4735.88	115062.49	8202.79	0.000%
29	8202.97	-115062.50	-4735.98	-8202.79	115062.49	4735.88	0.000%
30	9471.97	-115062.50	0.00	-9471.54	115062.49	0.00	0.000%
31	8202.97	-115062.50	4735.98	-8202.79	115062.49	-4735.88	0.000%
32	4735.98	-115062.50	8202.97	-4735.88	115062.49	-8202.79	0.000%
33	0.00	-115062.50	9471.97	0.00	115062.49	-9471.54	0.000%
34	-4735.98	-115062.50	8202.97	4735.88	115062.49	-8202.79	0.000%
35	-8202.97	-115062.50	4735.98	8202.79	115062.49	-4735.88	0.000%
36	-9471.97	-115062.50	0.00	9471.54	115062.49	0.00	0.000%
37	-8202.97	-115062.50	-4735.98	8202.79	115062.49	4735.88	0.000%
38	-4735.98	-115062.50	-8202.97	4735.88	115062.49	8202.79	0.000%
39	0.00	-53803.12	-6634.65	0.00	53803.10	6632.94	0.003%
40	3317.33	-53803.12	-5745.78	-3316.47	53803.10	5744.30	0.003%
41	5745.78	-53803.12	-3317.33	-5744.30	53803.10	3316.47	0.003%
42	6634.65	-53803.12	0.00	-6632.94	53803.10	0.00	0.003%
43	5745.78	-53803.12	3317.33	-5744.30	53803.10	-3316.47	0.003%
44	3317.33	-53803.12	5745.78	-3316.47	53803.10	-5744.30	0.003%
45	0.00	-53803.12	6634.65	0.00	53803.10	-6632.94	0.003%
46	-3317.33	-53803.12	5745.78	3316.47	53803.10	-5744.30	0.003%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
47	-5745.78	-53803.12	3317.33	5744.30	53803.10	-3316.47	0.003%
48	-6634.65	-53803.12	0.00	6632.94	53803.10	0.00	0.003%
49	-5745.78	-53803.12	-3317.33	5744.30	53803.10	3316.47	0.003%
50	-3317.33	-53803.12	-5745.78	3316.47	53803.10	5744.30	0.003%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	15	0.00008538	0.00003765
3	Yes	14	0.00012358	0.00008972
4	Yes	20	0.00000001	0.00008574
5	Yes	19	0.00000001	0.00014512
6	Yes	20	0.00000001	0.00008574
7	Yes	19	0.00000001	0.00014512
8	Yes	15	0.00008538	0.00003765
9	Yes	14	0.00012358	0.00008972
10	Yes	20	0.00000001	0.00008574
11	Yes	19	0.00000001	0.00014512
12	Yes	20	0.00000001	0.00008574
13	Yes	19	0.00000001	0.00014512
14	Yes	15	0.00008538	0.00003765
15	Yes	14	0.00012358	0.00008972
16	Yes	20	0.00000001	0.00008574
17	Yes	19	0.00000001	0.00014512
18	Yes	20	0.00000001	0.00008574
19	Yes	19	0.00000001	0.00014512
20	Yes	15	0.00008538	0.00003765
21	Yes	14	0.00012358	0.00008972
22	Yes	20	0.00000001	0.00008574
23	Yes	19	0.00000001	0.00014512
24	Yes	20	0.00000001	0.00008574
25	Yes	19	0.00000001	0.00014512
26	Yes	6	0.00000001	0.00000001
27	Yes	18	0.00000001	0.00013518
28	Yes	19	0.00000001	0.00007819
29	Yes	19	0.00000001	0.00007819
30	Yes	18	0.00000001	0.00013518
31	Yes	19	0.00000001	0.00007819
32	Yes	19	0.00000001	0.00007819
33	Yes	18	0.00000001	0.00013518
34	Yes	19	0.00000001	0.00007819
35	Yes	19	0.00000001	0.00007819
36	Yes	18	0.00000001	0.00013518
37	Yes	19	0.00000001	0.00007819
38	Yes	19	0.00000001	0.00007819
39	Yes	14	0.00014438	0.00002328
40	Yes	14	0.00014431	0.00006200
41	Yes	14	0.00014431	0.00006200
42	Yes	14	0.00014438	0.00002328
43	Yes	14	0.00014431	0.00006200
44	Yes	14	0.00014431	0.00006200
45	Yes	14	0.00014438	0.00002328
46	Yes	14	0.00014431	0.00006200
47	Yes	14	0.00014431	0.00006200
48	Yes	14	0.00014438	0.00002328
49	Yes	14	0.00014431	0.00006200
50	Yes	14	0.00014431	0.00006200

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Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	175 - 160	16.147	42	0.8395	0.0000
L2	160 - 140	13.527	42	0.8210	0.0000
L3	140 - 120	10.223	42	0.7386	0.0000
L4	120 - 100	7.348	42	0.6222	0.0000
L5	100 - 80	4.978	42	0.5008	0.0000
L6	80 - 60	3.110	42	0.3849	0.0000
L7	60 - 40	1.713	42	0.2774	0.0000
L8	40 - 20	0.751	42	0.1786	0.0000
L9	20 - 0	0.188	42	0.0874	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
175.00	APXVARR24_43-C-NA20	42	16.147	0.8395	0.0000	74420
165.50	HPA-65R-BUU-H6	42	14.481	0.8310	0.0000	39168
157.00	GPS on 3' standoff	42	13.013	0.8129	0.0000	20502
155.00	(2) LPA-80063/4	42	12.672	0.8065	0.0000	18380
142.50	14' low-profile platform	42	10.616	0.7517	0.0000	11185

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	175 - 160	75.938	8	3.9503	0.0000
L2	160 - 140	63.618	8	3.8633	0.0000
L3	140 - 120	48.083	8	3.4758	0.0000
L4	120 - 100	34.557	8	2.9280	0.0000
L5	100 - 80	23.411	8	2.3568	0.0000
L6	80 - 60	14.626	10	1.8111	0.0000
L7	60 - 40	8.057	10	1.3048	0.0000
L8	40 - 20	3.531	10	0.8397	0.0000
L9	20 - 0	0.884	10	0.4109	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
175.00	APXVARR24_43-C-NA20	8	75.938	3.9503	0.0000	15978
165.50	HPA-65R-BUU-H6	8	68.103	3.9104	0.0000	8409
157.00	GPS on 3' standoff	8	61.199	3.8252	0.0000	4398
155.00	(2) LPA-80063/4	8	59.599	3.7950	0.0000	3942
142.50	14' low-profile platform	8	49.932	3.5375	0.0000	2396

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Base Plate Design Data

Plate Thickness	Number of Anchor Bolts	Anchor Bolt Size	Actual Allowable Ratio Bolt Tension lb	Actual Allowable Ratio Bolt Compression lb	Actual Allowable Ratio Plate Stress ksi	Actual Allowable Ratio Stiffener Stress ksi	Controlling Condition	Ratio
in		in						
2.2500	52	1.2500	56689.86	59172.85	9.014	16.337	Bolt T	0.84
			69029.14	114588.36	32.400	32.400		✓
			0.84	0.54	0.28	0.50		

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	175 - 160 (1)	P24x3/8	15.00	175.00	251.4	27.8325	-23907.30	99498.70	0.240
L2	160 - 140 (2)	P30x3/8	20.00	175.00	200.5	34.9011	-15735.40	196172.00	0.080
L3	140 - 120 (3)	P36x3/8	20.00	175.00	166.7	41.9697	-20389.50	341118.00	0.060
L4	120 - 100 (4)	P42x3/8	20.00	175.00	142.7	49.0383	-25655.50	544115.00	0.047
L5	100 - 80 (5)	P48x3/8	20.00	175.00	124.7	56.1069	-31519.40	803861.00	0.039
L6	80 - 60 (6)	P54x3/8	20.00	175.00	110.8	63.1755	-37976.30	1069090.00	0.036
L7	60 - 40 (7)	P60x3/8	20.00	175.00	99.6	70.2440	-45023.70	1329060.00	0.034
L8	40 - 20 (8)	P60x1/2	20.00	175.00	99.8	93.4624	-53980.70	1818800.00	0.030
L9	20 - 0 (9)	P60x5/8	20.00	175.00	100.0	116.583	-64557.70	2323900.00	0.028

0

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} lb-ft	φM _{nx} lb-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M _{uy} lb-ft	φM _{ny} lb-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	175 - 160 (1)	P24x3/8	30243.25	623716.67	0.048	0.00	623716.67	0.000
L2	160 - 140 (2)	P30x3/8	439584.17	947858.33	0.464	0.00	947858.33	0.000
L3	140 - 120 (3)	P36x3/8	848125.00	1338808.33	0.633	0.00	1338808.33	0.000
L4	120 - 100 (4)	P42x3/8	1290133.33	1796558.33	0.718	0.00	1796558.33	0.000
L5	100 - 80 (5)	P48x3/8	1767241.67	2321108.33	0.761	0.00	2321108.33	0.000
L6	80 - 60 (6)	P54x3/8	2280258.33	2912458.33	0.783	0.00	2912458.33	0.000
L7	60 - 40 (7)	P60x3/8	2828808.33	3570608.33	0.792	0.00	3570608.33	0.000
L8	40 - 20 (8)	P60x1/2	3409066.67	4860408.33	0.701	0.00	4860408.33	0.000
L9	20 - 0 (9)	P60x5/8	4016575.00	6198183.33	0.648	0.00	6198183.33	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u lb	φV _n lb	Ratio $\frac{V_u}{\phi V_n}$	Actual T _u lb-ft	φT _n lb-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	175 - 160 (1)	P24x3/8	3585.73	526035.00	0.007	0.00	1019708.33	0.000
L2	160 - 140 (2)	P30x3/8	19606.40	655528.00	0.030	0.00	1598366.67	0.000

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Section No.	Elevation ft	Size	Actual V_u lb	ϕV_n lb	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u lb-ft	ϕT_n lb-ft	Ratio $\frac{T_u}{\phi T_n}$
L3	140 - 120 (3)	P36x3/8	21232.10	745048.00	0.028	0.00	2189066.67	0.000
L4	120 - 100 (4)	P42x3/8	22955.80	834437.00	0.028	0.00	2868841.67	0.000
L5	100 - 80 (5)	P48x3/8	24743.70	923745.00	0.027	0.00	3637700.00	0.000
L6	80 - 60 (6)	P54x3/8	26547.60	1013000.00	0.026	0.00	4495625.00	0.000
L7	60 - 40 (7)	P60x3/8	28297.70	1102210.00	0.026	0.00	5442616.67	0.000
L8	40 - 20 (8)	P60x1/2	29716.20	1562840.00	0.019	0.00	7685066.67	0.000
L9	20 - 0 (9)	P60x5/8	31021.10	2069580.00	0.015	0.00	10134583.33	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u ϕP_n	Ratio M_{ux} ϕM_{nx}	Ratio M_{uy} ϕM_{ny}	Ratio V_u ϕV_n	Ratio T_u ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	175 - 160 (1)	0.240	0.048	0.000	0.007	0.000	0.289	1.000	4.8.2 ✓
L2	160 - 140 (2)	0.080	0.464	0.000	0.030	0.000	0.545	1.000	4.8.2 ✓
L3	140 - 120 (3)	0.060	0.633	0.000	0.028	0.000	0.694	1.000	4.8.2 ✓
L4	120 - 100 (4)	0.047	0.718	0.000	0.028	0.000	0.766	1.000	4.8.2 ✓
L5	100 - 80 (5)	0.039	0.761	0.000	0.027	0.000	0.801	1.000	4.8.2 ✓
L6	80 - 60 (6)	0.036	0.783	0.000	0.026	0.000	0.819	1.000	4.8.2 ✓
L7	60 - 40 (7)	0.034	0.792	0.000	0.026	0.000	0.827	1.000	4.8.2 ✓
L8	40 - 20 (8)	0.030	0.701	0.000	0.019	0.000	0.731	1.000	4.8.2 ✓
L9	20 - 0 (9)	0.028	0.648	0.000	0.015	0.000	0.676	1.000	4.8.2 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
L1	175 - 160	Pole	P24x3/8	1	-23907.30	99498.70	28.9	Pass
L2	160 - 140	Pole	P30x3/8	2	-15735.40	196172.00	54.5	Pass
L3	140 - 120	Pole	P36x3/8	3	-20389.50	341118.00	69.4	Pass
L4	120 - 100	Pole	P42x3/8	4	-25655.50	544115.00	76.6	Pass
L5	100 - 80	Pole	P48x3/8	5	-31519.40	803861.00	80.1	Pass
L6	80 - 60	Pole	P54x3/8	6	-37976.30	1069090.00	81.9	Pass
L7	60 - 40	Pole	P60x3/8	7	-45023.70	1329060.00	82.7	Pass
L8	40 - 20	Pole	P60x1/2	8	-53980.70	1818800.00	73.1	Pass
L9	20 - 0	Pole	P60x5/8	9	-64557.70	2323900.00	67.6	Pass
							Summary	
							Pole (L7)	Pass
							Base Plate	Pass
							RATING =	Pass

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Element Map

Section No.	Section Elevation ft	Component Type	Element List
L1	175.00-160.00	Pole	1
L2	160.00-140.00	Pole	2
L3	140.00-120.00	Pole	3
L4	120.00-100.00	Pole	4
L5	100.00-80.00	Pole	5
L6	80.00-60.00	Pole	6
L7	60.00-40.00	Pole	7
L8	40.00-20.00	Pole	8
L9	20.00-0.00	Pole	9
			Total number of elements: 9



October 26, 2020

SAI Communications, Inc.
12 Industrial Way
Salem, NH 03079

Attn: Mary Caulfield
Re: 175' Monopole Tower
Vernon, Connecticut
AT&T Site: CT5310

Dear Mary,

All-Points Technology Corporation, P.C. (APT) performed an inventory mapping and structural analysis of the 175' monopole tower located at 60 Industrial Park Road in Vernon, Connecticut for equipment changes proposed by AT&T Mobility. Our analysis, dated October 13, 2020, indicated the tower met the requirements of the Connecticut State Building Code with the proposed equipment changes, however the base foundation could not be evaluated as information on its design or construction was not available to APT.

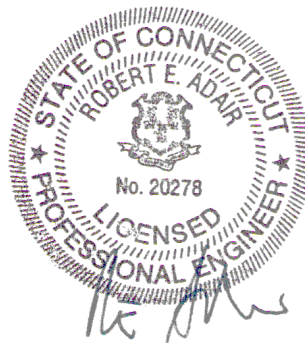
Subsequent to completion of the analysis report, tower foundation dimensions were provided to APT. We found the foundation to be adequately sized for installation of AT&T Mobility's proposed changes.

Please feel free to contact me if you have any questions.

Sincerely,
All-Points Technology Corporation, P.C.

Robert E. Adair, P.E.
Principal

CT1931630 Vernon Rockville fdn amendment ltr 10-26-2020.doc



September 17, 2020



SAI Communications
12 Industrial Way
Salem NH, 03079

RE: Site Number: CT5310 (LTE 6C/5G NR/BWE)
 FA Number: 10071292
 PACE Number: MRCTB048703
 PT Number: 2051A0WGT5
 Site Name: VERNON CENTER
 Site Address: 60 Industrial Park Road
 Vernon Rockville, CT 06066

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by SAI Communications to perform a mount analysis on the existing AT&T antenna/RRH mounts to determine their capability of supporting the following additional loading:

- (3) 800-10121 Antennas (54.5"x10.3"x5.9" – Wt. = 45 lbs. /each)
- (3) QS66512-2 Antennas (72.0"x12.0"x9.6" – Wt. = 111 lbs. /each)
- (3) HPA-65R-BUU-H6 Antennas (72.0"x14.8"x7.4" – Wt. = 51 lbs. /each)
- (3) B14 4478 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)
- (3) RRUS-32 B30 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (6) LGP21401 TMA's (14.4"x9.0"x2.7" – Wt. = 19 lbs. /each)
- (2) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each) (Tower Mount)
- **(3) DMP65R-BU6DA Antennas (71.2"x20.7"x7.7" – Wt. = 80 lbs. /each)**
- **(3) RRUS-E2 B29 RRH's (20.4"x18.5"x7.5" – Wt. = 53 lbs. /each)**
- **(3) B2/B66A 8843 RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)**
- **(3) 4449 B5/B12 RRH's (17.9"x13.2"x9.5" – Wt. = 71 lbs. /each)**
- **(1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each)**

**Proposed equipment shown in bold*

Mount fabrication drawings prepared by Sabre Industries Towers and Poles, P/N C10857001C, dated January 20, 2017 were used to perform this analysis. HDG conducted at ground audit of the existing AT&T antenna mounts on August 14, 2020.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R13.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30-degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 125 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.5 in. An escalated ice thickness of 1.77 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- HDG considers this site to have a spectral response acceleration parameter at short periods, S_s , of 0.177 and a spectral response acceleration parameter at a period of 1 second, S_1 , of 0.064.
- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 2.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing monopole with ring mounts. The connection is considered OK by visual inspection.

Based on our evaluation, we have determined that the existing mounts **ARE CAPABLE** of supporting the proposed installation.

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (LTE 6C/5G NR/BWE) Mount Rating	13	LC36	66%	PASS

Reference Documents:

- Fabrication drawings prepared by Sabre Industries Towers and Poles, P/N C10857001C, dated January 20, 2017

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC



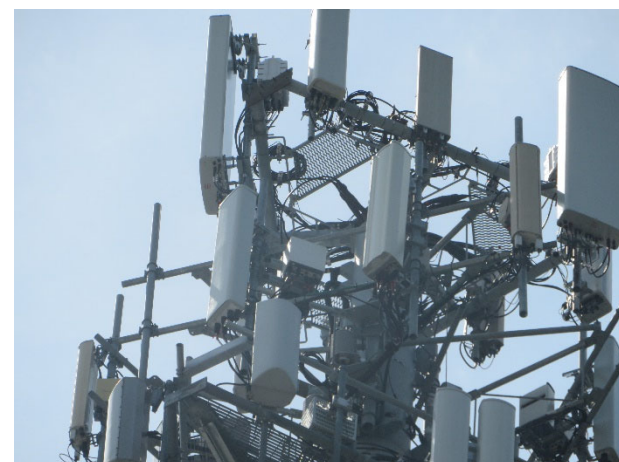
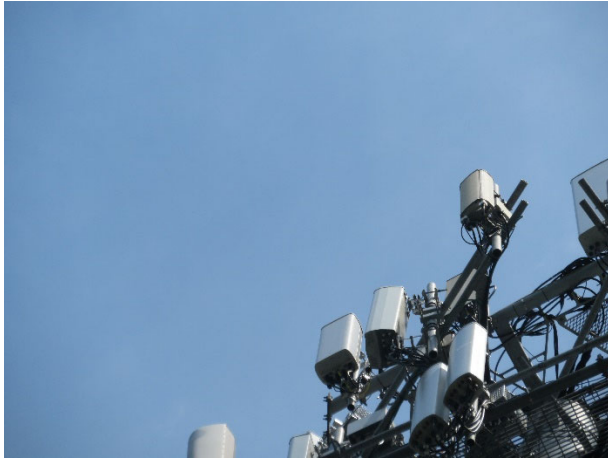
Michael Cabral
Vice President



Daniel P. Hamm, PE
Principal

FIELD PHOTOS:







HUDSON
Design Group LLC

Wind & Ice Calculations

Date: 9/17/2020
 Project Name: VERNON CENTER
 Project No.: CT5310
 Designed By: KM Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

$$K_z = 2.01 (z/z_g)^{2/\alpha}$$

$K_z =$ 1.146

$z =$ 168 (ft)

$z_g =$ 1200 (ft)

$\alpha =$ 7.0

$$K_{zmin} \leq K_z \leq 2.01$$

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$$K_{zt} = [1 + (K_c K_t / K_h)]^2$$

$K_{zt} =$ #DIV/0!

(If Category 1 then $K_{zt} = 1.0$)

Category= 1

$$K_h = e^{(f \cdot z/H)}$$

$K_h =$ #DIV/0!

$K_c =$ 0.9 (from Table 2-4)

$K_t =$ 0 (from Table 2-5)

$f =$ 0 (from Table 2-5)

$z =$ 168

$z_s =$ 378 (Mean elevation of base of structure above sea level)

$H =$ 0 (Ht. of the crest above surrounding terrain)

$K_{zt} =$ 1.00 (from 2.6.6.2.1)

$K_e =$ 0.99 (from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness =

Importance Factor =

$t_i =$ 1.50 in

$I =$ 1.0 (from Table 2-3)

$K_{iz} =$ 1.18 (from Sec. 2.6.10)

$$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$$

$t_{iz} =$ 1.77 in

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2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

$G_h = 1.0$ Latticed Structures > 600 ft

$G_h = 0.85$ Latticed Structures 450 ft or less

$G_h = 0.85 + 0.15 [h/150 - 3.0]$

$h =$ ht. of structure

$h =$ 175

$G_h =$ 0.85

2.6.9.2 Guyed Masts

$G_h =$ 0.85

2.6.9.3 Pole Structures

$G_h =$ 1.1

2.6.9 Appurtenances

$G_h =$ 1.0

2.6.9.4 Structures Supported on Other Structures

(Cantilevered tubular or latticed spines, pole, structures on buildings ($ht. : width$ ratio > 5))

$G_h =$ 1.35

$G_h =$ 1.00

2.6.11.2 Design Wind Force on Appurtenances

$$F = q_z * G_h * (EPA)_A$$

$$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$$

$q_z =$ 42.96

$q_z (ice) =$ 6.87

$q_z (30) =$ 2.47

$K_z =$ 1.146 (from 2.6.5.2)

$K_{zt} =$ 1.0 (from 2.6.6.2.1)

$K_s =$ 1.0 (from 2.6.7)

$K_e =$ 0.99 (from 2.6.8)

$K_d =$ 0.95 (from Table 2-2)

$V_{max} =$ 125 mph (Ultimate Wind Speed)

$V_{max (ice)} =$ 50 mph

$V_{30} =$ 30 mph

Table 2-2

Structure Type	Wind Direction Probability Factor, K_d
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

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Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		$1.2 - 2.8(r_s) \geq 0.85$	$1.4 - 4.0(r_s) \geq 0.90$	$2.0 - 6.0(r_s) \geq 1.25$
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	$39 \leq C \leq 78$ (Transitional)	$4.14/(C^{0.485})$	$3.66/(C^{0.415})$	$46.8/(C^{1.0})$
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance,
 Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = 1.77 in Angle = 0 (deg) Equivalent Angle = 180 (deg)

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
800-10121 Antenna	54.5	10.3	5.9	3.90	5.29	1.32	222	51	13
Q566512-2 Antenna	72.0	12.0	9.6	6.00	6.00	1.36	349	76	20
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	4.86	1.31	415	86	24
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.44	1.24	546	107	31
RRUS-E2 B29 RRH	20.4	7.5	18.5	1.06	2.72	1.21	55	15	3
RRUS-E2 B29 RRH (Shielded)	20.4	3.8	18.5	0.53	5.44	1.33	30	11	2
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.20	58	15	3
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	2.73	1.21	29	10	2
B14 4478 RRH	18.1	8.3	13.4	1.04	2.18	1.20	54	15	3
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	4.36	1.28	29	10	2
RRUS-32 B30 RRH	27.2	7.0	12.1	1.32	3.89	1.26	72	19	4
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	7.77	1.43	40	15	2
4449 B5/B12 RRH	17.9	13.2	9.5	1.64	1.36	1.20	85	21	5
4449 B5/B12 RRH (Shielded)	17.9	0.0	9.5	0.00	0.00	1.20	0	4	0
LGP21401 TMA	14.4	2.7	9.0	0.27	5.33	1.33	15	7	1
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	49	12	3
2" Pipe	2.4	12.0		0.20	0.20	1.20	10		
3/4" Round Bar	0.8	12.0		0.06	0.06	2.00	5		

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WIND LOADS

Angle = 30 (deg)

Ice Thickness = 1.77 in.

Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	222	141	202
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	349	292	335
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	415	237	370
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	546	241	470
RRUS-E2 B29 RRH	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	55	135	75
RRUS-E2 B29 RRH (Shielded)	20.4	3.8	18.5	0.53	2.62	5.44	1.10	1.33	1.20	30	135	57
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	58	70	61
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	29	70	40
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	54	87	62
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	29	87	43
RRUS-32 B30 RRH	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	72	118	83
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	7.77	2.25	1.43	1.20	40	118	60
4449 B5/B12 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	85	61	79
4449 B5/B12 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	43	61	47
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	46	23

WIND LOADS WITH ICE:

800-10121 Antenna	58.0	13.8	9.4	5.57	3.80	4.20	6.15	1.28	1.36	49	36	46
QS66512-2 Antenna	75.5	15.5	13.1	8.15	6.89	4.86	5.75	1.31	1.34	73	64	71
HPA-65R-BUU-H6 Antenna	75.5	18.3	10.9	9.61	5.73	4.12	6.91	1.27	1.40	84	55	77
DMP65R-BU6DA Antenna	74.7	24.2	11.2	12.57	5.83	3.08	6.65	1.23	1.38	106	55	93
RRUS-E2 B29 RRH	23.9	11.0	22.0	1.83	3.66	2.17	1.09	1.20	1.20	15	30	19
RRUS-E2 B29 RRH (Shielded)	23.9	5.5	22.0	0.92	3.66	4.34	1.09	1.28	1.20	8	30	14
B2/B66A 8843 RRH	18.4	14.4	16.7	1.85	2.14	1.28	1.10	1.20	1.20	15	18	16
B2/B66A 8843 RRH (Shielded)	18.4	7.2	16.7	0.92	2.14	2.55	1.10	1.20	1.20	8	18	10
B14 4478 RRH	21.6	11.8	16.9	1.78	2.54	1.83	1.28	1.20	1.20	15	21	16
B14 4478 RRH (Shielded)	21.6	5.9	16.9	0.89	2.54	3.66	1.28	1.25	1.20	8	21	11
RRUS-32 B30 RRH	30.7	10.5	15.6	2.25	3.34	2.92	1.97	1.22	1.20	19	28	21
RRUS-32 B30 RRH (Shielded)	30.7	5.3	15.6	1.12	3.34	5.84	1.97	1.35	1.20	10	28	15
4449 B5/B12 RRH	21.4	16.7	13.0	2.49	1.94	1.28	1.64	1.20	1.20	21	16	19
4449 B5/B12 RRH (Shielded)	21.4	8.4	13.0	1.24	1.94	2.56	1.64	1.20	1.20	10	16	12
LGP21401 TMA	17.9	6.2	12.5	0.78	1.56	2.88	1.43	1.22	1.20	6	13	8

WIND LOADS AT 30 MPH:

800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	13	8	12
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	20	17	19
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	24	14	21
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	31	14	27
RRUS-E2 B29 RRH	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	3	8	4
RRUS-E2 B29 RRH (Shielded)	20.4	3.8	18.5	0.53	2.62	5.44	1.10	1.33	1.20	2	8	3
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	4
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	2	4	2
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	4
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	2	5	2
RRUS-32 B30 RRH	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	7	5
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	7.77	2.25	1.43	1.20	2	7	3
4449 B5/B12 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	5	4	5
4449 B5/B12 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	2	4	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	1

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WIND LOADS

Angle = 60 (deg) Ice Thickness = 1.77 in. Equivalent Angle = 240 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	222	141	162
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	349	292	306
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	415	237	281
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	546	241	317
RRUS-E2 B29 RRH	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	55	135	115
RRUS-E2 B29 RRH (Shielded)	20.4	5.6	18.5	0.80	2.62	3.63	1.10	1.25	1.20	43	135	112
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	58	70	67
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	44	70	64
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	54	87	79
B14 4478 RRH (Shielded)	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	41	87	75
RRUS-32 B30 RRH	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	72	118	106
RRUS-32 B30 RRH (Shielded)	27.2	5.3	12.1	0.99	2.29	5.18	2.25	1.32	1.20	56	118	102
4449 B5/B12 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	85	61	67
4449 B5/B12 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	63	61	62
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	46	39

WIND LOADS WITH ICE:

800-10121 Antenna	58.0	13.8	9.4	5.57	3.80	4.20	6.15	1.28	1.36	49	36	39
QS66512-2 Antenna	75.5	15.5	13.1	8.15	6.89	4.86	5.75	1.31	1.34	73	64	66
HPA-65R-BUU-H6 Antenna	75.5	18.3	10.9	9.61	5.73	4.12	6.91	1.27	1.40	84	55	62
DMP65R-BU6DA Antenna	74.7	24.2	11.2	12.57	5.83	3.08	6.65	1.23	1.38	106	55	68
RRUS-E2 B29 RRH	23.9	11.0	22.0	1.83	3.66	2.17	1.09	1.20	1.20	15	30	26
RRUS-E2 B29 RRH (Shielded)	23.9	8.3	22.0	1.37	3.66	2.89	1.09	1.22	1.20	12	30	26
B2/B66A 8843 RRH	18.4	14.4	16.7	1.85	2.14	1.28	1.10	1.20	1.20	15	18	17
B2/B66A 8843 RRH (Shielded)	18.4	10.8	16.7	1.39	2.14	1.70	1.10	1.20	1.20	11	18	16
B14 4478 RRH	21.6	11.8	16.9	1.78	2.54	1.83	1.28	1.20	1.20	15	21	19
B14 4478 RRH (Shielded)	21.6	8.9	16.9	1.33	2.54	2.44	1.28	1.20	1.20	11	21	18
RRUS-32 B30 RRH	30.7	10.5	15.6	2.25	3.34	2.92	1.97	1.22	1.20	19	28	25
RRUS-32 B30 RRH (Shielded)	30.7	7.9	15.6	1.69	3.34	3.89	1.97	1.26	1.20	15	28	24
4449 B5/B12 RRH	21.4	16.7	13.0	2.49	1.94	1.28	1.64	1.20	1.20	21	16	17
4449 B5/B12 RRH (Shielded)	21.4	12.5	13.0	1.87	1.94	1.71	1.64	1.20	1.20	15	16	16
LGP21401 TMA	17.9	6.2	12.5	0.78	1.56	2.88	1.43	1.22	1.20	6	13	11

WIND LOADS AT 30 MPH:

800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	13	8	9
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	20	17	18
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	24	14	16
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	31	14	18
RRUS-E2 B29 RRH	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	3	8	7
RRUS-E2 B29 RRH (Shielded)	20.4	5.6	18.5	0.80	2.62	3.63	1.10	1.25	1.20	2	8	6
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	4
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	3	4	4
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	5
B14 4478 RRH (Shielded)	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	2	5	4
RRUS-32 B30 RRH	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	7	6
RRUS-32 B30 RRH (Shielded)	27.2	5.3	12.1	0.99	2.29	5.18	2.25	1.32	1.20	3	7	6
4449 B5/B12 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	5	4	4
4449 B5/B12 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	4	4	4
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	2

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WIND LOADS

Angle =	90	(deg)	Ice Thickness =	1.77	in.	Equivalent Angle =	270	(deg)
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WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	222	141	141
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	349	292	292
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	415	237	237
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	546	241	241
RRUS-E2 B29 RRH	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	55	135	135
RRUS-E2 B29 RRH (Shielded)	20.4	3.8	18.5	0.53	2.62	5.44	1.10	1.33	1.20	30	135	135
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	58	70	70
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	29	70	70
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	54	87	87
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	29	87	87
RRUS-32 B30 RRH	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	72	118	118
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	7.77	2.25	1.43	1.20	40	118	118
4449 B5/B12 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	85	61	61
4449 B5/B12 RRH (Shielded)	17.9	0.0	9.5	0.00	1.18	0.00	1.88	1.20	1.20	0	61	61
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	46	46

WIND LOADS WITH ICE:

800-10121 Antenna	58.0	13.8	9.4	5.57	3.80	4.20	6.15	1.28	1.36	49	36	36
QS66512-2 Antenna	75.5	15.5	13.1	8.15	6.89	4.86	5.75	1.31	1.34	73	64	64
HPA-65R-BUU-H6 Antenna	75.5	18.3	10.9	9.61	5.73	4.12	6.91	1.27	1.40	84	55	55
DMP65R-BU6DA Antenna	74.7	24.2	11.2	12.57	5.83	3.08	6.65	1.23	1.38	106	55	55
RRUS-E2 B29 RRH	23.9	11.0	22.0	1.83	3.66	2.17	1.09	1.20	1.20	15	30	30
RRUS-E2 B29 RRH (Shielded)	23.9	7.3	22.0	1.21	3.66	3.29	1.09	1.23	1.20	10	30	30
B2/B66A 8843 RRH	18.4	14.4	16.7	1.85	2.14	1.28	1.10	1.20	1.20	15	18	18
B2/B66A 8843 RRH (Shielded)	18.4	9.0	16.7	1.15	2.14	2.05	1.10	1.20	1.20	9	18	18
B14 4478 RRH	21.6	11.8	16.9	1.78	2.54	1.83	1.28	1.20	1.20	15	21	21
B14 4478 RRH (Shielded)	21.6	7.7	16.9	1.15	2.54	2.82	1.28	1.21	1.20	10	21	21
RRUS-32 B30 RRH	30.7	10.5	15.6	2.25	3.34	2.92	1.97	1.22	1.20	19	28	28
RRUS-32 B30 RRH (Shielded)	30.7	7.0	15.6	1.50	3.34	4.37	1.97	1.28	1.20	13	28	28
4449 B5/B12 RRH	21.4	16.7	13.0	2.49	1.94	1.28	1.64	1.20	1.20	21	16	16
4449 B5/B12 RRH (Shielded)	21.4	3.5	13.0	0.53	1.94	6.07	1.64	1.36	1.20	5	16	16
LGP21401 TMA	17.9	6.2	12.5	0.78	1.56	2.88	1.43	1.22	1.20	6	13	13

WIND LOADS AT 30 MPH:

800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	13	8	8
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	20	17	17
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	24	14	14
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	31	14	14
RRUS-E2 B29 RRH	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	3	8	8
RRUS-E2 B29 RRH (Shielded)	20.4	3.8	18.5	0.53	2.62	5.44	1.10	1.33	1.20	2	8	8
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	4
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	2	4	4
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	5
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	2	5	5
RRUS-32 B30 RRH	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	7	7
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	7.77	2.25	1.43	1.20	2	7	7
4449 B5/B12 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	5	4	4
4449 B5/B12 RRH (Shielded)	17.9	0.0	9.5	0.00	1.18	0.00	1.88	1.20	1.20	0	4	4
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	3

Date: 9/17/2020
 Project Name: VERNON CENTER
 Project No.: CT5310
 Designed By: KM Checked By: MSC



WIND LOADS

Angle = **120** (deg) Ice Thickness = **1.77** in. Equivalent Angle = **300** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	222	141	162
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	349	292	306
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	415	237	281
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	546	241	317
RRUS-E2 B29 RRH	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	55	135	115
RRUS-E2 B29 RRH (Shielded)	20.4	5.6	18.5	0.80	2.62	3.63	1.10	1.25	1.20	43	135	112
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	58	70	67
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	44	70	64
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	54	87	79
B14 4478 RRH (Shielded)	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	41	87	75
RRUS-32 B30 RRH	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	72	118	106
RRUS-32 B30 RRH (Shielded)	27.2	5.3	12.1	0.99	2.29	5.18	2.25	1.32	1.20	56	118	102
4449 B5/B12 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	85	61	67
4449 B5/B12 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	63	61	62
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	46	39

WIND LOADS WITH ICE:

800-10121 Antenna	58.0	13.8	9.4	5.57	3.80	4.20	6.15	1.28	1.36	49	36	39
QS66512-2 Antenna	75.5	15.5	13.1	8.15	6.89	4.86	5.75	1.31	1.34	73	64	66
HPA-65R-BUU-H6 Antenna	75.5	18.3	10.9	9.61	5.73	4.12	6.91	1.27	1.40	84	55	62
DMP65R-BU6DA Antenna	74.7	24.2	11.2	12.57	5.83	3.08	6.65	1.23	1.38	106	55	68
RRUS-E2 B29 RRH	23.9	11.0	22.0	1.83	3.66	2.17	1.09	1.20	1.20	15	30	26
RRUS-E2 B29 RRH (Shielded)	23.9	8.3	22.0	1.37	3.66	2.89	1.09	1.22	1.20	12	30	26
B2/B66A 8843 RRH	18.4	14.4	16.7	1.85	2.14	1.28	1.10	1.20	1.20	15	18	17
B2/B66A 8843 RRH (Shielded)	18.4	10.8	16.7	1.39	2.14	1.70	1.10	1.20	1.20	11	18	16
B14 4478 RRH	21.6	11.8	16.9	1.78	2.54	1.83	1.28	1.20	1.20	15	21	19
B14 4478 RRH (Shielded)	21.6	8.9	16.9	1.33	2.54	2.44	1.28	1.20	1.20	11	21	18
RRUS-32 B30 RRH	30.7	10.5	15.6	2.25	3.34	2.92	1.97	1.22	1.20	19	28	25
RRUS-32 B30 RRH (Shielded)	30.7	7.9	15.6	1.69	3.34	3.89	1.97	1.26	1.20	15	28	24
4449 B5/B12 RRH	21.4	16.7	13.0	2.49	1.94	1.28	1.64	1.20	1.20	21	16	17
4449 B5/B12 RRH (Shielded)	21.4	12.5	13.0	1.87	1.94	1.71	1.64	1.20	1.20	15	16	16
LGP21401 TMA	17.9	6.2	12.5	0.78	1.56	2.88	1.43	1.22	1.20	6	13	11

WIND LOADS AT 30 MPH:

800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	13	8	9
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	20	17	18
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	24	14	16
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	31	14	18
RRUS-E2 B29 RRH	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	3	8	7
RRUS-E2 B29 RRH (Shielded)	20.4	5.6	18.5	0.80	2.62	3.63	1.10	1.25	1.20	2	8	6
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	4
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	3	4	4
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	5
B14 4478 RRH (Shielded)	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	2	5	4
RRUS-32 B30 RRH	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	7	6
RRUS-32 B30 RRH (Shielded)	27.2	5.3	12.1	0.99	2.29	5.18	2.25	1.32	1.20	3	7	6
4449 B5/B12 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	5	4	4
4449 B5/B12 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	4	4	4
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	2

Date: 9/17/2020
 Project Name: VERNON CENTER
 Project No.: CT5310
 Designed By: KM Checked By: MSC



WIND LOADS

Angle = **150** (deg) Ice Thickness = **1.77** in. Equivalent Angle = **330** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	222	141	202
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	349	292	335
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	415	237	370
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	546	241	470
RRUS-E2 B29 RRH	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	55	135	75
RRUS-E2 B29 RRH (Shielded)	20.4	3.8	18.5	0.53	2.62	5.44	1.10	1.33	1.20	30	135	57
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	58	70	61
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	29	70	40
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	54	87	62
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	29	87	43
RRUS-32 B30 RRH	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	72	118	83
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	7.77	2.25	1.43	1.20	40	118	60
4449 B5/B12 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	85	61	79
4449 B5/B12 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	43	61	47
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	46	23

WIND LOADS WITH ICE:

800-10121 Antenna	58.0	13.8	9.4	5.57	3.80	4.20	6.15	1.28	1.36	49	36	46
QS66512-2 Antenna	75.5	15.5	13.1	8.15	6.89	4.86	5.75	1.31	1.34	73	64	71
HPA-65R-BUU-H6 Antenna	75.5	18.3	10.9	9.61	5.73	4.12	6.91	1.27	1.40	84	55	77
DMP65R-BU6DA Antenna	74.7	24.2	11.2	12.57	5.83	3.08	6.65	1.23	1.38	106	55	93
RRUS-E2 B29 RRH	23.9	11.0	22.0	1.83	3.66	2.17	1.09	1.20	1.20	15	30	19
RRUS-E2 B29 RRH (Shielded)	23.9	5.5	22.0	0.92	3.66	4.34	1.09	1.28	1.20	8	30	14
B2/B66A 8843 RRH	18.4	14.4	16.7	1.85	2.14	1.28	1.10	1.20	1.20	15	18	16
B2/B66A 8843 RRH (Shielded)	18.4	7.2	16.7	0.92	2.14	2.55	1.10	1.20	1.20	8	18	10
B14 4478 RRH	21.6	11.8	16.9	1.78	2.54	1.83	1.28	1.20	1.20	15	21	16
B14 4478 RRH (Shielded)	21.6	5.9	16.9	0.89	2.54	3.66	1.28	1.25	1.20	8	21	11
RRUS-32 B30 RRH	30.7	10.5	15.6	2.25	3.34	2.92	1.97	1.22	1.20	19	28	21
RRUS-32 B30 RRH (Shielded)	30.7	5.3	15.6	1.12	3.34	5.84	1.97	1.35	1.20	10	28	15
4449 B5/B12 RRH	21.4	16.7	13.0	2.49	1.94	1.28	1.64	1.20	1.20	21	16	19
4449 B5/B12 RRH (Shielded)	21.4	8.4	13.0	1.24	1.94	2.56	1.64	1.20	1.20	10	16	12
LGP21401 TMA	17.9	6.2	12.5	0.78	1.56	2.88	1.43	1.22	1.20	6	13	8

WIND LOADS AT 30 MPH:

800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	13	8	12
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	20	17	19
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	24	14	21
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	31	14	27
RRUS-E2 B29 RRH	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	3	8	4
RRUS-E2 B29 RRH (Shielded)	20.4	3.8	18.5	0.53	2.62	5.44	1.10	1.33	1.20	2	8	3
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	4
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	2	4	2
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	4
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	2	5	2
RRUS-32 B30 RRH	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	7	5
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	7.77	2.25	1.43	1.20	2	7	3
4449 B5/B12 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	5	4	5
4449 B5/B12 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	2	4	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	1

Date: 9/17/2020

Project Name: VERNON CENTER

Project No.: CT5310

Designed By: KM Checked By: MSC



HUDSON
Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.77 in.
Density of ice: 56 pcf

800-10121 Antenna

Weight of ice based on total radial SF area:
Height (in): 54.5
Width (in): 10.3
Depth (in): 5.9
Total weight of ice on object: 134 lbs
Weight of object: 47.0 lbs
Combined weight of ice and object: 181 lbs

QS66512-2 Antenna

Weight of ice based on total radial SF area:
Height (in): 72.0
Width (in): 12.0
Depth (in): 9.6
Total weight of ice on object: 222 lbs
Weight of object: 111.0 lbs
Combined weight of ice and object: 333 lbs

HPA-65R-BUU-H6 Antenna

Weight of ice based on total radial SF area:
Height (in): 72.0
Width (in): 14.8
Depth (in): 7.4
Total weight of ice on object: 238 lbs
Weight of object: 51.0 lbs
Combined weight of ice and object: 289 lbs

DMP65R-BU6DA Antenna

Weight of ice based on total radial SF area:
Height (in): 71.2
Width (in): 20.7
Depth (in): 7.7
Total weight of ice on object: 306 lbs
Weight of object: 80.0 lbs
Combined weight of ice and object: 386 lbs

RRUS-E2 B29 RRH

Weight of ice based on total radial SF area:
Height (in): 20.4
Width (in): 18.5
Depth (in): 7.5
Total weight of ice on object: 80 lbs
Weight of object: 53.0 lbs
Combined weight of ice and object: 133 lbs

B2/B66A 8843 RRH

Weight of ice based on total radial SF area:
Height (in): 14.9
Width (in): 13.2
Depth (in): 10.9
Total weight of ice on object: 51 lbs
Weight of object: 72.0 lbs
Combined weight of ice and object: 123 lbs

B14 4478 RRH

Weight of ice based on total radial SF area:
Height (in): 18.1
Width (in): 13.4
Depth (in): 8.3
Total weight of ice on object: 57 lbs
Weight of object: 60.0 lbs
Combined weight of ice and object: 117 lbs

RRUS-32 B30 RRH

Weight of ice based on total radial SF area:
Height (in): 27.2
Width (in): 12.1
Depth (in): 7.0
Total weight of ice on object: 77 lbs
Weight of object: 60.0 lbs
Combined weight of ice and object: 137 lbs

4449 B5/B12 RRH

Weight of ice based on total radial SF area:
Height (in): 17.9
Width (in): 13.2
Depth (in): 9.5
Total weight of ice on object: 58 lbs
Weight of object: 71.0 lbs
Combined weight of ice and object: 129 lbs

LGP21401 TMA

Weight of ice based on total radial SF area:
Height (in): 14.4
Width (in): 2.7
Depth (in): 9.0
Total weight of ice on object: 29 lbs
Weight of object: 19.0 lbs
Combined weight of ice and object: 48 lbs

Squid Surge Arrestor

Weight of ice based on total radial SF area:
Depth (in): 24.0
Diameter(in): 9.7
Total weight of ice on object: 50 lbs
Weight of object: 33 lbs
Combined weight of ice and object: 83 lbs

2" pipe

Per foot weight of ice:
diameter (in): 2.38
Per foot weight of ice on object: 9 plf

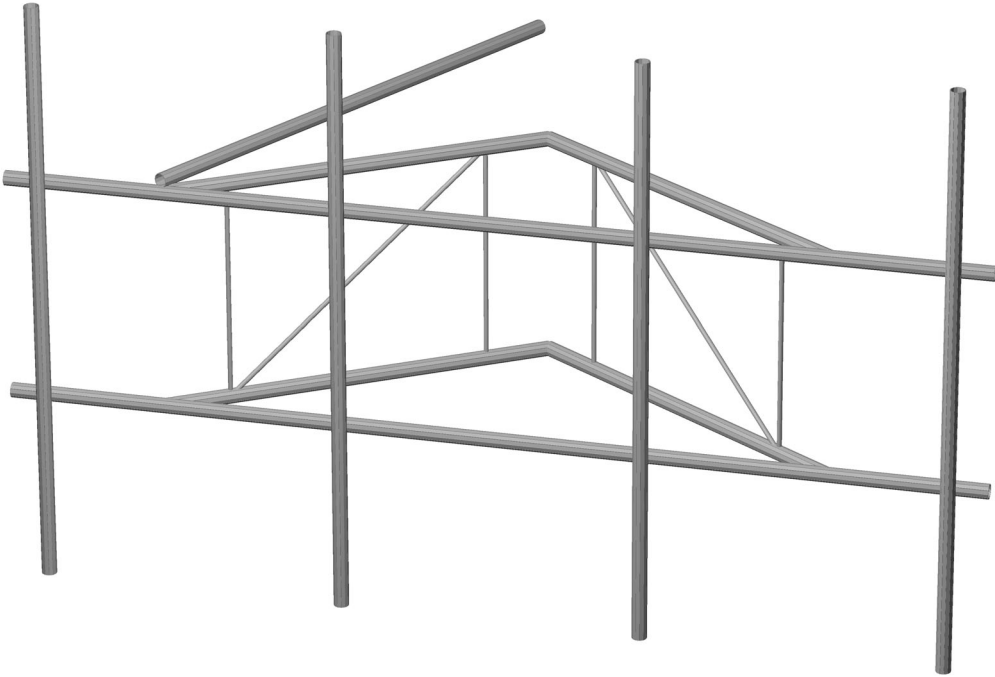
3/4" Round Bar

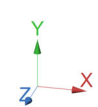
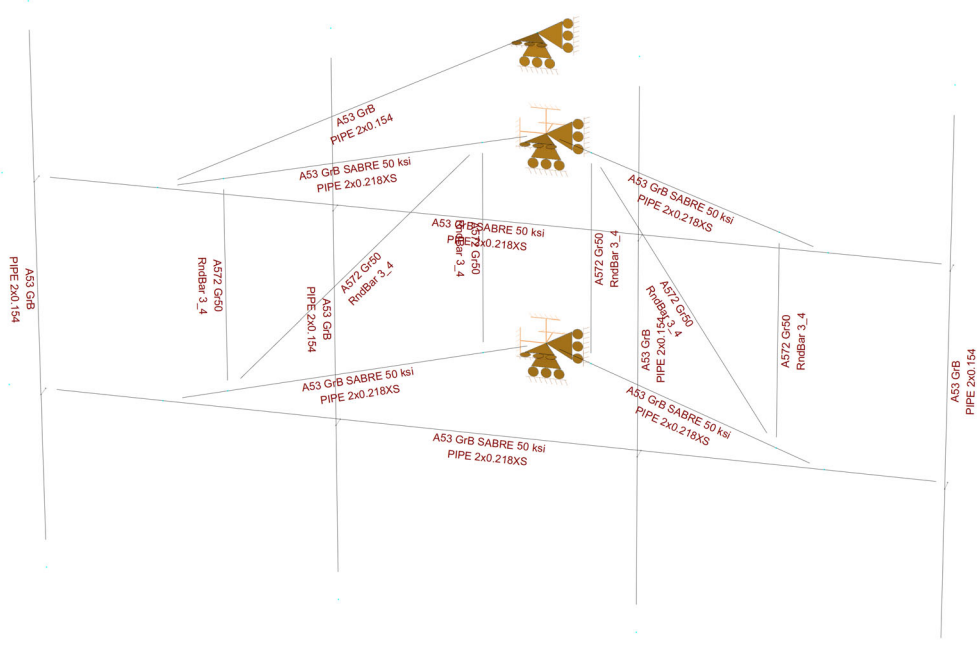
Per foot weight of ice:
diameter (in): 0.75
Per foot weight of ice on object: 5 plf

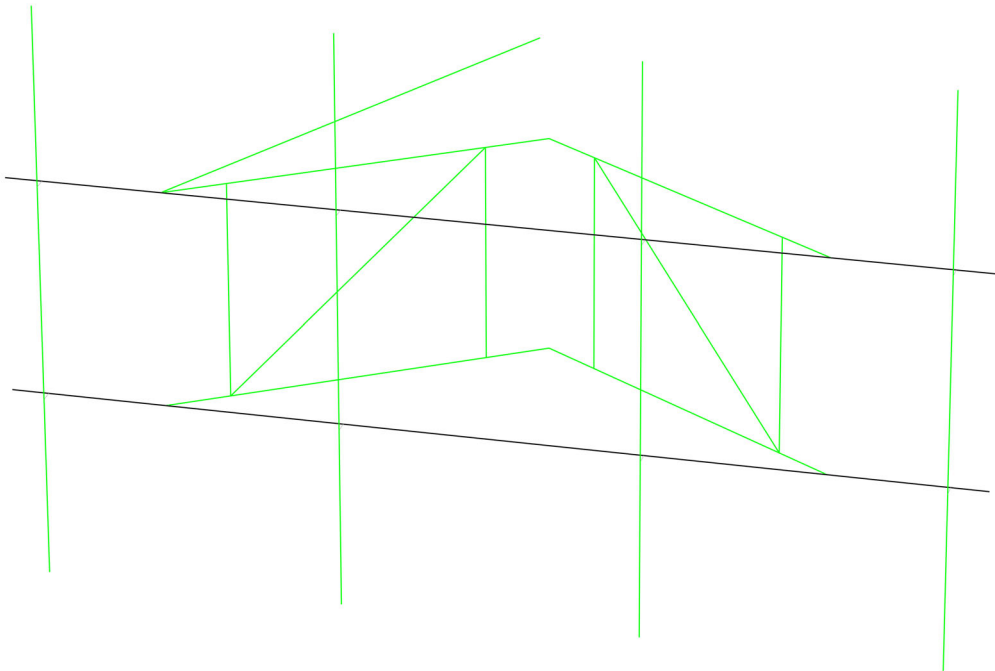


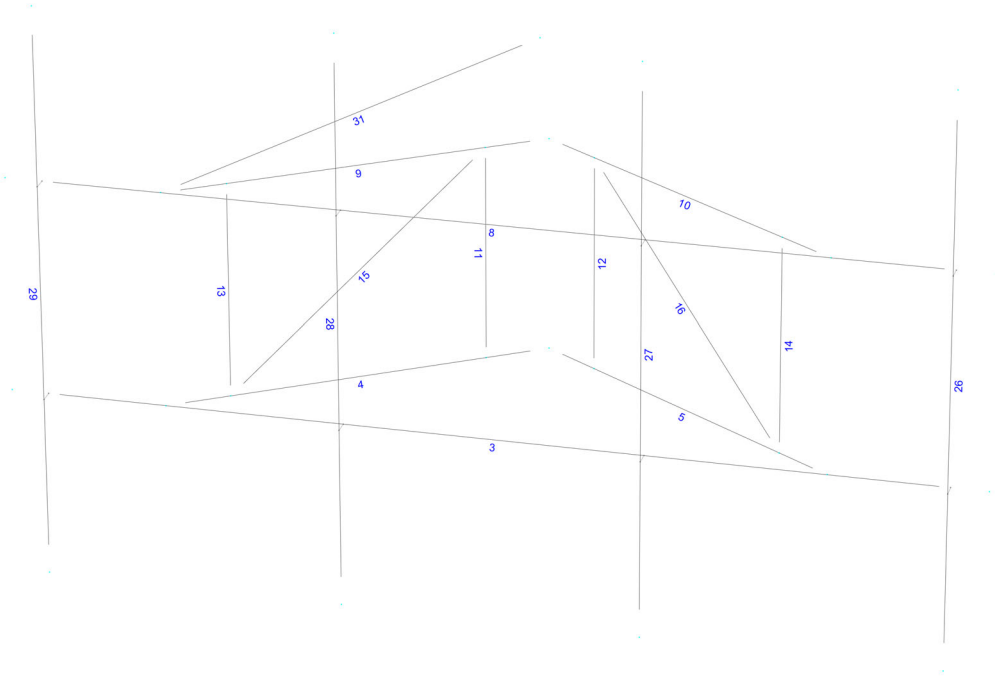
HUDSON
Design Group LLC

**Mount Calculations
(Existing Conditions)**









Current Date: 9/17/2020 10:30 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5310\CT5310.retx

Load data

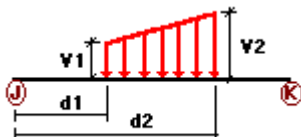
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
D	Dead Load	No	DL
Wo	Wind Load (NO ICE)	No	WIND
W30	WL 30deg	No	WIND
W60	WL 60deg	No	WIND
W90	WL 90deg	No	WIND
W120	WL 120deg	No	WIND
W150	WL 150deg	No	WIND
Di	Ice Load	No	LL
WI0	WL ICE 0deg	No	WIND
WI30	WL ICE 30deg	No	WIND
WI60	WL ICE 60deg	No	WIND
WI90	WL ICE 90deg	No	WIND
WI120	WL ICE 120deg	No	WIND
WI150	WL ICE 150deg	No	WIND
WL0	WL 30 mph 0deg	No	WIND
WL30	WL 30 mph 30deg	No	WIND
WL60	WL 30 mph 60deg	No	WIND
WL90	WL 30 mph 90deg	No	WIND
WL120	WL 30 mph 120deg	No	WIND
WL150	WL 30 mph 150deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load Right End of Mount	No	LL
LL3	250 lb Live Load Left End of Mount	No	LL
LLa1	250 lb Live Load Antenna 1	No	LL
LLa2	250 lb Live Load Antenna 2	No	LL
LLa3	250 lb Live Load Antenna 3	No	LL
LLa4	250 lb Live Load Antenna 4	No	LL

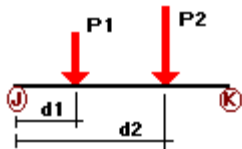
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	3	z	-0.01	0.00	0.00	No	0.00	No
	4	z	-0.01	0.00	0.00	No	0.00	No
	5	z	-0.01	0.00	0.00	No	0.00	No
	8	z	-0.01	0.00	0.00	No	0.00	No
	9	z	-0.01	0.00	0.00	No	0.00	No
	10	z	-0.01	0.00	0.00	No	0.00	No
	11	z	-0.005	0.00	0.00	No	0.00	No
	12	z	-0.005	0.00	0.00	No	0.00	No
	13	z	-0.005	0.00	0.00	No	0.00	No
	14	z	-0.005	0.00	0.00	No	0.00	No
	15	z	-0.005	0.00	0.00	No	0.00	No
	16	z	-0.005	0.00	0.00	No	0.00	No
	31	z	-0.01	0.00	0.00	No	0.00	No
	3	z	-0.01	0.00	0.00	No	0.00	No
	4	z	-0.01	0.00	0.00	No	0.00	No
	5	z	-0.01	0.00	0.00	No	0.00	No
W30	8	z	-0.01	0.00	0.00	No	0.00	No
	9	z	-0.01	0.00	0.00	No	0.00	No
	10	z	-0.01	0.00	0.00	No	0.00	No
	11	z	-0.005	0.00	0.00	No	0.00	No
	12	z	-0.005	0.00	0.00	No	0.00	No
	13	z	-0.005	0.00	0.00	No	0.00	No
	14	z	-0.005	0.00	0.00	No	0.00	No
	15	z	-0.005	0.00	0.00	No	0.00	No
	16	z	-0.005	0.00	0.00	No	0.00	No
	31	z	-0.01	0.00	0.00	No	0.00	No
	3	x	-0.01	0.00	0.00	No	0.00	No
	4	x	-0.01	0.00	0.00	No	0.00	No
	5	x	-0.01	0.00	0.00	No	0.00	No
	8	x	-0.01	0.00	0.00	No	0.00	No
	9	x	-0.01	0.00	0.00	No	0.00	No
	10	x	-0.01	0.00	0.00	No	0.00	No
W60	11	x	-0.005	0.00	0.00	No	0.00	No
	12	x	-0.005	0.00	0.00	No	0.00	No
	13	x	-0.005	0.00	0.00	No	0.00	No
	14	x	-0.005	0.00	0.00	No	0.00	No
	15	x	-0.005	0.00	0.00	No	0.00	No
	16	x	-0.005	0.00	0.00	No	0.00	No
	31	x	-0.01	0.00	0.00	No	0.00	No
	3	x	-0.01	0.00	0.00	No	0.00	No
	4	x	-0.01	0.00	0.00	No	0.00	No
	5	x	-0.01	0.00	0.00	No	0.00	No
	8	x	-0.01	0.00	0.00	No	0.00	No
	9	x	-0.01	0.00	0.00	No	0.00	No
	10	x	-0.01	0.00	0.00	No	0.00	No
	11	x	-0.005	0.00	0.00	No	0.00	No
	12	x	-0.005	0.00	0.00	No	0.00	No
	13	x	-0.005	0.00	0.00	No	0.00	No
W90	14	x	-0.005	0.00	0.00	No	0.00	No
	15	x	-0.005	0.00	0.00	No	0.00	No
	16	x	-0.005	0.00	0.00	No	0.00	No
	31	x	-0.01	0.00	0.00	No	0.00	No
	3	x	-0.01	0.00	0.00	No	0.00	No
	4	x	-0.01	0.00	0.00	No	0.00	No
	5	x	-0.01	0.00	0.00	No	0.00	No
	8	x	-0.01	0.00	0.00	No	0.00	No
	9	x	-0.01	0.00	0.00	No	0.00	No
	10	x	-0.01	0.00	0.00	No	0.00	No
	11	x	-0.005	0.00	0.00	No	0.00	No
	12	x	-0.005	0.00	0.00	No	0.00	No
	13	x	-0.005	0.00	0.00	No	0.00	No
	14	x	-0.005	0.00	0.00	No	0.00	No
	15	x	-0.005	0.00	0.00	No	0.00	No
	16	x	-0.005	0.00	0.00	No	0.00	No
W120	31	x	-0.01	0.00	0.00	No	0.00	No
	3	x	-0.01	0.00	0.00	No	0.00	No
	4	x	-0.01	0.00	0.00	No	0.00	No
	5	x	-0.01	0.00	0.00	No	0.00	No
	8	x	-0.01	0.00	0.00	No	0.00	No
	9	x	-0.01	0.00	0.00	No	0.00	No
	10	x	-0.01	0.00	0.00	No	0.00	No
	11	x	-0.005	0.00	0.00	No	0.00	No
	12	x	-0.005	0.00	0.00	No	0.00	No

W150	13	x	-0.005	0.00	0.00	No	0.00	No
	14	x	-0.005	0.00	0.00	No	0.00	No
	15	x	-0.005	0.00	0.00	No	0.00	No
	16	x	-0.005	0.00	0.00	No	0.00	No
	31	x	-0.01	0.00	0.00	No	0.00	No
	3	z	0.01	0.00	0.00	No	0.00	No
	4	z	0.01	0.00	0.00	No	0.00	No
	5	z	0.01	0.00	0.00	No	0.00	No
	8	z	0.01	0.00	0.00	No	0.00	No
	9	z	0.01	0.00	0.00	No	0.00	No
	10	z	0.01	0.00	0.00	No	0.00	No
	11	z	0.005	0.00	0.00	No	0.00	No
	12	z	0.005	0.00	0.00	No	0.00	No
	13	z	0.005	0.00	0.00	No	0.00	No
	14	z	0.005	0.00	0.00	No	0.00	No
	15	z	0.005	0.00	0.00	No	0.00	No
Di	16	z	0.005	0.00	0.00	No	0.00	No
	31	z	0.01	0.00	0.00	No	0.00	No
	3	y	-0.009	0.00	0.00	No	0.00	No
	4	y	-0.009	0.00	0.00	No	0.00	No
	5	y	-0.009	0.00	0.00	No	0.00	No
	8	y	-0.009	0.00	0.00	No	0.00	No
	9	y	-0.009	0.00	0.00	No	0.00	No
	10	y	-0.009	0.00	0.00	No	0.00	No
	11	y	-0.005	0.00	0.00	No	0.00	No
	12	y	-0.005	0.00	0.00	No	0.00	No
	13	y	-0.005	0.00	0.00	No	0.00	No
	14	y	-0.005	0.00	0.00	No	0.00	No
	15	y	-0.005	0.00	0.00	No	0.00	No
	16	y	-0.005	0.00	0.00	No	0.00	No
	26	y	-0.009	0.00	0.00	No	0.00	No
	27	y	-0.009	0.00	0.00	No	0.00	No
	28	y	-0.009	0.00	0.00	No	0.00	No
	29	y	-0.009	0.00	0.00	No	0.00	No
	31	y	-0.009	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	26	y	-0.023	2.00	No
		y	-0.023	6.00	No
		y	-0.038	4.00	No
	27	y	-0.056	0.75	No
		y	-0.056	6.75	No
		y	-0.053	2.00	No
		y	-0.072	2.00	No
	28	y	-0.026	0.75	No
		y	-0.026	6.75	No
		y	-0.06	2.00	No

		y	-0.06	2.00	No
	29	y	-0.04	0.75	No
		y	-0.04	6.75	No
		y	-0.071	4.00	No
Wo	26	z	-0.111	2.00	No
		z	-0.111	6.00	No
		z	0.00	4.00	No
	27	z	-0.175	0.75	No
		z	-0.175	6.75	No
		z	-0.03	2.00	No
		z	-0.029	2.00	No
	28	z	-0.208	0.75	No
		z	-0.208	6.75	No
		z	-0.029	2.00	No
		z	-0.04	2.00	No
	29	z	-0.273	0.75	No
		z	-0.273	6.75	No
		z	0.00	4.00	No
W30	26	3	-0.101	2.00	No
		3	-0.101	6.00	No
		3	-0.046	4.00	No
	27	3	-0.168	0.75	No
		3	-0.168	6.75	No
		3	-0.057	2.00	No
		3	-0.04	2.00	No
	28	3	-0.185	0.75	No
		3	-0.185	6.75	No
		3	-0.043	2.00	No
		3	-0.06	2.00	No
	29	3	-0.235	0.75	No
		3	-0.235	6.75	No
		3	-0.047	4.00	No
W60	26	3	-0.081	2.00	No
		3	-0.081	6.00	No
		3	-0.08	4.00	No
	27	3	-0.153	0.75	No
		3	-0.153	6.75	No
		3	-0.112	2.00	No
		3	-0.064	2.00	No
	28	3	-0.141	0.75	No
		3	-0.141	6.75	No
		3	-0.075	2.00	No
		3	-0.102	2.00	No
	29	3	-0.159	0.75	No
		3	-0.159	6.75	No
		3	-0.062	4.00	No
W90	26	x	-0.071	2.00	No
		x	-0.071	6.00	No
		x	-0.092	4.00	No
	27	x	-0.146	0.75	No
		x	-0.146	6.75	No
		x	-0.135	2.00	No
		x	-0.07	2.00	No
	28	x	-0.119	0.75	No
		x	-0.119	6.75	No
		x	-0.087	2.00	No
		x	-0.118	2.00	No
	29	x	-0.121	0.75	No
		x	-0.121	6.75	No
		x	-0.061	4.00	No

W120	26	2	-0.081	2.00	No
		2	-0.081	6.00	No
		2	-0.08	4.00	No
	27	2	-0.153	0.75	No
		2	-0.153	6.75	No
		2	-0.112	2.00	No
	28	2	-0.064	2.00	No
		2	-0.141	0.75	No
		2	-0.141	6.75	No
	29	2	-0.075	2.00	No
		2	-0.102	2.00	No
		2	-0.159	0.75	No
W150	26	2	-0.159	6.75	No
		2	-0.062	4.00	No
		2	-0.101	2.00	No
	27	2	-0.101	6.00	No
		2	-0.046	4.00	No
		2	-0.168	0.75	No
	28	2	-0.168	6.75	No
		2	-0.057	2.00	No
		2	-0.04	2.00	No
	29	2	-0.185	0.75	No
		2	-0.185	6.75	No
		2	-0.043	2.00	No
Di	26	2	-0.06	2.00	No
		2	-0.235	0.75	No
		2	-0.235	6.75	No
	27	2	-0.047	4.00	No
		y	-0.067	2.00	No
		y	-0.067	6.00	No
	28	y	-0.058	4.00	No
		y	-0.111	0.75	No
		y	-0.111	6.75	No
	29	y	-0.08	2.00	No
		y	-0.051	2.00	No
		y	-0.119	0.75	No
W10	26	y	-0.119	6.75	No
		y	-0.057	2.00	No
		y	-0.077	2.00	No
	27	y	-0.153	0.75	No
		y	-0.153	6.75	No
		y	-0.058	4.00	No
	28	z	-0.026	2.00	No
		z	-0.026	6.00	No
		z	0.00	4.00	No
	29	z	-0.038	0.75	No
		z	-0.038	6.75	No
		z	-0.011	2.00	No
W130	26	z	-0.01	2.00	No
		z	-0.043	0.75	No
		z	-0.043	6.75	No
	27	z	-0.01	2.00	No
		z	-0.015	2.00	No
		z	-0.015	0.75	No
	28	z	-0.054	0.75	No
		z	-0.054	6.75	No
		z	0.00	4.00	No
	29	3	-0.023	2.00	No
		3	-0.023	6.00	No
		3	-0.016	4.00	No

		3	-0.036	6.75	No
		3	-0.014	2.00	No
		3	-0.01	2.00	No
	28	3	-0.039	0.75	No
		3	-0.039	6.75	No
		3	-0.011	2.00	No
		3	-0.015	2.00	No
	29	3	-0.047	0.75	No
		3	-0.047	6.75	No
		3	-0.012	4.00	No
WI60	26	3	-0.02	2.00	No
		3	-0.02	6.00	No
		3	-0.022	4.00	No
	27	3	-0.033	0.75	No
		3	-0.033	6.75	No
		3	-0.026	2.00	No
		3	-0.016	2.00	No
	28	3	-0.031	0.75	No
		3	-0.031	6.75	No
		3	-0.018	2.00	No
		3	-0.024	2.00	No
	29	3	-0.034	0.75	No
		3	-0.034	6.75	No
		3	-0.016	4.00	No
WI90	26	x	-0.018	2.00	No
		x	-0.018	6.00	No
		x	-0.026	4.00	No
	27	x	-0.032	0.75	No
		x	-0.032	6.75	No
		x	-0.03	2.00	No
		x	-0.018	2.00	No
	28	x	-0.028	0.75	No
		x	-0.028	6.75	No
		x	-0.021	2.00	No
		x	-0.028	2.00	No
	29	x	-0.028	0.75	No
		x	-0.028	6.75	No
		x	-0.016	4.00	No
WI120	26	2	-0.02	2.00	No
		2	-0.02	6.00	No
		2	-0.022	4.00	No
	27	2	-0.033	0.75	No
		2	-0.033	6.75	No
		2	-0.026	2.00	No
		2	-0.016	2.00	No
	28	2	-0.031	0.75	No
		2	-0.031	6.75	No
		2	-0.018	2.00	No
		2	-0.024	2.00	No
	29	2	-0.034	0.75	No
		2	-0.034	6.75	No
		2	-0.016	4.00	No
WI150	26	2	-0.023	2.00	No
		2	-0.023	6.00	No
		2	-0.016	4.00	No
	27	2	-0.036	0.75	No
		2	-0.036	6.75	No
		2	-0.014	2.00	No
		2	-0.01	2.00	No
	28	2	-0.039	0.75	No

		2	-0.039	6.75	No
		2	-0.011	2.00	No
		2	-0.015	2.00	No
	29	2	-0.047	0.75	No
		2	-0.047	6.75	No
		2	-0.012	4.00	No
WL0	26	z	-0.007	2.00	No
		z	-0.007	6.00	No
		z	0.00	4.00	No
	27	z	-0.01	0.75	No
		z	-0.01	6.75	No
		z	-0.002	2.00	No
		z	-0.002	2.00	No
	28	z	-0.012	0.75	No
		z	-0.012	6.75	No
		z	-0.002	2.00	No
		z	-0.002	2.00	No
	29	z	-0.016	0.75	No
		z	-0.016	6.75	No
		z	0.00	4.00	No
WL30	26	3	-0.006	2.00	No
		3	-0.006	6.00	No
		3	-0.002	4.00	No
	27	3	-0.01	0.75	No
		3	-0.01	6.75	No
		3	-0.003	2.00	No
		3	-0.002	2.00	No
	28	3	-0.011	0.75	No
		3	-0.011	6.75	No
		3	-0.002	2.00	No
		3	-0.003	2.00	No
	29	3	-0.014	0.75	No
		3	-0.014	6.75	No
		3	-0.003	4.00	No
WL60	26	3	-0.005	2.00	No
		3	-0.005	6.00	No
		3	-0.004	4.00	No
	27	3	-0.009	0.75	No
		3	-0.009	6.75	No
		3	-0.006	2.00	No
		3	-0.004	2.00	No
	28	3	-0.008	0.75	No
		3	-0.008	6.75	No
		3	-0.004	2.00	No
		3	-0.006	2.00	No
	29	3	-0.009	0.75	No
		3	-0.009	6.75	No
		3	-0.004	4.00	No
WL90	26	x	-0.004	2.00	No
		x	-0.004	6.00	No
		x	-0.006	4.00	No
	27	x	-0.009	0.75	No
		x	-0.009	6.75	No
		x	-0.008	2.00	No
		x	-0.004	2.00	No
	28	x	-0.007	0.75	No
		x	-0.007	6.75	No
		x	-0.005	2.00	No
		x	-0.007	2.00	No
	29	x	-0.007	0.75	No

		x	-0.007	6.75	No
		x	-0.004	4.00	No
WL120	26	2	-0.005	2.00	No
		2	-0.005	6.00	No
		2	-0.004	4.00	No
		2	-0.009	0.75	No
	27	2	-0.009	6.75	No
		2	-0.006	2.00	No
		2	-0.004	2.00	No
		2	-0.008	0.75	No
	28	2	-0.008	6.75	No
		2	-0.004	2.00	No
		2	-0.006	2.00	No
		2	-0.009	0.75	No
WL150	26	2	-0.009	6.75	No
		2	-0.004	4.00	No
		2	-0.006	2.00	No
		2	-0.006	6.00	No
	27	2	-0.002	4.00	No
		2	-0.01	0.75	No
		2	-0.01	6.75	No
		2	-0.003	2.00	No
	28	2	-0.002	2.00	No
		2	-0.011	0.75	No
		2	-0.011	6.75	No
		2	-0.002	2.00	No
LL1	8	y	-0.25	6.50	No
		y	-0.25	13.00	No
		y	-0.25	0.00	No
		y	-0.25	4.00	No
LLa1	26	y	-0.25	4.00	No
LLa2	27	y	-0.25	4.00	No
LLa3	28	y	-0.25	4.00	No
LLa4	29	y	-0.25	4.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00
W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00

WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00
WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load Right End of Mount	No	0.00	0.00	0.00
LL3	250 lb Live Load Left End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00
LLa4	250 lb Live Load Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
D	0.00	0.00	0.00
Wo	0.00	0.00	0.00
W30	0.00	0.00	0.00
W60	0.00	0.00	0.00
W90	0.00	0.00	0.00
W120	0.00	0.00	0.00
W150	0.00	0.00	0.00
Di	0.00	0.00	0.00
WI0	0.00	0.00	0.00
WI30	0.00	0.00	0.00
WI60	0.00	0.00	0.00
WI90	0.00	0.00	0.00
WI120	0.00	0.00	0.00
WI150	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
WL60	0.00	0.00	0.00
WL90	0.00	0.00	0.00
WL120	0.00	0.00	0.00
WL150	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LL3	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00

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Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+Wi0
LC26=1.2D+Di+Wi30
LC27=1.2D+Di+Wi60
LC28=1.2D+Di+Wi90
LC29=1.2D+Di+Wi120
LC30=1.2D+Di+Wi150
LC31=1.2D+Di-Wi0
LC32=1.2D+Di-Wi30
LC33=1.2D+Di-Wi60
LC34=1.2D+Di-Wi90
LC35=1.2D+Di-Wi120
LC36=1.2D+Di-Wi150
LC38=1.2D+1.5LL1
LC39=1.2D+1.5LL2
LC40=1.2D+1.5LL3
LC41=1.2D+WL0+1.5LLa1
LC42=1.2D+WL30+1.5LLa1
LC43=1.2D+WL60+1.5LLa1
LC44=1.2D+WL90+1.5LLa1
LC45=1.2D+WL120+1.5LLa1
LC46=1.2D+WL150+1.5LLa1
LC47=1.2D-WL0+1.5LLa1
LC48=1.2D-WL30+1.5LLa1
LC49=1.2D-WL60+1.5LLa1
LC50=1.2D-WL90+1.5LLa1
LC51=1.2D-WL120+1.5LLa1
LC52=1.2D-WL150+1.5LLa1
LC53=1.2D+WL0+1.5LLa2
LC54=1.2D+WL30+1.5LLa2

LC55=1.2D+WL60+1.5LLa2
 LC56=1.2D+WL90+1.5LLa2
 LC57=1.2D+WL120+1.5LLa2
 LC58=1.2D+WL150+1.5LLa2
 LC59=1.2D-WL0+1.5LLa2
 LC60=1.2D-WL30+1.5LLa2
 LC61=1.2D-WL60+1.5LLa2
 LC62=1.2D-WL90+1.5LLa2
 LC63=1.2D-WL120+1.5LLa2
 LC64=1.2D-WL150+1.5LLa2
 LC65=1.2D+WL0+1.5LLa3
 LC66=1.2D+WL30+1.5LLa3
 LC67=1.2D+WL60+1.5LLa3
 LC68=1.2D+WL90+1.5LLa3
 LC69=1.2D+WL120+1.5LLa3
 LC70=1.2D+WL150+1.5LLa3
 LC71=1.2D-WL0+1.5LLa3
 LC72=1.2D-WL30+1.5LLa3
 LC73=1.2D-WL60+1.5LLa3
 LC74=1.2D-WL90+1.5LLa3
 LC75=1.2D-WL120+1.5LLa3
 LC76=1.2D-WL150+1.5LLa3
 LC77=1.2D+WL0+1.5LLa4
 LC78=1.2D+WL30+1.5LLa4
 LC79=1.2D+WL60+1.5LLa4
 LC80=1.2D+WL90+1.5LLa4
 LC81=1.2D+WL120+1.5LLa4
 LC82=1.2D+WL150+1.5LLa4
 LC83=1.2D-WL0+1.5LLa4
 LC84=1.2D-WL30+1.5LLa4
 LC85=1.2D-WL60+1.5LLa4
 LC86=1.2D-WL90+1.5LLa4
 LC87=1.2D-WL120+1.5LLa4
 LC88=1.2D-WL150+1.5LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	PIPE 2x0.154	26	LC39 at 31.25%	0.31	OK	Eq. H1-1b
		27	LC4 at 31.25%	0.40	OK	Eq. H1-1b
		28	LC1 at 29.17%	0.41	OK	Eq. H1-1b
		29	LC1 at 29.17%	0.49	OK	Eq. H1-1b
		31	LC14 at 100.00%	0.32	OK	Eq. H1-1b
	PIPE 2x0.218XS	3	LC7 at 16.96%	0.37	With warnings	Eq. H1-1b
		4	LC34 at 100.00%	0.28	OK	Eq. H1-1b
		5	LC34 at 100.00%	0.24	OK	Eq. H1-1b
		8	LC5 at 16.96%	0.44	With warnings	Eq. H1-1a
		9	LC28 at 100.00%	0.30	OK	Eq. H1-1b
		10	LC29 at 100.00%	0.26	OK	Eq. H1-1b
	RndBar 3_4	11	LC30 at 100.00%	0.51	OK	Eq. H1-1a
		12	LC26 at 100.00%	0.40	OK	Eq. H1-1a
		13	LC36 at 100.00%	0.66	OK	Eq. H1-1a
		14	LC25 at 0.00%	0.47	OK	Eq. H1-1a
		15	LC25 at 100.00%	0.30	OK	Eq. H1-1a
		16	LC26 at 100.00%	0.17	OK	Eq. H1-1b

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Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
2	6.50	0.00	0.00	0
3	-6.50	0.00	0.00	0
8	-4.40	0.00	0.00	0
9	4.40	0.00	0.00	0
10	0.00	0.00	-3.00	0
11	-3.6667	0.00	-0.50	0
12	3.6667	0.00	-0.50	0
13	0.7333	0.00	-2.50	0
14	-0.7333	0.00	-2.50	0
16	6.50	3.00	0.00	0
17	-6.50	3.00	0.00	0
22	-4.40	3.00	0.00	0
23	4.40	3.00	0.00	0
24	0.00	3.00	-3.00	0
25	-3.6667	3.00	-0.50	0
26	3.6667	3.00	-0.50	0
27	0.7333	3.00	-2.50	0
28	-0.7333	3.00	-2.50	0
33	-6.00	5.50	0.20	0
34	6.00	5.50	0.20	0
35	-6.00	-2.50	0.20	0
36	6.00	-2.50	0.20	0

42	2.00	5.50	0.20	0
43	2.00	-2.50	0.20	0
48	-2.00	5.50	0.20	0
49	-2.00	-2.50	0.20	0
51	-1.00	3.00	-6.50	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
10	1	1	1	1	1	1
24	1	1	1	1	1	1
51	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
3	3	2		PIPE 2x0.218XS	A53 GrB SABRE 50...	0.00	0.00	0.00
4	8	10		PIPE 2x0.218XS	A53 GrB SABRE 50...	0.00	0.00	0.00
5	9	10		PIPE 2x0.218XS	A53 GrB SABRE 50...	0.00	0.00	0.00
8	17	16		PIPE 2x0.218XS	A53 GrB SABRE 50...	0.00	0.00	0.00
9	22	24		PIPE 2x0.218XS	A53 GrB SABRE 50...	0.00	0.00	0.00
10	23	24		PIPE 2x0.218XS	A53 GrB SABRE 50...	0.00	0.00	0.00
11	14	28		RndBar 3_4	A572 Gr50	0.00	0.00	0.00
12	27	13		RndBar 3_4	A572 Gr50	0.00	0.00	0.00
13	25	11		RndBar 3_4	A572 Gr50	0.00	0.00	0.00
14	12	26		RndBar 3_4	A572 Gr50	0.00	0.00	0.00
15	28	11		RndBar 3_4	A572 Gr50	0.00	0.00	0.00
16	27	12		RndBar 3_4	A572 Gr50	0.00	0.00	0.00
26	34	36		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
27	42	43		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
28	48	49		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
29	33	35		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
31	22	51		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
12	315.00	0	0.00	0.00	0.00
26	315.00	0	0.00	0.00	0.00
27	315.00	0	0.00	0.00	0.00
28	315.00	0	0.00	0.00	0.00
29	315.00	0	0.00	0.00	0.00

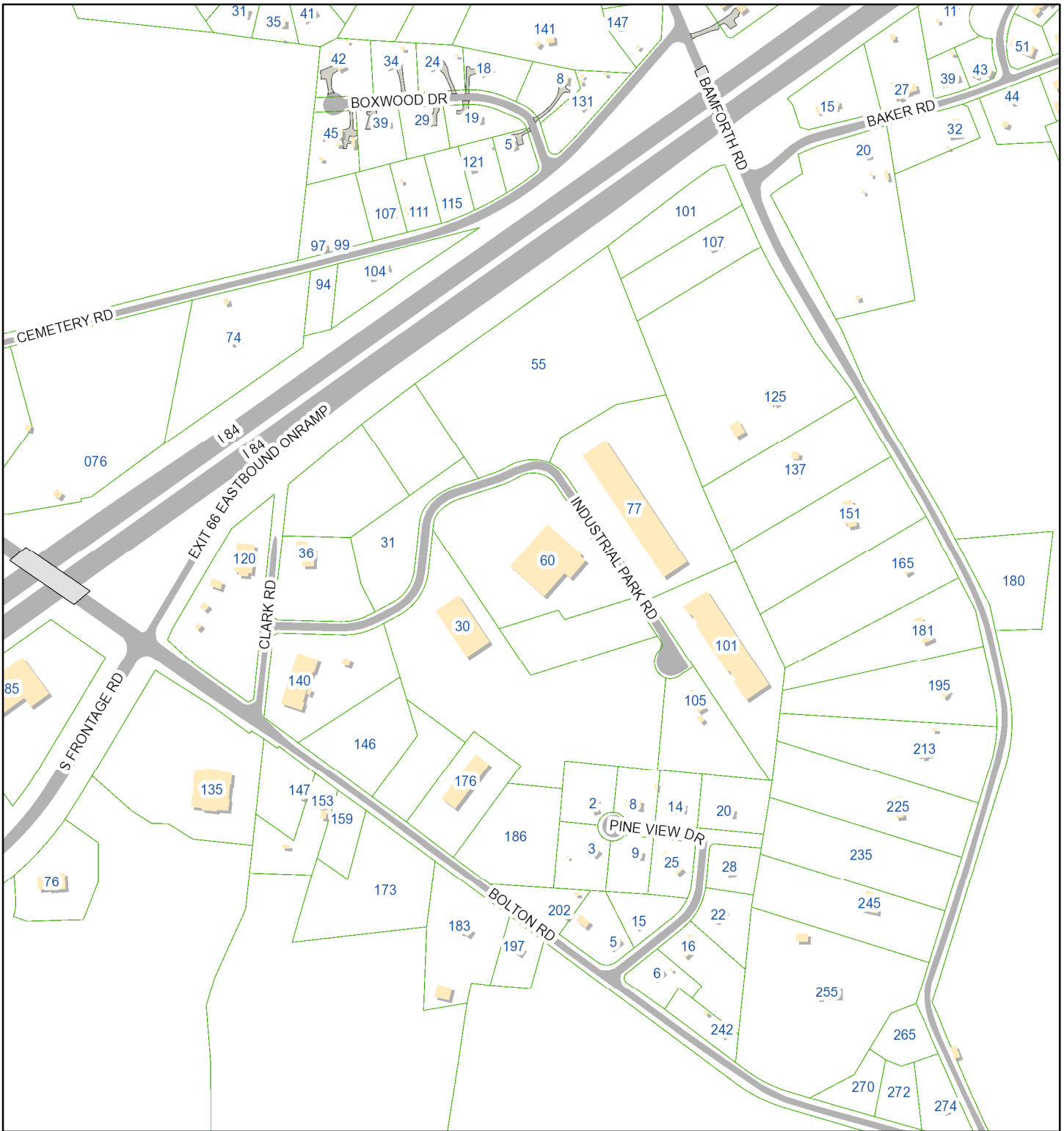
Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
31	0.00	2.00	0.00	0.00	2.00	0.00

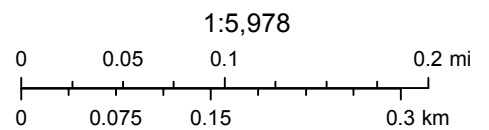
Hinges

Member	Node-J				Node-K				TOR	AXL	Axial rigidity
	M33	M22	V3	V2	M33	M22	V3	V2			
15	0	0	0	0	0	0	0	0	0	0	Tension only
16	0	0	0	0	0	0	0	0	0	0	Tension only

60 INDUSTRIAL PARK ROAD



October 27, 2020



3001330005GINDUSTRIAL PARK ROAD LLCINDUSTRIAL PARK RD 060

Tax ID 30-0133-0005GPrinted 02/06/2019Card No. 1 of 30

INDUSTRIAL PARK ROAD LLC
75 GERBER ROAD EAST
SOUTH WINDSOR, CT 06074
CENSUS TRACT: 530600

Neighborhood Number
12100
Neighborhood Name
General Commercial
TAXING DISTRICT INFORMATION
Jurisdiction Name
Town of Vernon
Area
146
Routing Number
5044

Transfer of Ownership

Owner	Consideration	Transfer Date	Deed Book/Page	Deed Type
DJV REAL ESTATE LLC	0	03/22/2018	2546	253 W
LILYMAXJACK LLC	7000000	10/30/2017	2529	193 W
BEAUREGARD GEORGE W	0	07/05/2005	1744	267 Q
BEAUREGARD GEORGE W & KAREN S	0	07/05/2005	1744	264 Q
BEAUREGARD KAREN S & GEORGE W	0	03/07/2000	1244	40 Q
BEAUREGARD GEORGE W	0	04/13/1999	1200	11 Q

Valuation Record

Assessment Year	2011	2016	2017	2018		
Reason for Change	2011 REVAL	2016 Reval	BAA	2018 ASMT		
Market	L 313380	245720	245720	245720		
	I 668250	1449820	754280	574280		
	T 981630	1695540	1000000	820000		
	L 219370	172000	172000	172000		
70% Assessed/Use	I 467770	1014880	528000	401990		
	T 687140	1186880	700000	573990		



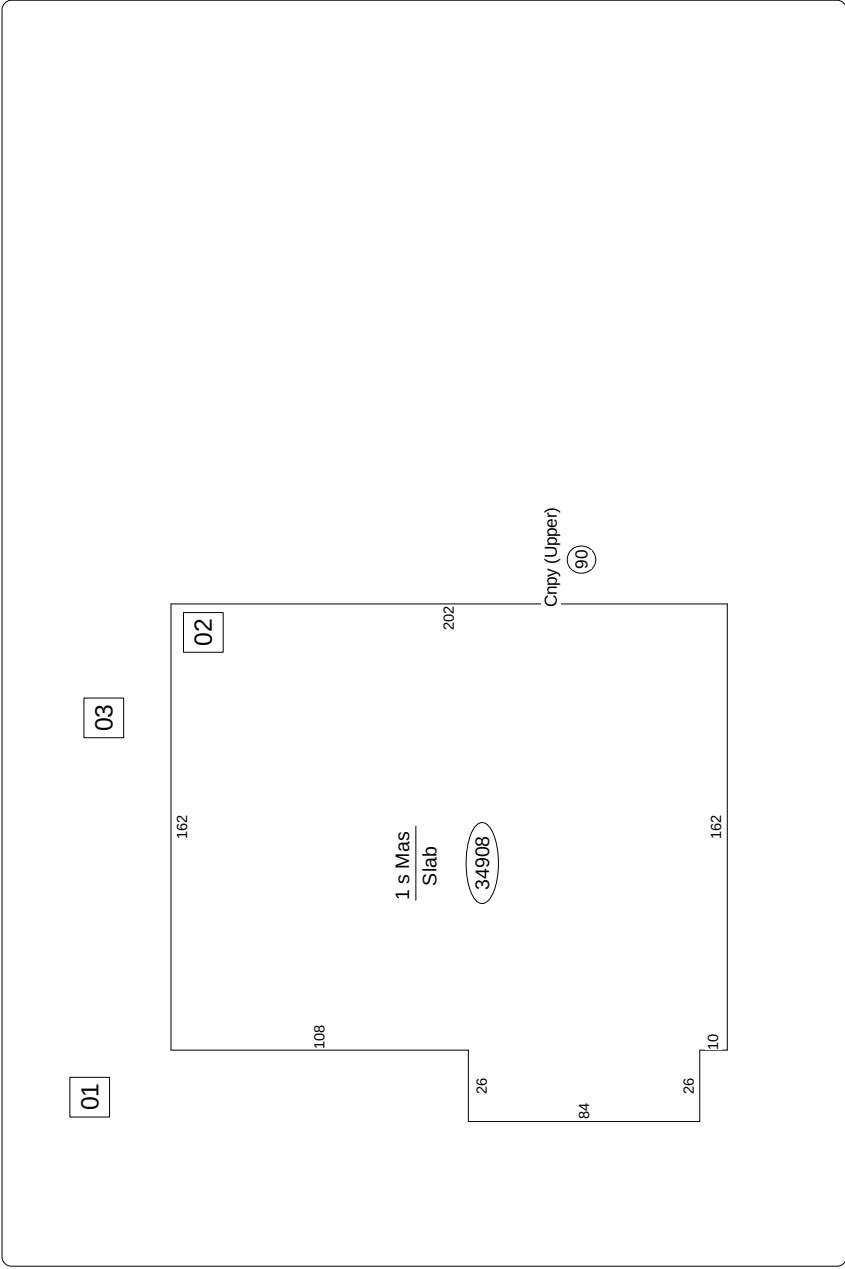
Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Physical Characteristics

ROOFING					
Built-up Insulation					
WALLS					
Frame	B	1	Yes	2	U
Guard	Yes	Yes	Yes	Yes	Yes
FRAMING					
F Res	B	1	1	2	U
	0	34908	0	0	4000
FINISH					
1	UF	SF	FO	FD	
U	34908	0	0	0	0
Total	4000	0	0	0	0
	38908	0	0	0	0
HEATING AND AIR CONDITIONING					
Heat	B	1	2	U	
Sprink	0	34908	0	4000	
	0	34908	0	4000	
PLUMBING Residential Commercial					
Full Baths	#	TF	#	TF	
Half Baths			3	6	
Extra Fixtures					
TOTAL		0	0	6	

Special Features

Description



Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	LMFG	0.00		Fair	1968	1970	FR	34908
01	PAVING	0.00	85	Avg	1968	1968	AV	23800
02	MEZZSF	1.00		Fair	1968	1968	AV	4000
03	TOWERMON	0.00		Avg	2000	2000	AV	380

Town of Vernon, Conn.

BUILDING PERMIT

and

CERTIFICATE OF ZONING COMPLIANCE

No 29885

ESTIMATED COST

Structual \$ 95,000.00
Plumbing
Heating
Wiring

FINAL COST: \$

FEE \$ 950.00

March 8 2000

APPLICANT'S PERMIT

Permission is hereby granted to Omnipoint Communications
To installation of telecommunications tower
on the side of No. 60 Industrial Park Road Owner: Beauregard

Class	Size	Heating	Air Condition
Type			Oil Burner
Foundations	Porch X	Basement	Cement
Ext. Walls		Plumbing	Earth
Roof		Bath	Lavatory
Roofing		Fire Places	
Interior	Ceiling Height	Weatherstrip	Insulation
No. of Rooms	1st Floor 2nd Floor	Attach. Garage	Cement
Floors		Interior Finish	
Flooring		Breezeway	X
Joists			

This permit expires six (6) months from the above date.

All building permits are approved subject to field inspection.

BUILDING DEPARTMENT TOWN OF VERNON, CONN.

Gene F. Balles

Building Official/
Zoning Enforcement Officer

APPLICATION FOR BUILDING PERMIT

(Continued from the other side)

9. Size of building _____ (No of stories) Height 175' Depth _____ Front _____
10. Material of footing _____ Depth below grade _____ Width _____ Thickness _____
11. Material of foundation _____ Below Grade (DEPTH) _____ (Thickness) _____
Above Grade (HEIGHT) _____ (Thickness) _____
12. Material of chimney _____ Foundation _____ Height _____ Width _____ Depth _____
13. No. of flues _____ Size _____ Thickness of lining _____ City Sewer _____ Septic Tank _____

14.

MASONRY CONSTRUCTION

	Front Wall	Side Wall	Rear Wall	Partition Wall	Veneer
Basement					
1st Story					
2nd Story					

15.

WOOD CONSTRUCTION

Floors	Size	Joists			Girders			Columns or Piers			Footing
		Longest Span	Centers	Bridging	Size	Longest Span	Centers	Size	Length	Centers	
1st											
2nd											

16. Size of sill _____ Size of outside studs _____ Distance on centers _____
17. Size studs of bearing partitions _____ Centers _____ Are joists doubled under partitions? _____
18. Size of plate _____ Size of headers _____ Will firestops be provided? _____
19. Size of rafters _____ Distances on centers _____ Size of hip or valley rafter _____
20. Species and grade of framing _____
Type and grade of sheathing _____
21. Further Details Installation of a telecommunications monopole with antennas and an associated equipment compound

Call Before You Dig #: _____

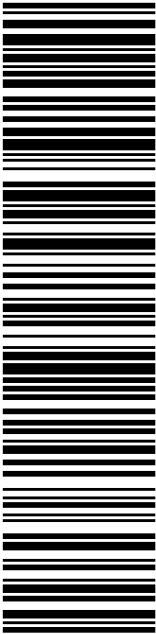
22. All work covered by this application has been authorized by the (owner) or (agent) of this property and will be done according to approved plans and all local codes and regulations. Notice must be given to the Building Department when job is ready for inspection and when job is completed.

25 February, 2000
DATE

Print name under signature

APPLICANT

J. Brendan Sharkey,
Attorney for Omnipoint Communications, Inc.

 UNITED STATES POSTAL SERVICE®		Click-N-Ship®	
P		usps.com US POSTAGE Flat Rate Env	
11/05/2020		Mailed from 06268 062S0000000309	
PRIORITY MAIL 1-DAY™			
QC DEVELOPMENT PO BOX 916 STORRS CT 06268-0916		Expected Delivery Date: 11/06/20 0024	
Carrier -- Leave if No Response			
C025			
SHIP MAYOR DANIEL CHAMPAGNE TO: TOWN OF VERNON 14 PARK PL CC MR GEORGE MCGREGOR VERNON CT 06066-3291			
USPS TRACKING #			
			
9405 5036 9930 0115 7576 52			
Electronic Rate Approved #038555749			



Cut on dotted line.

Instructions

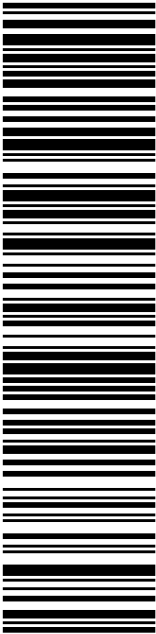
- Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
- Place your label so it does not wrap around the edge of the package.
- Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
- To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
- Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0115 7576 52	
Trans. #: 512957477 Print Date: 11/04/2020 Ship Date: 11/05/2020 Expected Delivery Date: 11/06/2020	Priority Mail® Postage: \$7.75 Total: \$7.75
From: QC DEVELOPMENT PO BOX 916 STORRS CT 06268-0916	
To: MAYOR DANIEL CHAMPAGNE TOWN OF VERNON 14 PARK PL CC MR GEORGE MCGREGOR VERNON CT 06066-3291	
* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.	



Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

 UNITED STATES POSTAL SERVICE®		Click-N-Ship®	
P		usps.com US POSTAGE Flat Rate Env \$7.75	
11/05/2020		Mailed from 06268 062S0000000313	
PRIORITY MAIL 1-DAY™			
QC DEVELOPMENT PO BOX 916 STORRS CT 06268-0916		Expected Delivery Date: 11/06/20 0024	
Carrier -- Leave if No Response			
C004			
SHIP TO: INDUSTRIAL PARK ROAD, LLC 75 GERBER RD E SOUTH WINDSOR CT 06074-3202			
USPS TRACKING #			
			
9405 5036 9930 0115 7576 76			
Electronic Rate Approved #038555749			



Cut on dotted line.

Instructions

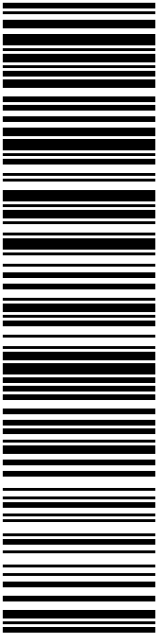
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- Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0115 7576 76	
Trans. #: 512957477 Print Date: 11/04/2020 Ship Date: 11/05/2020 Expected Delivery Date: 11/06/2020	Priority Mail® Postage: \$7.75 Total: \$7.75
From: QC DEVELOPMENT PO BOX 916 STORRS CT 06268-0916	
To: INDUSTRIAL PARK ROAD, LLC 75 GERBER RD E SOUTH WINDSOR CT 06074-3202	
* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.	



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 UNITED STATES POSTAL SERVICE®		Click-N-Ship®	
P		usps.com US POSTAGE Flat Rate Env \$7.75	
11/05/2020		Mailed from 06268 062S0000000101	
PRIORITY MAIL 1-DAY™			
QC DEVELOPMENT PO BOX 916 STORRS CT 06268-0916		Expected Delivery Date: 11/06/20 0024	
Carrier -- Leave if No Response			
C016			
SHIP TO: MILLENICOM, LLC ATTN. GEORGE BEAUREGARD 35 TIMBER TRL MANCHESTER CT 06040-6725			
USPS TRACKING #			
			
9405 5036 9930 0115 7576 69			
Electronic Rate Approved #038555749			



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Instructions

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- Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
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- Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0115 7576 69

Trans. #: 512957477
Print Date: 11/04/2020
Ship Date: 11/05/2020
Expected Delivery Date: 11/06/2020

Priority Mail® Postage: **\$7.75**
Total: **\$7.75**

From: QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

To: MILLENICOM, LLC
ATTN. GEORGE BEAUREGARD
35 TIMBER TRL
MANCHESTER CT 06040-6725

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.



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SITE ACQUISITION, LLC

12 INDUSTRIAL WAY
SALEM, NH 03079

BANK OF AMERICA

54-49
114

74479

Pay: *****Six hundred twenty-five dollars and no cents

DATE

October 20, 2020

CHECK NO.

74479 \$*****625.00

AMOUNT

PAY
TO THE
ORDER
OF

Connecticut Siting Council
10 Franklin Sq
New Britain, CT 06051



[Signature]

⑈074479⑈ ⑆011400495⑆ 000089877441⑈

CONN03 Connecticut Siting Council

SAI
SITE ACQUISITION, LLC

74479

DATE	INVOICE NO.	DESCRIPTION	INVOICE AMOUNT	DEDUCTION	BALANCE
10-16-20	CR101620	CT5310 CSC FILING FE	625.00		625.00
CHECK DATE	10-20-20	CHECK NUMBER	74479	TOTALS	625.00
				625.00	625.00