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   Your driver will pickup your shipment(s) as usual.

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October 3, 2019

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

Regarding: Notice of Exempt Modification – AT&T Site CT5236
Address: 71 Moxley Road, Uncasville (Montville), CT 06381

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains a wireless telecommunications facility on an existing 190' Guyed Tower at the above-referenced address, latitude 41.435222, longitude -72.123333. Said Guyed Tower is managed by SBA Communications.

AT&T desires to modify its existing telecommunications facility by adding (3) antennas, swapping (6) remote radio heads, adding (1) surge arrestor with (1) fiber cable and (2) DC power lines as more particularly detailed and described on the enclosed Construction Drawings prepared by Hudson Design Group LLC, dated August 22, 2019 and last revised September 20, 2019. Please also see the enclosed Mount Analysis prepared by Hudson Design Group LLC dated August 28, 2019. The centerline height of the antennas is and will remain at 130 feet.

The tower was approved by the Town of Montville with Site Plan Approval on January 13, 1998, please see the enclosed Site Plan Approval. The tower was approved at a height of 190' with the appropriate guide wires and chain link fence with four utility sheds and a driveway. No other conditions were set forth in the approval. The proposed modifications comply with the above-mentioned conditions.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the following individuals: The Honorable Ronald K. McDaniel, Mayor, Town of Montville; Vernon D. Vesey, II, Building Official, Town of Montville; William Pieniadz, Chair of the Planning and Zoning Commission, Town of Montville; SBA Towers II LLC as the owner of the above referenced tower; and Ernest C. Wainwright and Walter N. Wainwright, Jr., as property owner at the above referenced address. Please see the property cards for the property owner and tower owner enclosed herein.

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

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require an extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. *Please see the RF Emissions Analysis Report for AT&T's modified facility enclosed herewith.*

5. The proposed modifications will not cause an ineligible change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading. *Please see the structural analysis dated September 16, 2019 and prepared by Tower Engineering Solutions enclosed herewith.*

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).

Sincerely,

Patricia Nowak
Site Acquisition Consultant
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
pnowak@clinellc.com

Enclosures: Exhibit 1 – Construction Drawings
Exhibit 2 - Mount Analysis
Exhibit 3 – Site Plan Approval
Exhibit 4 – Property Cards
Exhibit 5 – RF Emissions Analysis Report
Exhibit 6 – Structural Analysis

cc: The Honorable Ronald K. McDaniel, Mayor, Town of Montville
Vernon D. Vesey, II, Building Official, Town of Montville
William Pieniadz, Chair of the Planning and Zoning Commission, Town of Montville
SBA Towers II LLC as tower owner
Ernest C. Wainwright and Walter N. Wainwright, Jr., as property owner

EXHIBIT 1

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING GUYED TOWER:
- NEW AT&T ANTENNAS: DMP65R-BU8DA (TOTAL OF 1 PER ALPHA SECTOR).
- NEW AT&T ANTENNAS: DMP65R-BU6DA (TOTAL OF 1 PER BETA SECTOR).
- NEW AT&T ANTENNAS: DMP65R-BU4DA (TOTAL OF 1 PER GAMMA SECTOR).
- NEW AT&T RRUS: 4449 B5/B12 (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 DC SURGE ARRESTOR: DC6-48-60-18-8C-EV
(TOTAL OF 1) WITH (2) DC POWER & (1) FIBER RUN.

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- SWAP BB WITH (2) 6630 & (1) IDLe.
- NEW AT&T RRUS: 4478 B14 (700) (TOTAL OF 2) & (8) SURGE ARRESTORS.

ITEMS TO REMAIN:
- (6) ANTENNAS, (6) TMA'S, (1) SURGE ARRESTOR, (12) COAX CABLES, (2) DC POWER & (1) FIBER.

SITE ADDRESS:	71 MOXLEY ROAD UNCASVILLE, CT 06382
LATITUDE:	41.435791° N, 41° 26' 8.85" N
LONGITUDE:	72.122198° W, 72° 7' 19.91" W
TYPE OF SITE:	GUYED TOWER / OUTDOOR
STRUCTURE HEIGHT:	192'-0"±
RAD CENTER:	130'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

SITE NUMBER: CT5236

SITE NAME: MONTVILLE SE MOXLEY HILL RD

FA CODE: 10092216

PACE ID: MRCTB040471, MRCTB040566, MRCTB040705, MRCTB040601, MRCTB040511

PROJECT: LTE 3C_4C_5C 2020 UPGRADE

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
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GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLANS	1
A-2	ANTENNA LAYOUTS & ELEVATION	1
A-3	DETAILS	1
G-1	GROUNDING DETAILS	1
RF-1	RF PLUMBING DIAGRAM	1

SBA SITE #: CT10016

VICINITY MAP

DIRECTIONS TO SITE:

CT-5236 MONTVILLE SE I-95N TO EXIT 76.MERGE ONTO I-395N TO EXIT 79 AT END OF RAMP TAKE A LEFT ONTO OAKDALE AVE RTE 163 TO RT 32.MAKE RIGHT ONTO RTE 32 THEN MAKE RIGHT ONTO MAPLE AVE.THEN MAKE LEFT ON JEROME RD THEN RIGHT ON MOXLEY RD. ACCESS ROAD IS ON THE RIGHT AFTER YOU CROSS OVER THE HIGHWAY ON YOUR LEFT.

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.

72 HOURS

CALL
BEFORE YOU DIG
CALL TOLL FREE 1-800-922-4455
OR CALL 811

UNDERGROUND SERVICE ALERT

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

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT5236
SITE NAME: MONTVILLE SE MOXLEY HILL RD
SBA SITE # ID: CT10016

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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: RP

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

AT&T

TITLE SHEET
LTE 3C_4C_5C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5236	T-1	1

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 – CENTERLINE
   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-G, 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		

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

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT5236
SITE NAME: MONTVILLE SE MOXLEY HILL RD
SBA SITE # ID: CT10016

71 MOXLEY ROAD
UNCASVILLE, CT 06382
NEW LONDON COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

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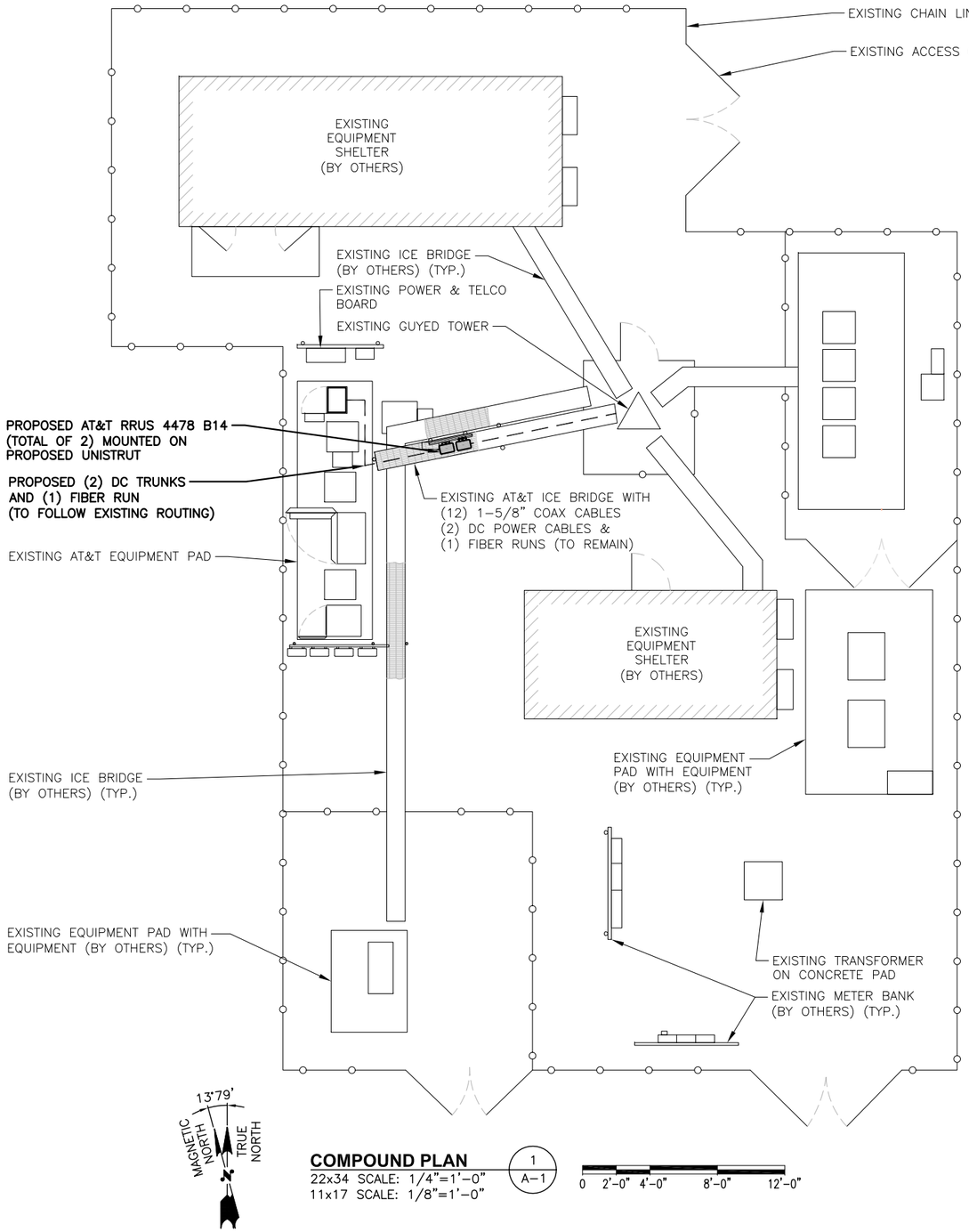
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: RP

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

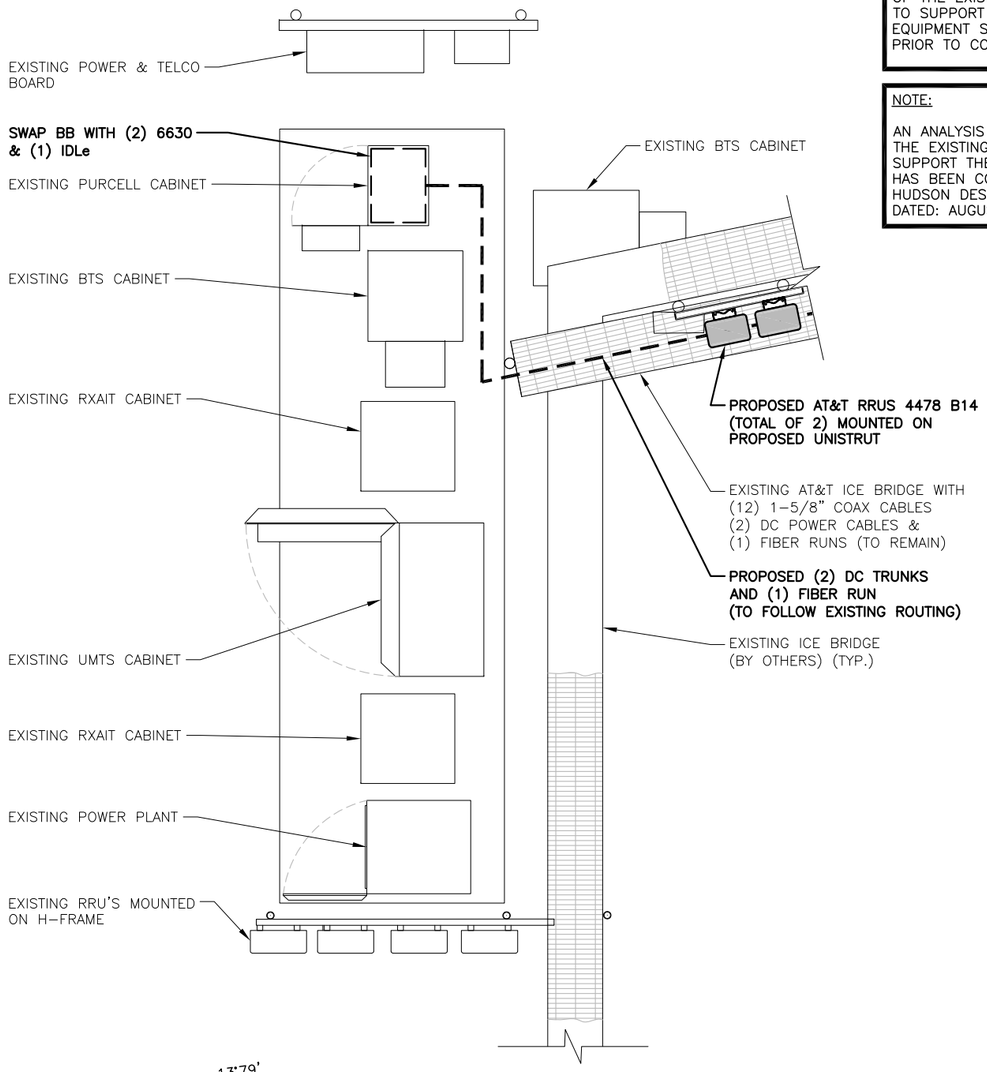
AT&T

GENERAL NOTES
LTE 3C_4C_5C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5236	GN-1	1



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



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

NOTE:

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

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

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: AUGUST 28, 2019

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

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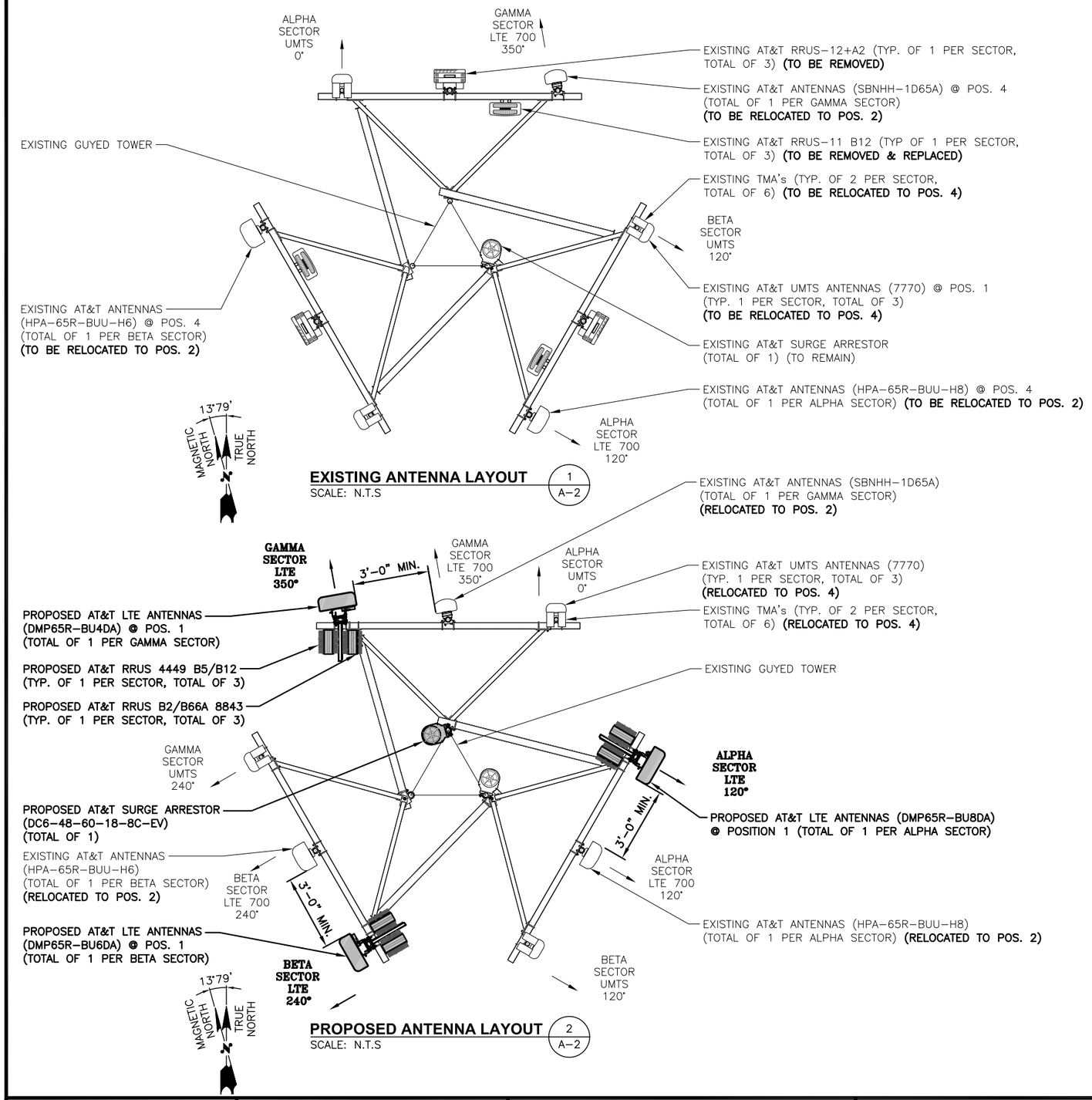
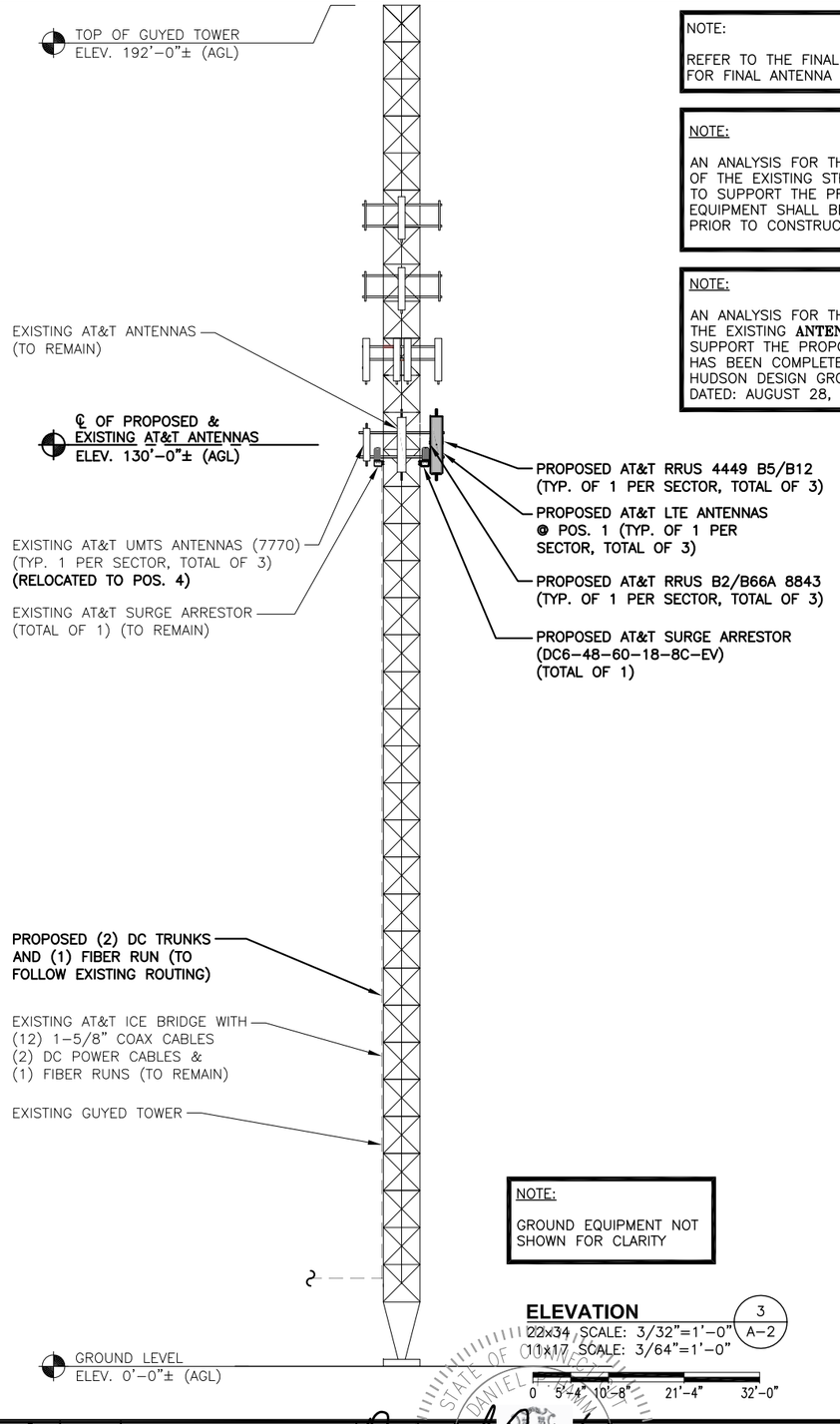
STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

COMPOUND & EQUIPMENT PLANS
LTE 3C_4C_5C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5236	A-1	1





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HUDSON DESIGN GROUP, LLC.
DATED: AUGUST 28, 2019

NOTE:

GROUND EQUIPMENT NOT SHOWN FOR CLARITY

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
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FAX: (978) 336-5586

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

AT&T

ANTENNA LAYOUTS & ELEVATION
LTE 3C_4C_5C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5236	A-2	1

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	**PROPOSED**	**LTE**	**DMP65R-BU8DA**	**96.0X20.7X7.7**	**130'-0"±**	**120°**	–	**(P)(1) 4449 B5/B12 (P)(1) 8843 B2/B66A**	**14.9X13.2X10.4 14.9X13.2X10.9**	–	(E) (1) RAYCAP DC6-48-60-18-8F
A2	EXISTING	LTE	HPA-65R-BUU-H8	92.4X14.8X7.4	130'-0"±	120°	–	**(G)(1) 4478 B14**	**18.1X13.4X8.3**	(2)1-5/8 COAX	
A3	–	–	–	–	–	–	–	–	–	–	
A4	EXISTING	UMTS	7770	55X11X5	130'-0"±	0°	(E)(2)LGP21903 (E)(2) LGP21401	–	–	(2)1-5/8 COAX	
B1	**PROPOSED**	**LTE**	**DMP65R-BU6DA**	**71.2X20.7X7.7**	**130'-0"±**	**240°**	–	**(P)(1) 4449 B5/B12 (P)(1)8843 B2/B66A**	**14.9X13.2X10.4 14.9X13.2X10.9**	–	(P) (1) RAYCAP DC6-48-60-18-8C-EV
B2	EXISTING	LTE	HPA-65R-BUU-H6	72X14.8X9	130'-0"±	240°	–	**(G)(1) 4478 B14**	**18.1X13.4X8.3**	(2)1-5/8 COAX	
B3	–	–	–	–	–	–	–	–	–	–	
B4	EXISTING	UMTS	7770	55X11X5	130'-0"±	120°	(E)(2)LGP21903 (E)(2) LGP21401	–	–	(2)1-5/8 COAX	
C1	**PROPOSED**	**LTE**	**DMP65R-BU4DA**	**48.0X20.7X7.7**	**130'-0"±**	**350°**	–	**(P)(1) 4449 B5/B12 (P)(1)8843 B2/B66A**	**14.9X13.2X10.4 14.9X13.2X10.9**	–	
C2	EXISTING	LTE	SBNHH-1D65A	55X11.9X7.1	130'-0"±	350°	–	**4478 B14 SHARED WITH BETA**	–	(2)1-5/8 COAX	
C3	–	–	–	–	–	–	–	–	–	–	
C4	EXISTING	UMTS	7770	55X11X5	130'-0"±	240°	(E)(2)LGP21903 (E)(2) LGP21401	–	–	(2)1-5/8 COAX	

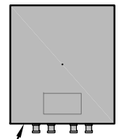
FINAL ANTENNA SCHEDULE (1 / A-3)
SCALE: N.T.S

RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
P(3)	4449 (850/700)	14.9"x13.2"x10.4"
P(3)	8843 (AWS/PCS)	14.9"x13.2"x10.9"
(G)(2)	4478 B14 (700)	18.1"x13.4"x8.3"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

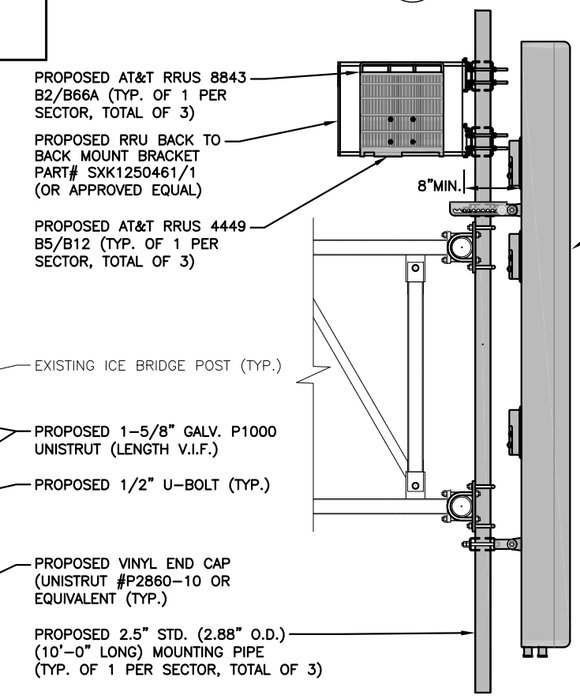
NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



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

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

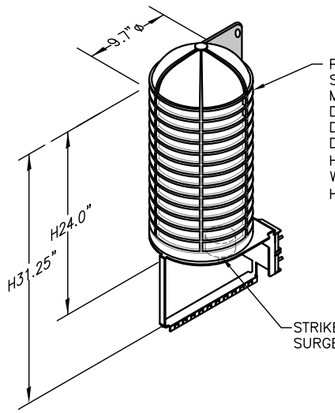
PROPOSED RRUS DETAIL (2 / A-3)
SCALE: N.T.S



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

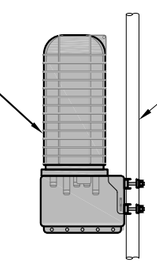
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

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: AUGUST 28, 2019



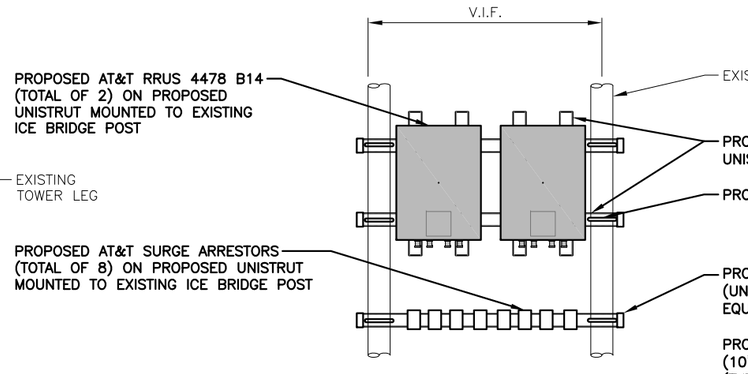
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (3 / A-3)
SCALE: N.T.S



PROPOSED SURGE ARRESTOR MOUNTING DETAIL (4 / A-3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

0 0'-6" 1'-0" 2'-0" 3'-0"



PROPOSED RRUS MOUNTING DETAIL (5 / A-3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

0 0'-6" 1'-0" 2'-0" 3'-0"

PROPOSED LTE ANTENNA MOUNTING DETAIL (6 / A-3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

0 0'-6" 1'-0" 2'-0" 3'-0"

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

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT5236
SITE NAME: MONTVILLE SE MOXLEY HILL RD
SBA SITE # ID: CT10016

71 MOXLEY ROAD
UNCASVILLE, CT 06382
NEW LONDON COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/20/19	ISSUED FOR CONSTRUCTION	RP	AT	DPH
A	08/22/19	ISSUED FOR REVIEW	RP	AT	DPH

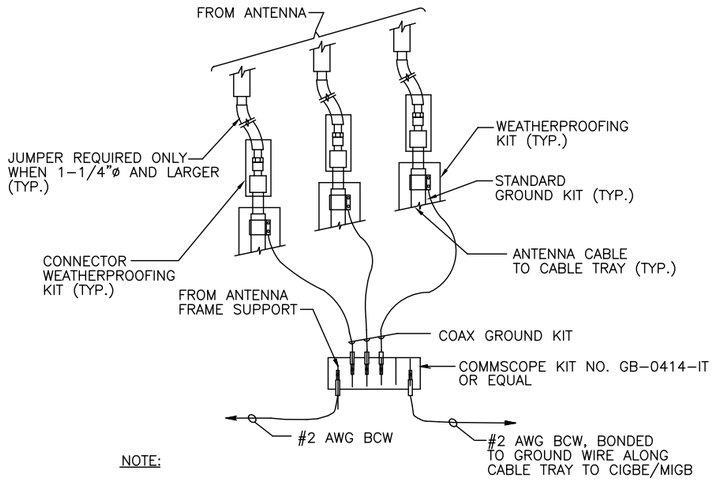
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: RP

Daniel P. Hamm
No. 24178
LICENSED PROFESSIONAL ENGINEER
STATE OF CONNECTICUT

AT&T

DETAILS
LTE 3C_4C_5C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5236	A-3	1

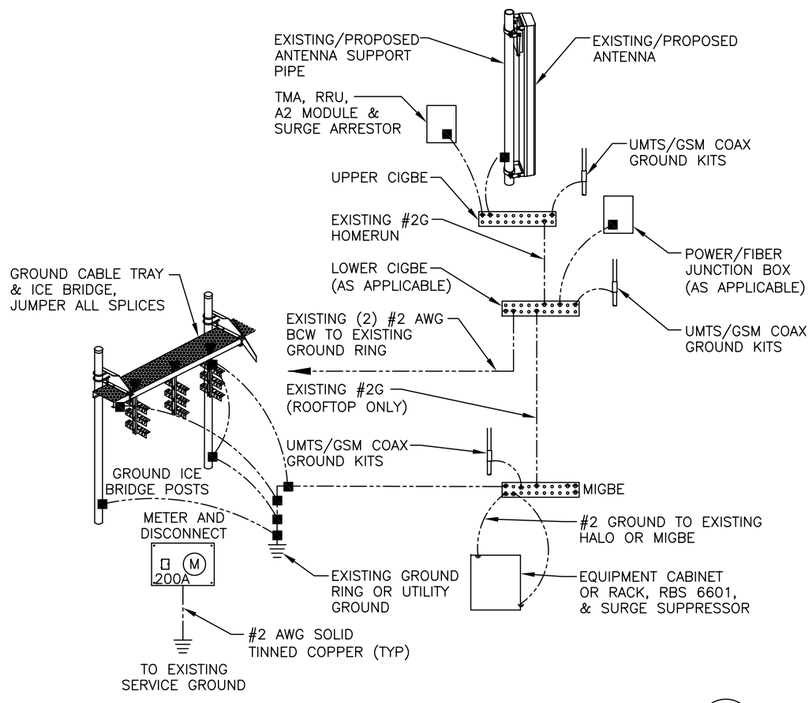


NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

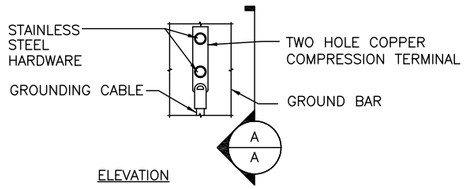
GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

SCALE: N.T.S



GROUNDING RISER DIAGRAM (2 / G-1)

SCALE: N.T.S



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 / G-1)

SCALE: N.T.S

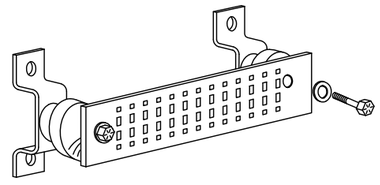
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

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 (4 / G-1)

SCALE: N.T.S

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CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT5236
SITE NAME: MONTVILLE SE MOXLEY HILL RD
SBA SITE # ID: CT10016

71 MOXLEY ROAD
UNCASVILLE, CT 06382
NEW LONDON COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/20/19	ISSUED FOR CONSTRUCTION	RP	AT	DPH
A	08/22/19	ISSUED FOR REVIEW	RP	AT	DPH

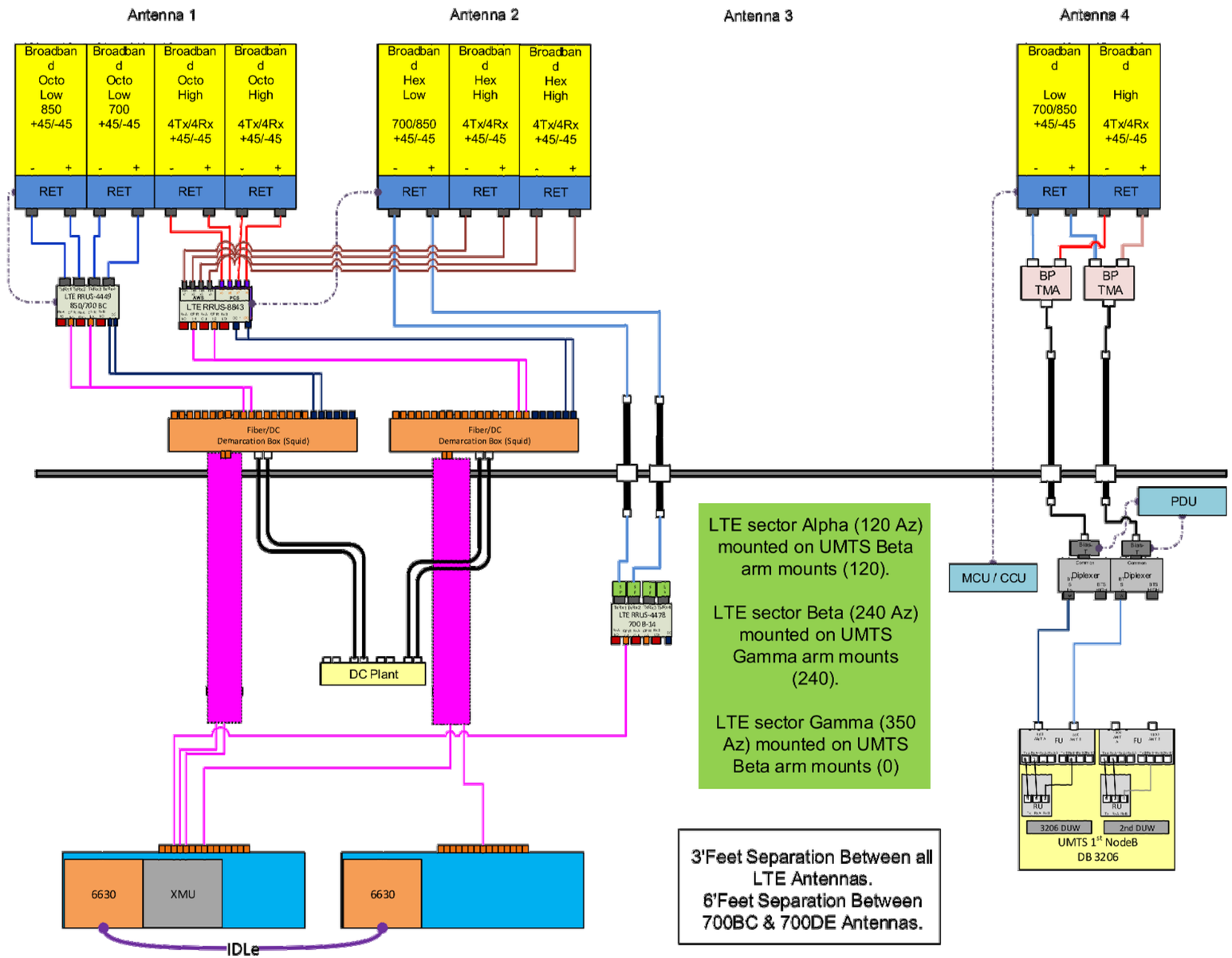
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: RP

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

AT&T

GROUNDING DETAILS
LTE 3C_4C_5C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5236	G-1	1



RF PLUMBING DIAGRAM 1 / RF–1
SCALE: N.T.S

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.

HUDSON Design Group LLC
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: RP

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

AT&T

RF PLUMBING DIAGRAM
LTE 3C_4C_5C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5236	RF–1	1

EXHIBIT 2

August 28, 2019

CENTERLINE COMMUNICATIONS at&t

Centerline Communications
750 West Center Street, Suite #301
West Bridgewater, MA 02379

RE:		
	Site Number:	CT5236 (LTE 3C/4C/5C)
	FA Number:	10092216
	PACE Number:	MRCTB040471
	PT Number:	2051A0PR1N
	Site Name:	MONTVILLE SE MOXLEY HILL RD
	Site Address:	71 Moxley Hill Road Uncasville, CT 06382

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by Centerline 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) 7770 Antennas (55.0"x11.0"x5.0" – Wt. = 35 lbs. /each)
- (1) HPA-65R-BUU-H6 Antenna (72.0"x14.8"x7.4" – Wt. = 51 lbs.)
- (1) HPA-65R-BUU-H8 Antenna (92.4"x14.8"x7.4" – Wt. = 68 lbs.)
- (1) SBNHH-1D65A Antenna (55.6"x11.9"x7.1" – Wt. = 34 lbs.)
- (6) LGP21401 TMA's (14.4"x9.0"x2.7" – Wt. = 19 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7" Ø – Wt. = 33 lbs.) (Tower Mounted)
- **(1) DMP65R-BU4DA Antenna (48.0"x20.7"x7.7" – Wt. = 68 lbs.)**
- **(1) DMP65R-BU6DA Antenna (71.2"x20.7"x7.7" – Wt. = 80 lbs.)**
- **(1) DMP65R-BU8DA Antenna (96.0"x20.7"x7.7" – Wt. = 96 lbs.)**
- **(3) 4449 B5/B12 RRH's (14.9"x13.2"x10.4" – Wt. = 73 lbs. /each)**
- **(3) 8843 B2/B66A RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)**
- **(1) Squid Surge Arrestor (24.0"x9.7" Ø – Wt. = 33 lbs.) (Tower Mounted)**

**Proposed equipment shown in bold.*

No original structural design documents or fabrication drawings were available for the existing mounts. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mounts on May 15, 2019.

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 134 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.15 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.
- 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 1.
- 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 mounts are secured to the existing tower with bent plates. The connections are 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 3C/4C/5C) Mount Rating	26	LC1	54%	**PASS**

Reference Documents:

- Mount mapping report prepared by ProVertic LLC dated May 21, 2019.

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 mounts have 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:






p: 978.557.5553 f: 978.336.5586 a: 45 Beechwood Drive, N. Andover, MA 01845
p: 203.208.3919 f: 203.234.6398 a: 110 Washington Avenue, 4th Floor, North Haven CT 06473







3½"
3½x6⅞x⅜
2⅜"

HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 8/28/2019
Project Name: MONTVILLE SE MOXLEY HILL RD
Project No.: CT5236
Designed By: BD **Checked By:** MSC

HUDSON Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

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

		z=	130 (ft)
		z_g=	1200 (ft)
K_z=	**1.065**	α=	7.0

Kzmin ≤ Kz ≤ 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

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

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

K_{zt}=	**#DIV/0!**	K_h=	#DIV/0!
		K_c=	0.9 (from Table 2-4)
(If Category 1 then K_{zt} =1.0)		K_t=	0 (from Table 2-5)
		f=	0 (from Table 2-5)
Category=	1	z=	130
		z_s=	194 (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 =		**t_i =**	**1.00 in**
Importance Factor =		**I=**	**1.0 (from Table 2-3)**
		K_{iz} =	**1.15 (from Sec. 2.6.10)**

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

t_{iz} = **1.15 in**

Date: 8/28/2019
Project Name: MONTVILLE SE MOXLEY HILL RD
Project No.: CT5236
Designed By: BD Checked By: MSC

HUDSON Design Group LLC

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=	130	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

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

G_h=	1.35	Gh=	1.00

2.6.11.2 Design Wind Force on Appurtenances

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

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

		K_z=	1.065	(from 2.6.5.2)
		K_{zt}=	1.0	(from 2.6.6.2.1)
		K_s=	1.0	(from 2.6.7)
q_z=	41.33	K_e=	0.99	(from 2.6.8)
$q_{z\ (ice)}$=	5.75	K_d=	0.85	(from Table 2-2)
$q_{z\ (30)}$=	2.07	V_{max}=	134	mph (Ultimate Wind Speed)
		$V_{max\ (ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
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

Date: 8/28/2019
Project Name: MONTVILLE SE MOXLEY HILL RD
Project No.: CT5236
Designed By: BD Checked By: MSC

HUDSON Design Group LLC

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) ≥ 0.85	1.4 - 4.0(r_s) ≥ 0.90	2.0 - 6.0(r_s) ≥ 1.25
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	39 ≤ C ≤ 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 = 1.15 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)
7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	228	40	11
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	4.86	1.31	399	66	20
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	6.24	1.37	536	88	27
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	4.67	1.30	246	43	12
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.32	1.20	342	55	17
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.44	1.24	525	84	26
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	739	117	37
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.13	1.20	68	13	3
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.43	1.20	53	10	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.20	68	13	3
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.20	56	11	3
LGP21401 TMA	14.4	2.7	9.0	0.27	5.33	1.33	15	4	1
Squid Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	47	9	2
1-1/4" Pipe	1.7	12.0		0.14	0.14	1.20	7	3	0
2" Pipe	2.4	12.0		0.20	0.20	1.20	10	3	0
2-1/2" Pipe	2.9	12.0		0.24	0.24	1.20	12	4	1
3" Pipe	3.5	12.0		0.29	0.29	1.20	14	4	1

Date: 8/28/2019
Project Name: MONTVILLE SE MOXLEY HILL RD
Project No.: CT5236
Designed By: BD Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	30	(deg)	Ice Thickness =	1.15	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)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	228	121	201
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	399	228	356
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	536	311	480
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	246	162	225
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	342	145	293
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	525	232	452
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	739	336	638
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	68	53	64
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	53	68	57
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	68	56	65
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	56	68	59
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	45	22

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.29	2.90	4.31	7.86	1.28	1.43	39	24	35
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.82	5.00	4.35	7.66	1.28	1.42	65	41	59
HPA-65R-BUU-H8 Antenna	94.7	17.1	9.7	11.24	6.37	5.54	9.77	1.34	1.49	86	55	78
SBNHH-1D65A Antenna	57.9	14.2	9.4	5.71	3.78	4.08	6.16	1.27	1.36	42	30	39
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.03	3.49	2.19	5.03	1.20	1.31	55	26	48
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.74	5.10	3.20	7.35	1.23	1.41	83	41	73
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	115	59	101
4449 B5/B12 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	13	10	12
4449 B5/B12 RRH (Side)	17.2	12.7	15.5	1.52	1.85	1.35	1.11	1.20	1.20	10	13	11
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	13	11	12
8843 B2/B66A RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	11	13	11
LGP21401 TMA	16.7	5.0	11.3	0.58	1.31	3.34	1.48	1.24	1.20	4	9	5

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	11	6	10
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	20	11	18
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	27	16	24
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	12	8	11
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	17	7	15
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	26	12	23
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	37	17	32
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	3	3	3
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	3	3	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	2	1

Date: 8/28/2019
Project Name: MONTVILLE SE MOXLEY HILL RD
Project No.: CT5236
Designed By: BD Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 60 (deg) | Ice Thickness = 1.15 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)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	228	121	148
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	399	228	271
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	536	311	367
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	246	162	183
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	342	145	194
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	525	232	305
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	739	336	436
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	68	53	57
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	53	68	64
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	68	56	59
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	56	68	65
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	45	37

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.29	2.90	4.31	7.86	1.28	1.43	39	24	28
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.82	5.00	4.35	7.66	1.28	1.42	65	41	47
HPA-65R-BUU-H8 Antenna	94.7	17.1	9.7	11.24	6.37	5.54	9.77	1.34	1.49	86	55	63
SBNHH-1D65A Antenna	57.9	14.2	9.4	5.71	3.78	4.08	6.16	1.27	1.36	42	30	33
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.03	3.49	2.19	5.03	1.20	1.31	55	26	34
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.74	5.10	3.20	7.35	1.23	1.41	83	41	52
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	115	59	73
4449 B5/B12 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	13	10	11
4449 B5/B12 RRH (Side)	17.2	12.7	15.5	1.52	1.85	1.35	1.11	1.20	1.20	10	13	12
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	13	11	11
8843 B2/B66A RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	11	13	12
LGP21401 TMA	16.7	5.0	11.3	0.58	1.31	3.34	1.48	1.24	1.20	4	9	8

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	11	6	7
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	20	11	14
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	27	16	18
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	12	8	9
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	17	7	10
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	26	12	15
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	37	17	22
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	3	3	3
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	3	3	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	2	2

Date: 8/28/2019
Project Name: MONTVILLE SE MOXLEY HILL RD
Project No.: CT5236
Designed By: BD Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	90	(deg)	Ice Thickness =	1.15	in.	Equivalent Angle =	270	(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)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	228	121	121
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	399	228	228
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	536	311	311
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	246	162	162
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	342	145	145
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	525	232	232
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	739	336	336
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	68	53	53
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	53	68	68
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	68	56	56
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	56	68	68
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	45	45

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.29	2.90	4.31	7.86	1.28	1.43	39	24	24
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.82	5.00	4.35	7.66	1.28	1.42	65	41	41
HPA-65R-BUU-H8 Antenna	94.7	17.1	9.7	11.24	6.37	5.54	9.77	1.34	1.49	86	55	55
SBNHH-1D65A Antenna	57.9	14.2	9.4	5.71	3.78	4.08	6.16	1.27	1.36	42	30	30
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.03	3.49	2.19	5.03	1.20	1.31	55	26	26
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.74	5.10	3.20	7.35	1.23	1.41	83	41	41
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	115	59	59
4449 B5/B12 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	13	10	10
4449 B5/B12 RRH (Side)	17.2	12.7	15.5	1.52	1.85	1.35	1.11	1.20	1.20	10	13	13
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	13	11	11
8843 B2/B66A RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	11	13	13
LGP21401 TMA	16.7	5.0	11.3	0.58	1.31	3.34	1.48	1.24	1.20	4	9	9

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	11	6	6
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	20	11	11
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	27	16	16
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	12	8	8
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	17	7	7
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	26	12	12
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	37	17	17
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	3	3	3
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	3	3	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	2	2

Date: 8/28/2019
Project Name: MONTVILLE SE MOXLEY HILL RD
Project No.: CT5236
Designed By: BD Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 120 (deg) | Ice Thickness = 1.15 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)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	228	121	148
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	399	228	271
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	536	311	367
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	246	162	183
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	342	145	194
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	525	232	305
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	739	336	436
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	68	53	57
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	53	68	64
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	68	56	59
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	56	68	65
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	45	37

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.29	2.90	4.31	7.86	1.28	1.43	39	24	28
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.82	5.00	4.35	7.66	1.28	1.42	65	41	47
HPA-65R-BUU-H8 Antenna	94.7	17.1	9.7	11.24	6.37	5.54	9.77	1.34	1.49	86	55	63
SBNHH-1D65A Antenna	57.9	14.2	9.4	5.71	3.78	4.08	6.16	1.27	1.36	42	30	33
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.03	3.49	2.19	5.03	1.20	1.31	55	26	34
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.74	5.10	3.20	7.35	1.23	1.41	83	41	52
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	115	59	73
4449 B5/B12 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	13	10	11
4449 B5/B12 RRH (Side)	17.2	12.7	15.5	1.52	1.85	1.35	1.11	1.20	1.20	10	13	12
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	13	11	11
8843 B2/B66A RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	11	13	12
LGP21401 TMA	16.7	5.0	11.3	0.58	1.31	3.34	1.48	1.24	1.20	4	9	8

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	11	6	7
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	20	11	14
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	27	16	18
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	12	8	9
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	17	7	10
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	26	12	15
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	37	17	22
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	3	3	3
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	3	3	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	2	2

Date: 8/28/2019
Project Name: MONTVILLE SE MOXLEY HILL RD
Project No.: CT5236
Designed By: BD Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	150	(deg)	Ice Thickness =	1.15	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)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	228	121	201
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	399	228	356
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	536	311	480
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	246	162	225
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	342	145	293
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	525	232	452
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	739	336	638
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	68	53	64
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	53	68	57
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	68	56	65
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	56	68	59
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	45	22

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.29	2.90	4.31	7.86	1.28	1.43	39	24	35
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.82	5.00	4.35	7.66	1.28	1.42	65	41	59
HPA-65R-BUU-H8 Antenna	94.7	17.1	9.7	11.24	6.37	5.54	9.77	1.34	1.49	86	55	78
SBNHH-1D65A Antenna	57.9	14.2	9.4	5.71	3.78	4.08	6.16	1.27	1.36	42	30	39
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.03	3.49	2.19	5.03	1.20	1.31	55	26	48
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.74	5.10	3.20	7.35	1.23	1.41	83	41	73
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	115	59	101
4449 B5/B12 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	13	10	12
4449 B5/B12 RRH (Side)	17.2	12.7	15.5	1.52	1.85	1.35	1.11	1.20	1.20	10	13	11
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	13	11	12
8843 B2/B66A RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	11	13	11
LGP21401 TMA	16.7	5.0	11.3	0.58	1.31	3.34	1.48	1.24	1.20	4	9	5

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	11	6	10
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	20	11	18
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	27	16	24
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	12	8	11
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	17	7	15
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	26	12	23
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	37	17	32
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	3	3	3
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	3	3	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	2	1

Date: 8/28/2019
Project Name: MONTVILLE SE MOXLEY HILL RD
Project No.: CT5236
Designed By: BD **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.15 in.
Density of ice: 56 pcf

7770 Antenna
Weight of ice based on total radial SF area:

Height (in):	55.0	
Width (in):	11.0	
Depth (in):	5.0	
Total weight of ice on object:		85 lbs
Weight of object:	35.0 lbs	
Combined weight of ice and object:		120 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:		149 lbs
Weight of object:	51.0 lbs	
Combined weight of ice and object:		200 lbs

HPA-65R-BUU-H8 Antenna
Weight of ice based on total radial SF area:

Height (in):	92.4	
Width (in):	14.8	
Depth (in):	7.4	
Total weight of ice on object:		191 lbs
Weight of object:	68.0 lbs	
Combined weight of ice and object:		259 lbs

SBNHH-1D65A Antenna
Weight of ice based on total radial SF area:

Height (in):	55.6	
Width (in):	11.9	
Depth (in):	7.1	
Total weight of ice on object:		98 lbs
Weight of object:	34.0 lbs	
Combined weight of ice and object:		132 lbs

DMP65R-BU4DA Antenna
Weight of ice based on total radial SF area:

Height (in):	48.0	
Width (in):	20.7	
Depth (in):	7.7	
Total weight of ice on object:		131 lbs
Weight of object:	68.0 lbs	
Combined weight of ice and object:		199 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:		194 lbs
Weight of object:	80.0 lbs	
Combined weight of ice and object:		274 lbs

DMP65R-BU8DA Antenna
Weight of ice based on total radial SF area:

Height (in):	96.0	
Width (in):	20.7	
Depth (in):	7.7	
Total weight of ice on object:		261 lbs
Weight of object:	96.0 lbs	
Combined weight of ice and object:		357 lbs

4449 B5/B12 RRH
Weight of ice based on total radial SF area:

Height (in):	14.9	
Width (in):	13.2	
Depth (in):	10.4	
Total weight of ice on object:		31 lbs
Weight of object:	73.0 lbs	
Combined weight of ice and object:		104 lbs

8843 B2/B66A 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:		32 lbs
Weight of object:	72.0 lbs	
Combined weight of ice and object:		104 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:		18 lbs
Weight of object:	19.0 lbs	
Combined weight of ice and object:		37 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:		30 lbs
Weight of object:	33 lbs	
Combined weight of ice and object:		63 lbs

1-1/4" pipe
Per foot weight of ice:

diameter (in):	1.66	
Per foot weight of ice on object:		4 plf

2" pipe
Per foot weight of ice:

diameter (in):	2.38	
Per foot weight of ice on object:		5 plf

2-1/2" pipe
Per foot weight of ice:

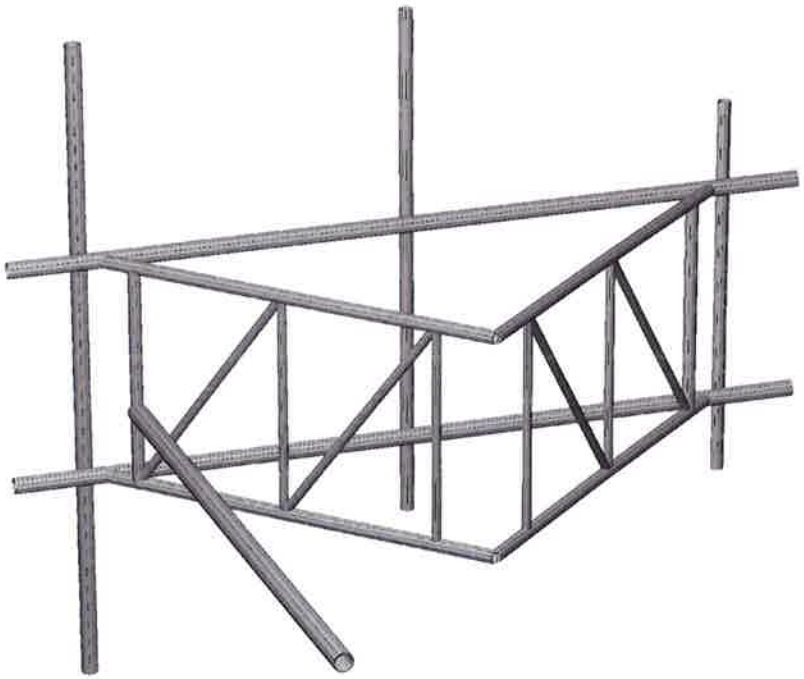
diameter (in):	2.88	
Per foot weight of ice on object:		6 plf

3" pipe
Per foot weight of ice:

diameter (in):	3.5	
Per foot weight of ice on object:		7 plf

HUDSON
Design Group LLC

Mount Calculations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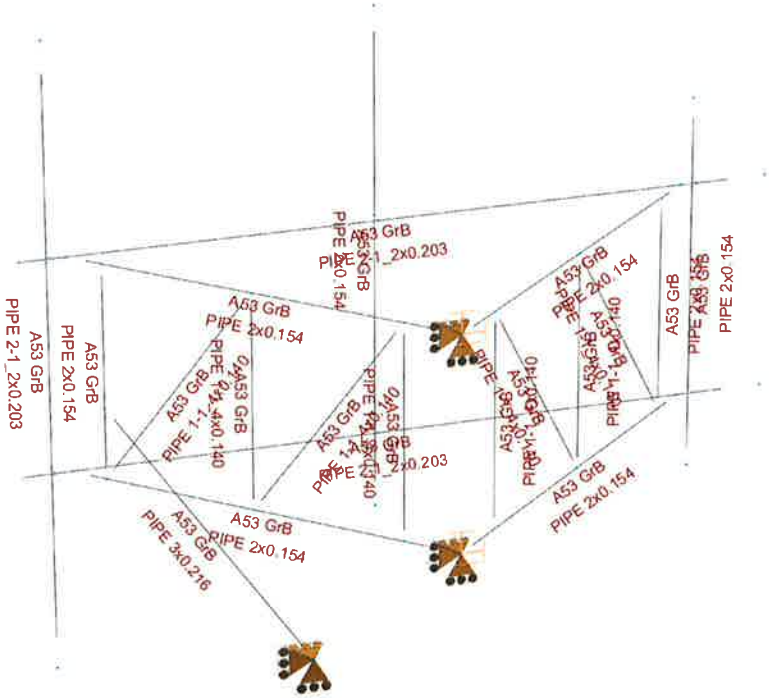
Z
X


A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2-1_2x0.203
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2-1_2x0.203
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 1-1_4x0.140
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PIPE 2x0.154
A53 GrB
PIPE 3x0.216
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PIPE 2x0.154
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PIPE 2x0.154
A53 GrB
PIPE 2-1_2x0.203
Y
Z
X

Bentley

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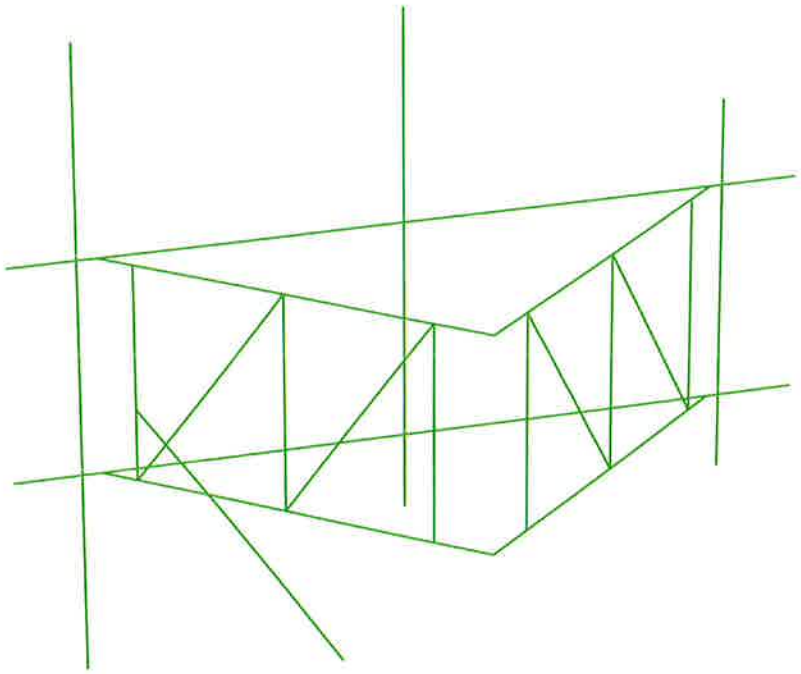
Not designed
Error on design
Design O.K.
With warnings



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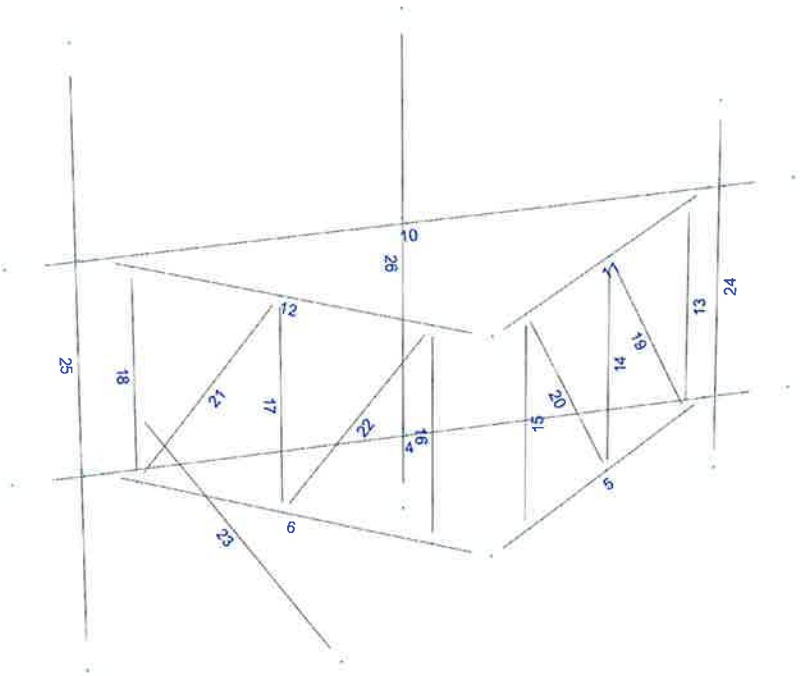

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Load data

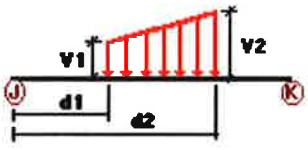
GLOSSARY

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

Distributed force on members

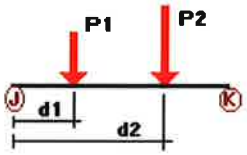


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	4	Z	-0.012	-0.012	0.00	Yes	100.00	Yes
	5	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	10	Z	-0.012	-0.012	0.00	Yes	100.00	Yes
	11	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	12	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	13	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	14	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	15	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	16	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	17	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	18	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	19	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	20	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	21	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	22	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	23	Z	-0.014	-0.014	0.00	Yes	100.00	Yes
W30	4	Z	-0.012	-0.012	0.00	Yes	100.00	Yes
	5	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	10	Z	-0.012	-0.012	0.00	Yes	100.00	Yes
	11	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	12	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	13	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	14	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	15	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	16	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	17	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	18	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	19	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	20	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	21	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	22	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	23	Z	-0.014	-0.014	0.00	Yes	100.00	Yes
W60	5	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	11	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	12	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	13	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	14	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	15	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	16	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	17	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	18	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	19	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	20	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	21	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	22	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	23	X	-0.014	-0.014	0.00	Yes	100.00	Yes
	24	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	25	X	-0.012	-0.012	0.00	Yes	100.00	Yes
	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
W90	5	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	11	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	12	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	13	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	14	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	15	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	16	X	-0.007	-0.007	0.00	Yes	100.00	Yes

	17	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	18	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	19	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	20	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	21	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	22	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	23	X	-0.014	-0.014	0.00	Yes	100.00	Yes
	24	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	25	X	-0.012	-0.012	0.00	Yes	100.00	Yes
	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
W120	5	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	11	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	12	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	13	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	14	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	15	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	16	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	17	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	18	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	19	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	20	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	21	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	22	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	23	X	-0.014	-0.014	0.00	Yes	100.00	Yes
	24	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	25	X	-0.012	-0.012	0.00	Yes	100.00	Yes
	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
W150	4	Z	0.012	0.012	0.00	Yes	100.00	Yes
	5	Z	0.01	0.01	0.00	Yes	100.00	Yes
	6	Z	0.01	0.01	0.00	Yes	100.00	Yes
	10	Z	0.012	0.012	0.00	Yes	100.00	Yes
	11	Z	0.01	0.01	0.00	Yes	100.00	Yes
	12	Z	0.01	0.01	0.00	Yes	100.00	Yes
	13	Z	0.01	0.01	0.00	Yes	100.00	Yes
	14	Z	0.007	0.007	0.00	Yes	100.00	Yes
	15	Z	0.007	0.007	0.00	Yes	100.00	Yes
	16	Z	0.007	0.007	0.00	Yes	100.00	Yes
	17	Z	0.007	0.007	0.00	Yes	100.00	Yes
	18	Z	0.01	0.01	0.00	Yes	100.00	Yes
	19	Z	0.007	0.007	0.00	Yes	100.00	Yes
	20	Z	0.007	0.007	0.00	Yes	100.00	Yes
	21	Z	0.007	0.007	0.00	Yes	100.00	Yes
	22	Z	0.007	0.007	0.00	Yes	100.00	Yes
	23	Z	0.014	0.014	0.00	Yes	100.00	Yes
	24	Z	0.01	0.01	0.00	Yes	100.00	Yes
	25	Z	0.01	0.01	0.00	Yes	100.00	Yes
	26	Z	0.01	0.01	0.00	Yes	100.00	Yes
Di	4	Y	-0.006	-0.006	0.00	Yes	100.00	Yes
	5	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	6	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	10	Y	-0.006	-0.006	0.00	Yes	100.00	Yes
	11	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	12	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	13	**Y**	**-0.005**	**-0.005**	**0.00**	**Yes**	**100.00**	**Yes**
	14	**Y**	**-0.004**	**-0.004**	**0.00**	**Yes**	**100.00**	**Yes**
	15	**Y**	**-0.004**	**-0.004**	**0.00**	**Yes**	**100.00**	**Yes**
	16	**Y**	**-0.004**	**-0.004**	**0.00**	**Yes**	**100.00**	**Yes**
	17	**Y**	**-0.004**	**-0.004**	**0.00**	**Yes**	**100.00**	**Yes**
	18	**Y**	**-0.005**	**-0.005**	**0.00**	**Yes**	**100.00**	**Yes**

19	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
20	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
21	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
22	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
23	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
24	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
25	Y	-0.006	-0.006	0.00	Yes	100.00	Yes
26	Y	-0.005	-0.005	0.00	Yes	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	24	y	-0.018	0.50	No
		y	-0.018	5.08	No
		y	-0.038	3.00	No
	25	y	-0.048	1.50	No
		y	-0.048	8.50	No
		y	-0.145	2.00	No
	26	y	-0.034	0.50	No
		y	-0.034	7.50	No
Wo	24	z	-0.114	0.50	No
		z	-0.114	5.08	No
	25	z	-0.37	1.50	No
		z	-0.37	8.50	No
	26	z	-0.268	0.50	No
		z	-0.268	7.50	No
W30	24	3	-0.101	0.50	No
		3	-0.101	5.08	No
		3	-0.022	3.00	No
	25	3	-0.319	1.50	No
		3	-0.319	8.50	No
		3	-0.059	2.00	No
	26	3	-0.24	0.50	No
		3	-0.24	7.50	No
W60	24	3	-0.074	0.50	No
		3	-0.074	5.08	No
		3	-0.037	3.00	No
	25	3	-0.218	1.50	No
		3	-0.218	8.50	No
		3	-0.065	2.00	No
	26	3	-0.184	0.50	No
		3	-0.184	7.50	No
W90	24	x	-0.061	0.50	No
		x	-0.061	5.08	No
		x	-0.045	3.00	No
	25	x	-0.168	1.50	No
		x	-0.168	8.50	No
		x	-0.068	2.00	No
	26	x	-0.156	0.50	No

		x	-0.156	7.50	No
W120	24	2	-0.074	0.50	No
		2	-0.074	5.08	No
		2	-0.037	3.00	No
	25	2	-0.218	1.50	No
		2	-0.218	8.50	No
		2	-0.065	2.00	No
	26	2	-0.184	0.50	No
		2	-0.184	7.50	No
W150	24	2	-0.101	0.50	No
		2	-0.101	5.08	No
		2	-0.022	3.00	No
	25	2	-0.319	1.50	No
		2	-0.319	8.50	No
		2	-0.059	2.00	No
	26	2	-0.24	0.50	No
		2	-0.24	7.50	No
Di	24	y	-0.043	0.50	No
		y	-0.043	5.08	No
		y	-0.036	3.00	No
	25	y	-0.131	1.50	No
		y	-0.131	8.50	No
		y	-0.063	2.00	No
	26	y	-0.096	0.50	No
		y	-0.096	7.50	No
WI0	24	z	-0.02	0.50	No
		z	-0.02	5.08	No
	25	z	-0.059	1.50	No
		z	-0.059	8.50	No
	26	z	-0.044	0.50	No
		z	-0.044	7.50	No
WI30	24	3	-0.018	0.50	No
		3	-0.018	5.08	No
		3	-0.005	3.00	No
	25	3	-0.051	1.50	No
		3	-0.051	8.50	No
		3	-0.011	2.00	No
	26	3	-0.039	0.50	No
		3	-0.039	7.50	No
WI60	24	3	-0.014	0.50	No
		3	-0.014	5.08	No
		3	-0.008	3.00	No
	25	3	-0.037	1.50	No
		3	-0.037	8.50	No
		3	-0.012	2.00	No
	26	3	-0.032	0.50	No
		3	-0.032	7.50	No
WI90	24	x	-0.012	0.50	No
		x	-0.012	5.08	No
		x	-0.009	3.00	No
	25	x	-0.03	1.50	No
		x	-0.03	8.50	No
		x	-0.013	2.00	No
	26	x	-0.028	0.50	No
		x	-0.028	7.50	No
WI120	**24**	**2**	**-0.014**	**0.50**	**No**
		2	**-0.014**	**5.08**	**No**
		2	**-0.008**	**3.00**	**No**
	25	**2**	**-0.037**	**1.50**	**No**
		2	**-0.037**	**8.50**	**No**

		2	-0.012	2.00	No
	26	2	-0.032	0.50	No
		2	-0.032	7.50	No
WI150	24	2	-0.018	0.50	No
		2	-0.018	5.08	No
		2	-0.005	3.00	No
	25	2	-0.051	1.50	No
		2	-0.051	8.50	No
		2	-0.011	2.00	No
	26	2	-0.039	0.50	No
		2	-0.039	7.50	No
WL0	24	z	-0.006	0.50	No
		z	-0.006	5.08	No
	25	z	-0.019	1.50	No
		z	-0.019	8.50	No
	26	z	-0.014	0.50	No
		z	-0.014	7.50	No
WL30	24	3	-0.005	0.50	No
		3	-0.005	5.08	No
		3	-0.001	3.00	No
	25	3	-0.016	1.50	No
		3	-0.016	8.50	No
		3	-0.003	2.00	No
	26	3	-0.012	0.50	No
		3	-0.012	7.50	No
WL60	24	3	-0.004	0.50	No
		3	-0.004	5.08	No
		3	-0.002	3.00	No
	25	3	-0.011	1.50	No
		3	-0.011	8.50	No
		3	-0.003	2.00	No
	26	3	-0.009	0.50	No
		3	-0.009	7.50	No
WL90	24	x	-0.003	0.50	No
		x	-0.003	5.08	No
		x	-0.002	3.00	No
	25	x	-0.009	1.50	No
		x	-0.009	8.50	No
		x	-0.003	2.00	No
	26	x	-0.008	0.50	No
		x	-0.008	7.50	No
WL120	24	2	-0.004	0.50	No
		2	-0.004	5.08	No
		2	-0.002	3.00	No
	25	2	-0.011	1.50	No
		2	-0.011	8.50	No
		2	-0.003	2.00	No
	26	2	-0.009	0.50	No
		2	-0.009	7.50	No
WL150	24	2	-0.005	0.50	No
		2	-0.005	5.08	No
		2	-0.001	3.00	No
	25	2	-0.016	1.50	No
		2	-0.016	8.50	No
		2	-0.003	2.00	No
	26	2	-0.012	0.50	No
		2	-0.012	7.50	No
LL1	**10**	**y**	**-0.25**	**50.00**	**Yes**
LL2	**10**	**y**	**-0.25**	**100.00**	**Yes**
LL3	**10**	**y**	**-0.25**	**0.00**	**No**

LLa1	25	y	-0.25	50.00	Yes
LLa2	26	y	-0.25	50.00	Yes
LLa3	24	y	-0.25	50.00	Yes

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

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

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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

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	PIPE 1-1_4x0.140	**14**	LC40 at 0.00%	0.05	OK	
		15	LC30 at 100.00%	0.08	OK	
		16	LC36 at 0.00%	0.14	OK	
		17	LC36 at 100.00%	0.09	OK	
		19	LC40 at 0.00%	0.05	OK	
		20	LC30 at 100.00%	0.05	OK	
		21	LC12 at 0.00%	**0.18**	**OK**	
		22	LC36 at 100.00%	0.09	OK	
	PIPE 2-1_2x0.203	**4**	LC6 at 88.54%	0.20	OK	
		10	LC12 at 88.54%	**0.29**	**OK**	
		25	LC1 at 31.25%	0.24	OK	
	PIPE 2x0.154	**5**	LC26 at 100.00%	0.19	OK	
		6	LC4 at 7.81%	0.29	OK	
		11	LC1 at 0.00%	0.22	OK	
		12	LC1 at 0.00%	0.36	OK	
		13	LC6 at 100.00%	0.09	OK	
		18	LC5 at 100.00%	0.47	OK	
		24	LC6 at 22.92%	0.11	OK	
		26	LC1 at 39.58%	**0.54**	**OK**	
	PIPE 3x0.216	**23**	LC10 at 100.00%	**0.07**	**OK**	

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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
1	0.00	0.00	0.00	0
2	6.00	0.00	0.00	0
3	-6.00	0.00	0.00	0
4	4.92	0.00	0.00	0
5	-4.92	0.00	0.00	0
6	0.00	0.00	0.20	0
7	4.92	0.00	0.20	0
8	-4.92	0.00	0.20	0
9	-4.67	0.00	0.00	0
10	4.67	0.00	0.00	0
11	0.00	0.00	-4.29	0
12	0.00	3.42	0.00	0
13	6.00	3.42	0.00	0
14	-6.00	3.42	0.00	0
15	4.92	3.42	0.00	0
16	-4.92	3.42	0.00	0
17	0.00	3.42	0.20	0
18	4.92	3.42	0.20	0
19	-4.92	3.42	0.20	0
20	-4.67	3.42	0.00	0
21	4.67	3.42	0.00	0
22	0.00	3.42	-4.29	0

23	-4.2429	0.00	-0.3958	0
24	-2.4616	0.00	-2.0312	0
25	-0.6803	0.00	-3.6666	0
26	-2.4616	3.42	-2.0312	0
27	-0.6803	3.42	-3.6666	0
28	-4.2429	3.42	-0.3958	0
30	0.6803	3.42	-3.6666	0
31	2.4616	3.42	-2.0312	0
32	4.2429	3.42	-0.3958	0
33	0.6803	0.00	-3.6666	0
34	2.4616	0.00	-2.0312	0
35	4.2429	0.00	-0.3958	0
37	4.2429	1.14	-0.3958	0
38	3.50	1.14	-9.00	0
40	4.92	6.71	0.20	0
41	4.92	-3.29	0.20	0
44	-4.92	-1.29	0.20	0
45	-4.92	4.71	0.20	0
46	0.00	-1.29	0.20	0
47	0.00	6.71	0.20	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
11	1	1	1	1	1	1
22	1	1	1	1	1	1
38	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
4	3	2		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
5	9	11		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
6	10	11		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
10	14	13		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
11	20	22		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
12	21	22		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
13	23	28		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
14	24	26		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
15	25	27		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
16	30	33		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
17	31	34		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
18	32	35		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
19	23	26		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
20	24	27		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
21	35	31		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
22	34	30		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
23	38	37		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
24	45	44		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
25	40	41		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00

26	47	46	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
24	315.00	0	0.00	0.00	0.00
25	315.00	0	0.00	0.00	0.00
26	315.00	0	0.00	0.00	0.00

EXHIBIT 3

TEL: 848-8549
FAX: 848-2354

TOWN OF MONTVILLE
PLANNING & ZONING COMMISSION

310 NORWICH-NEW LONDON TPKE.
UNCASVILLE, CONNECTICUT 06382-2599

FAXED

LEGAL NOTICE

The Montville Planning and Zoning Commission at its meeting held on January 13, 1998, took the following action:

APPROVED site plan for **Wireless Solutions, Ltd./Walter & Ernest Wainwright** to construct a 190' radio tower and antenna for wireless communication purposes with appropriate guide wires and chain link fence with four small utility sheds and driveway on property located at 71 Moxley Road, Montville, Ct. Shown on Assessor's Map 17, Lot 12.

Maps and documentation concerning the above applications are on file in the office of the Town Planner, Town Hall Annex, Montville, Ct.

Dated at Montville, Ct. this 14th day of January, 1998.

MONTVILLE PLANNING AND ZONING COMMISSION

Gregory Majewski, Chairman

PUBLISH IN THE NEW LONDON DAY.January 16, 1998

PLEASE REFERENCE PURCHASE ORDER 6100 G 1 ON INVOICE.

EXHIBIT 4

Property Card: **71 MOXLEY RD**

Town of Montville, CT

Parcel Information

Location:	71 MOXLEY RD	Property Use:	Use Assessment	Primary Use:	Residential
Unique ID:	W0061700	Map Block Lot:	017-012-000	Acres:	14.34
		Zone:	R40	Volume / Page:	0151/1005
		Sale Date:	03/23/1983	Sale Price:	$0

Value Information

	Appraised Value	Assessed Value
Land	35850	6730
Buildings	0	0
Detached Outbuildings	207290	145100
Total	243140	151830

Owner's Information

Owner's Data
WAINWRIGHT ERNEST C & WALTER N JR 149 GREAT NECK RD WATERFORD, CT 06385

Property Card: **71 MOXLEY RD**

Town of Montville, CT

Parcel Information

Location:	71 MOXLEY RD	Property Use:	Commercial	Primary Use:	Cell Tower
Unique ID:	17012CEL	Map Block Lot:	017-012-CEL	Acres:	1
		Zone:	LI	Volume / Page:	0001/0001
		Sale Date:	10/01/2011	Sale Price:	$0

Value Information

	Appraised Value	Assessed Value
Land	0	0
Buildings	0	0
Detached Outbuildings	855129	598590
Total	855129	598590

Owner's Information

Owner's Data
SBA TOWERS II LLC 8051 CONGRESS AVE BOCA RATON, FL 334871307

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2016.

Information on the Property Records for the Municipality of Montville was last updated on 9/3/2019.

Parcel Information

Location:	71 MOXLEY RD	Property Use:	Cell Tower	Primary Use:	Cell Tower
Unique ID:	17012CEL	Map Block Lot:	017/012/CEL	Acres:	1.00
490 Acres:	0.00	Zone:	LI	Volume / Page:	0001/0001
Developers Map / Lot:		Census:			

Value Information

	Appraised Value	Assessed Value
Land	0	0
Buildings	0	0
Detached Outbuildings	855,129	598,590
Total	855,129	598,590

Owner's Information

Owner's Data
SBA TOWERS II LLC ATTN: TAX DEPT CT10016-A 8051 CONGRESS AVE BOCA RATON FL 33487-1307

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
6 Ft Top Rail Fence	0000	216.00	0.00	216
Cell Shed	0000	288.00	0.00	288
Cell Shed	0000	192.00	0.00	192
Cell Tower	2011	5.00	0.00	5

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
SBA TOWERS II LLC	0001	0001	10/01/2011		No	$0

Building Permits

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
B2019-0252	Commercial New	06/10/2019		Needs Visit	CA-UPGRADE & REPLACE EQUIPMENT ON EXISTING TELECOMMUNICATIONS FACILITY

EXHIBIT 5

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5236

Montville SE Moxley Hill Road
71 Moxley Hill Road

Uncasville, CT 06382

September 18, 2019

Centerline Communications Project Number: 950012-283

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**12.51 %**

September 18, 2019

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT5326 – Montville SE Moxley Hill Road**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **71 Moxley Hill Road in Uncasville, Connecticut** for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **71 Moxley Hill Road in Uncasville, Connecticut**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
5G	850 MHz	2	25
LTE	700 MHz	4	40
LTE	2100 MHz (AWS)	4	30
LTE	1900 MHz (PCS)	4	40

Table 1: Channel Data Table

The following antennas listed in Table 2 were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), and 2100 MHz (AWS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	CCI DMP65R-BU6DA	130
A	2	CCI HPA-65R-BUU-H8	130
A	3	Powerwave 7770	130
B	1	CCI DMP65R-BU6DA	130
B	2	CCI HPA-65R-BUU-H8	130
B	3	Powerwave 7770	130
C	1	CCI DMP65R-BU6DA	130
C	2	CCI HPA-65R-BUU-H8	130
C	3	Powerwave 7770	130

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.

RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX	ERP (W)	MPE %
Antenna A1	CCI DMP65R-BU8DA	700 MHz / 850 MHz / 1900 MHz / 1900 MHz / 850 MHz	11.05 dBd / 11.55 dBd / 14.75 dBd / 14.75 dBd / 11.55 dBd	14	530	12,429.59	3.19
Antenna A2	CCI HPA-65R-BUU-H8	700 MHz / 2100 MHz /	13.15 dBd / 15.25 dBd / 15.25 dBd	10	320	9,691.47	2.46
Antenna A3	Powerwave 7770	850 MHz	11.5 dBd	2	60	847.52	0.32
						Sector A Composite MPE%	**5.97**
Antenna B1	CCI DMP65R-BU8DA	700 MHz / 850 MHz / 1900 MHz / 1900 MHz /	11.05 dBd / 11.55 dBd / 14.75 dBd / 14.75	14	530	12,429.59	3.19
Antenna B2	CCI HPA-65R-BUU-H8	700 MHz / 2100 MHz /	13.15 dBd / 15.25 dBd / 15.25 dBd	10	320	9,691.47	2.46
Antenna B3	Powerwave 7770	850 MHz	11.5 dBd	2	60	847.52	0.32
						Sector B Composite MPE%	**5.97**
Antenna C1	CCI DMP65R-	700 MHz / 850 MHz /	11.05 dBd / 11.55 dBd	14	530	12,429.59	3.19
Antenna C2	CCI HPA-65R-BUU-H8	700 MHz / 2100 MHz /	13.15 dBd / 15.25 dBd / 15.25 dBd	10	320	9,691.47	2.46
Antenna C3	Powerwave 7770	850 MHz	11.5 dBd	2	60	847.52	0.32
						Sector C Composite MPE%	**5.97**

Table 3: AT&T Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max Per Sector Value	**5.97 %**
Verizon	2.81%
Omnipoint	0.15%
Sprint	2.24%
T-Mobile	1.17%
Metro PCS	0.17%
Site Total MPE %:	**12.51 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	5.97 %
AT&T Sector B Total:	5.97 %
AT&T Sector C Total:	5.97 %
Site Total:	12.51 %

Table 5: Site MPE Summary

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

AT&T _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($i.tW/cm^2$)	Frequency (MHz)	Allowable MPE ($i.tW/cm^2$)	Calculated % MPE
AT&T 700 MHz LTE	2	509.40	130.0	2.17	700 MHz LTE	467	0.46%
AT&T 850 MHz LTE	2	571.56	130.0	2.43	850 MHz LTE	567	0.43%
AT&T 1900 MHz LTE	4	1194.15	130.0	10.16	1900 MHz LTE	1000	1.02%
AT&T 1900 MHz LTE	4	1194.15	130.0	10.16	1900 MHz LTE	1000	1.02%
AT&T 850 MHz 5G	2	357.22	130.0	1.52	850 MHz 5G	567	0.27%
AT&T 700 MHz LTE	2	826.15	130.0	3.51	700 MHz LTE	467	0.75%
AT&T 2100 MHz LTE AWS	4	1004.90	130.0	8.55	2100 MHz LTE AWS	1000	0.86%
AT&T 2100 MHz LTE AWS	4	1004.90	130.0	8.55	2100 MHz LTE AWS	1000	0.86%
AT&T 850 MHz UMTS	2	423.76	130.0	1.80	850 MHz UMTS	567	0.32%
						Total:	**5.97%**

Table 6: AT&T Maximum Sector MPE Power Values

Summary

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

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	5.97 %
Sector B:	5.97 %
Sector C:	5.97 %
AT&T Maximum Total (per sector):	5.97 %
Site Total:	12.51 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **12.51 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Ryan McManus
Senior RF EME Compliance Manager
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767

EXHIBIT 6

TES
Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 190 ft Rohn Guyed Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT10016-A

Customer Site Name: Montville 3, CT

Carrier Name: AT&T (App#: 123697, v1)

Carrier Site ID / Name: CT5236 / Montville SE Moxley Hill RD

Site Location: 71 Moxley Road

Uncasville, Connecticut

New London County

Latitude: 41.435211

Longitude: -72.123319

Analysis Result:

Max Structural Usage: 94.3% [Pass]

Max Foundation Usage: 61.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By : Cesar Rojas

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

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Analysis Result:

Max Structural Usage: 94.3% [Pass]

Max Foundation Usage: 61.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By : Cesar Rojas

Introduction

The purpose of this report is to summarize the analysis results on the 190 ft Rohn Guyed Tower to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	-Rohn, Inc. Eng. File # 37183AE001 dated 04/21/1998. -TES Project Number 78231 dated 07/09/2019.
Foundation Drawing	-Rohn, Inc. Eng. File # 37183AE001 dated 04/21/1998.
Geotechnical Report	-FDH Engineering, Inc. Project # 11-02193EG1 dated 08/10/2011.
Modification Drawings	-FDH Velocitel, Project # 15BJIT1400 dated 04/22/2015. -FDH Engineering, Inc. Project # 1465RU1400 dated 05/29/2014.

Analysis Criteria

The comprehensive analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-H**.** In accordance with this standard, the structure was analyzed using **TESTowers,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	126.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-H / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.195, S_1 = 0.053

This structural analysis is based upon the tower being classified as a Risk Category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	175.0	6	Kathrein - 800 10504 - Panel	(3) T-Frames	(12) 1 5/8" (1) 3/8"	Metro PCS
2		6	Kathrein - 860 10118 - RET			
3	160.0	3	RFS APXVSPP18-C-A20 - Panel	(3) Sector Frames	(4) 1 1/4" Hybrid	Sprint Nextel
4		3	RFS APXVTM14-C-I20 - Panel			
5		4	RFS ACU-A20-N RET			
6		3	Alcatel Lucent 1900 MHz RRH			
7		3	Alcatel Lucent 800 MHz RRH			
8		3	Alcatel Lucent TD-RRH8x20-25			
9		3	Alcatel Lucent 800 MHz Filter			
10	150.0	3	Andrew RR65-18-VDPL2 - Panel	(3) Sector Frames	(10) 1 5/8" (3) 1 5/8" Hybrid	T-Mobile
11		3	RFS APXVAARR24_43-U-NA20 - Panel			
12		3	Ericsson Air32 KRD901146-1_B66A_B2A - Panel			
13		6	Ericsson KRY 112 144/1			
14		3	Ericsosn Radio 4449 B71+B12			
15	141.0	3	Antel - BXA-70063-6CF-EDIN-0 – Panel	(3) T-Frames	(12) 1 5/8" (1) 1 5/8" Hybrid	Verizon
16		3	Commscope - LNX-8513DS-VTM - Panel			
17		6	Commscope - HBXX-6517DS-A2M - Panel			
18		6	RFS - FD9R6004/2C-3L – Diplexer			
19		3	ALU - RRH2X60-AWS – RRH			
20		1	RFS - DB-T1-6Z-8AB-0Z – DC Surge			
-	130.0	3	Powerwave - 7770.00 - Panel	(3) T-Frames	(12) 1 1/4" (1) 1/2" Hybrid (2) 3/4" DC	AT&T
-		1	CCI - HPA-65R-BUU-H8 - Panel			
-		1	CCI - HPA-65R-BUU-H6 - Panel			
-		1	Andrew - SBNHH-1D65A - Panel			
-		6	Powerwave - LGP21401 – TMA			
-		6	Kathrein - 860 10025 - RET			
-		3	Ericsson - RRUS-11 – RRU			
-		3	Ericsson – RRUS-12 – RRU			
-		3	Ericsson – RRUS-A2 – RRU			
-		1	Raycap - DC6-48-60-18-8F – Surge Supp.			
34	76.0	1	Andrew - GPS 7.5"X3" - GPS	(1) Stand-off Mount	(1) 1/2"	Verizon

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
21	130.0	3	Powerwave - 7770.00 - Panel	(3) T-Frames	(12) 1 1/4" (2) 1/2" Fiber (4) 3/4" DC	AT&T
22		1	CCI - HPA-65R-BUU-H8 - Panel			
23		1	CCI - HPA-65R-BUU-H6 - Panel			
24		1	Andrew - SBNHH-1D65A - Panel			
25		1	Cci DMP65R-BU8DA - Panel			
26		1	Cci DMP65R-BU6DA - Panel			
27		1	Cci DMP65R-BU4DA - Panel			
28		6	Powerwave - LGP21401 – TMA			
29		6	Kathrein - 860 10025 - RET			
30		3	4449 B5/B12 - RRU			
31		3	8843 B2/B66A - RRU			
32		3	Ericsson – RRUS-A2 – RRU			
33		2	Raycap - DC6-48-60-18-8F – Surge Supp.			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

Tower Component	Legs	Diagonals	Horizontals	Guy Wires
Max. Usage:	**82.9%**	**94.3%**	**20.8%**	**49.5%**
Pass/Fail	**Pass**	**Pass**	**Pass**	**Pass**

Foundations

	Base Reactions		Inner Anchors		Middle Anchors		Outer Anchors	
Reactions (kips)	Axial	Shear	Uplift	Shear	Uplift	Shear	Uplift	Shear
Analysis Reactions	124.9	5.7	38.6	44.9	-	-	-	-

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-H for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.7593 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-H Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Structure: CT10016-A-SBA

Site Name:	Montville 3, CT			**Code:**	EIA/TIA-222-H	9/16/2019
Type:	Guyed	**Base Shape:**	Triangle	**Basic WS:**	126.00	
Height:	190.00 (ft)	**Base Width:**	0.00	**Basic Ice WS:**	50.00	
Base Elev:	0.00 (ft)	**Top Width:**	3.42	**Operational WS:**	60.00	Page: 1

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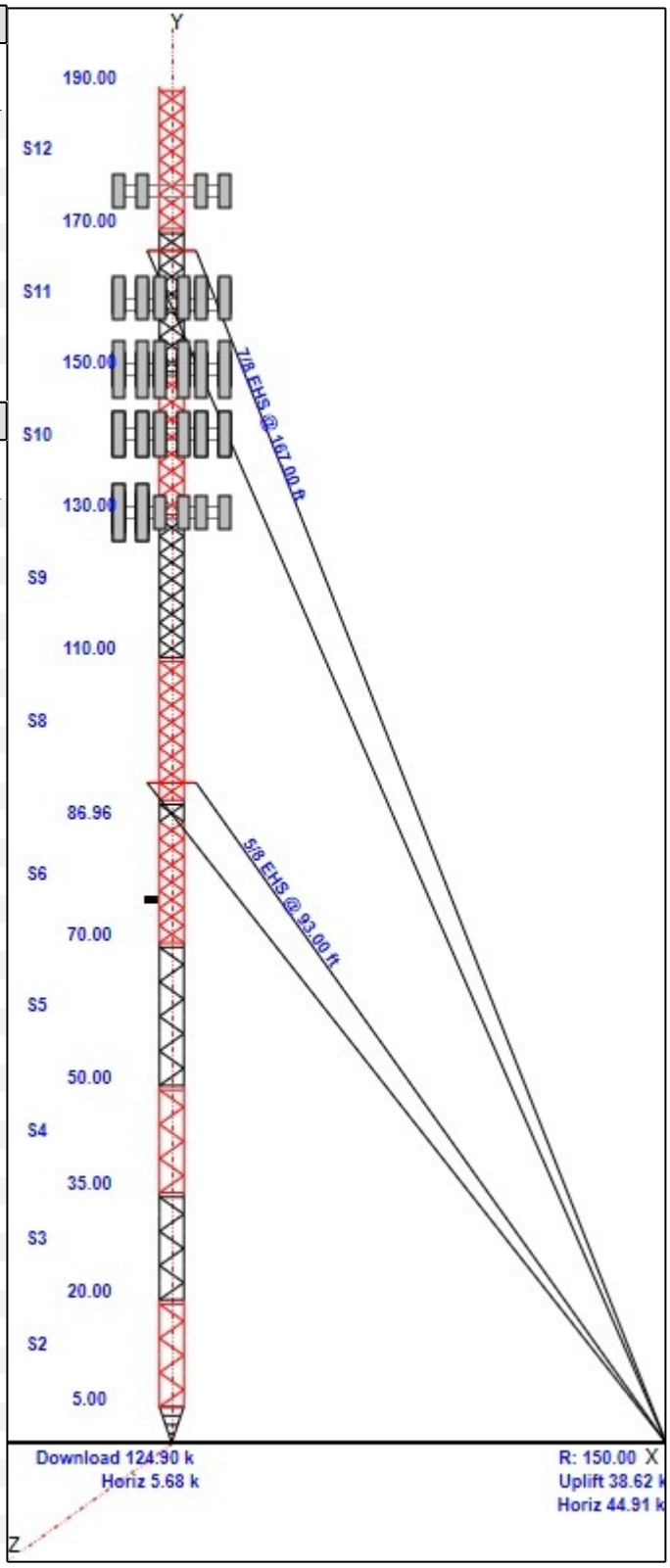
Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1	PX 3" DIA PIPE		SAE 8X8X0.75
2	PX 3" DIA PIPE	PSP ROHN 1 1/2X11GA	PSP ROHN 1 1/2X11GA
3-4	PX 3" DIA PIPE	PSP ROHN 1 1/2X16GA	PSP ROHN 1 1/2X16GA
5	PX 3" DIA PIPE	PSP ROHN 1 1/2X11GA	PSP ROHN 1 1/2X11GA
6	PX 3" DIA PIPE	PSP ROHN 1 1/2X16GA	PSP ROHN 1 1/2X16GA
7	PX 3" DIA PIPE	SAE 2X2X0.25	PSP ROHN 1 1/2X16GA
8	PX 3" DIA PIPE	PSP ROHN 1 1/2X11GA	PSP ROHN 1 1/2X11GA
9	MOD 2.5"PX+3'PX1/2P	PSP ROHN 1 1/2X11GA	PSP ROHN 1 1/2X11GA
10	MOD 2.5"PX+3'PX1/2P	PSP ROHN 1 1/2X16GA	PSP ROHN 1 1/2X16GA
11-12	PX 3" DIA PIPE	SAE 2X2X0.25	SAE 2X2X0.25

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description
175.00	175.00	6	800 10504
175.00	175.00	6	860 10118
175.00	175.00	3	Sector Frame
159.00	160.00	3	RFS APXVSPP18-C-A20
159.00	160.00	3	RFS APXVTM14-C-I20
159.00	160.00	3	Alcatel Lucent 1900 MHz RRH
159.00	160.00	3	Alcatel Lucent 800 MHz RRH
159.00	160.00	3	Alcatel Lucent TD-RRH8x20-25
159.00	160.00	3	Alcatel Lucent 800 MHz Filter
159.00	160.00	4	RFS ACU-A20-N RET
159.00	159.00	3	Sector Frame
150.00	150.00	6	Ericsson KRY 112 144/1
150.00	150.00	3	Sector Frames
150.00	150.00	3	Andrew RR65-18-VDPL2
150.00	150.00	3	RFS APXVAARR24_43-U-NA20
150.00	150.00	3	Ericsosn Radio 4449 B71+B12
150.00	150.00	3	Ericsosn Radio 4449 B12
150.00	150.00	3	Ericsson Air32 KRD901146-1_B66A_B2A
141.00	141.00	3	BXA-70063-6CF-EDIN-0
141.00	141.00	3	LNX-8513DS-VTM
141.00	141.00	6	HBXX-6517DS-A2M
141.00	141.00	6	FD9R6004/2C-3L
141.00	141.00	3	RRH2X60-AWS
141.00	141.00	1	DB-T1-6Z-8AB-0Z
141.00	141.00	3	Sector Frame
130.00	130.00	3	7770.00
130.00	130.00	1	HPA-65R-BUU-H8
130.00	130.00	1	HPA-65R-BUU-H6
130.00	130.00	1	SBNHH-1D65A
130.00	130.00	6	LGP21401
130.00	130.00	6	860 10025
130.00	130.00	3	RRUS A2 Module
130.00	130.00	2	DC6-48-60-18-8F
130.00	130.00	3	Sector Frame
130.00	130.00	1	Cci DMP65R-BU8DA
130.00	130.00	1	Cci DMP65R-BU6DA
130.00	130.00	1	Cci DMP65R-BU4DA
130.00	130.00	3	4449 B5/B12
130.00	130.00	3	8843 B2/B66A



76.00	76.00	1	Andrew - GPS 7.5"X3" - GPS
76.00	76.00	1	Stand-Off

Linear Appurtenances

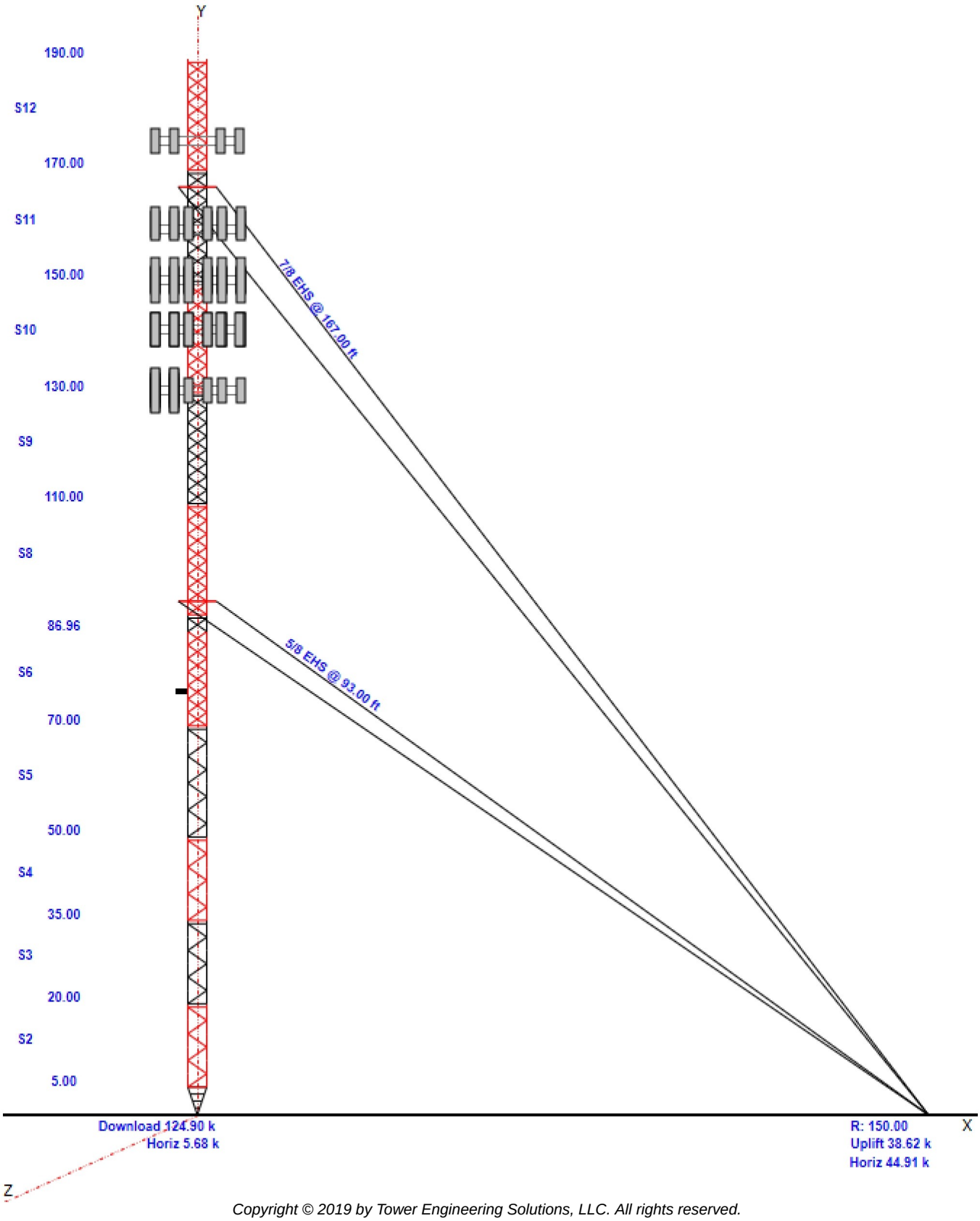
Elev From (ft)	Elev To (ft)	Qty	Description
0.00	175.00	12	1 5/8" Coax
0.00	175.00	1	3/8" Coax
0.00	160.00	4	1-1/4" Hybrid
0.00	150.00	10	1 5/8" Coax
0.00	150.00	3	1 5/8" Hybrid
0.00	141.00	6	1 5/8" Coax
0.00	141.00	6	1 5/8" Coax
0.00	141.00	1	1 5/8" Hybrid
0.00	130.00	12	1 1/4" Coax
0.00	130.00	2	1/2" Hybrid
0.00	130.00	4	3/4" DC
0.00	76.00	1	1/2" Coax

Max Guy Wire

49.50% @ 92.4221 ft - 5/8 EHS

Structure: CT10016-A-SBA

Site Name:	Montville 3, CT			**Code:**	EIA/TIA-222-H	9/16/2019
Type:	Guyed	**Base Shape:**	Triangle	**Basic WS:**	126.00	
Height:	190.00 (ft)	**Base Width:**	0.00	**Basic Ice WS:**	50.00	
Base Elev:	0.00 (ft)	**Top Width:**	3.42	**Operational WS:**	60.00	Page: 3



Anchor Drops with Guy Radius - Structure: CT10016-A-SBA

Site Name:	Montville 3, CT			**Code:**	EIA_H	9/16/2019
Type:	Guyed	**Base Shape:**	Triangle	**Basic WS:**	126.00	
Height:	190.00 (ft)	**Base Width:**	0.00	**Basic Ice WS:**	50.00	
Base Elev:	0.00 (ft)	**Top Width:**	3.42	**Operational WS:**	60.00	Page: 4

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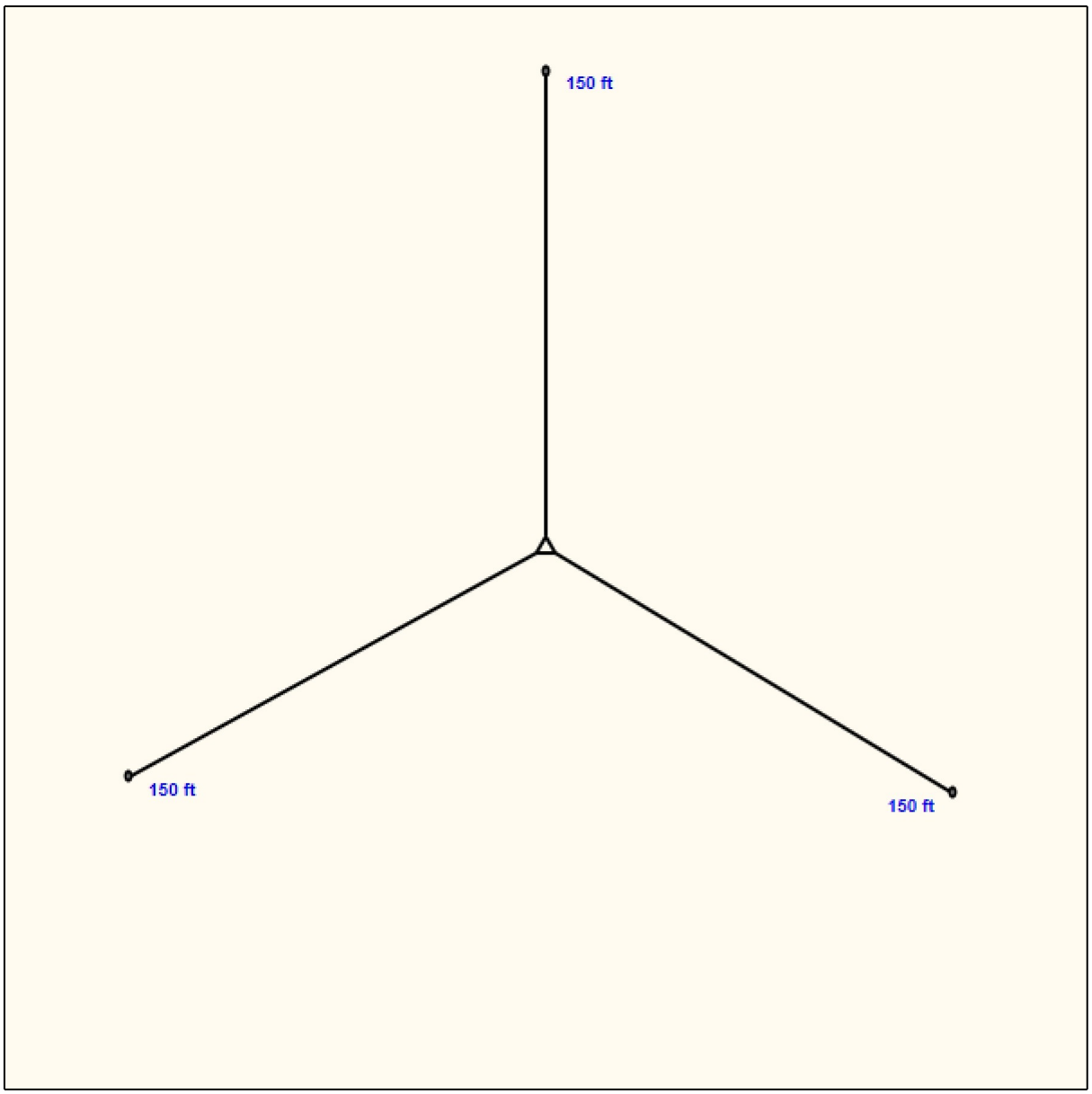
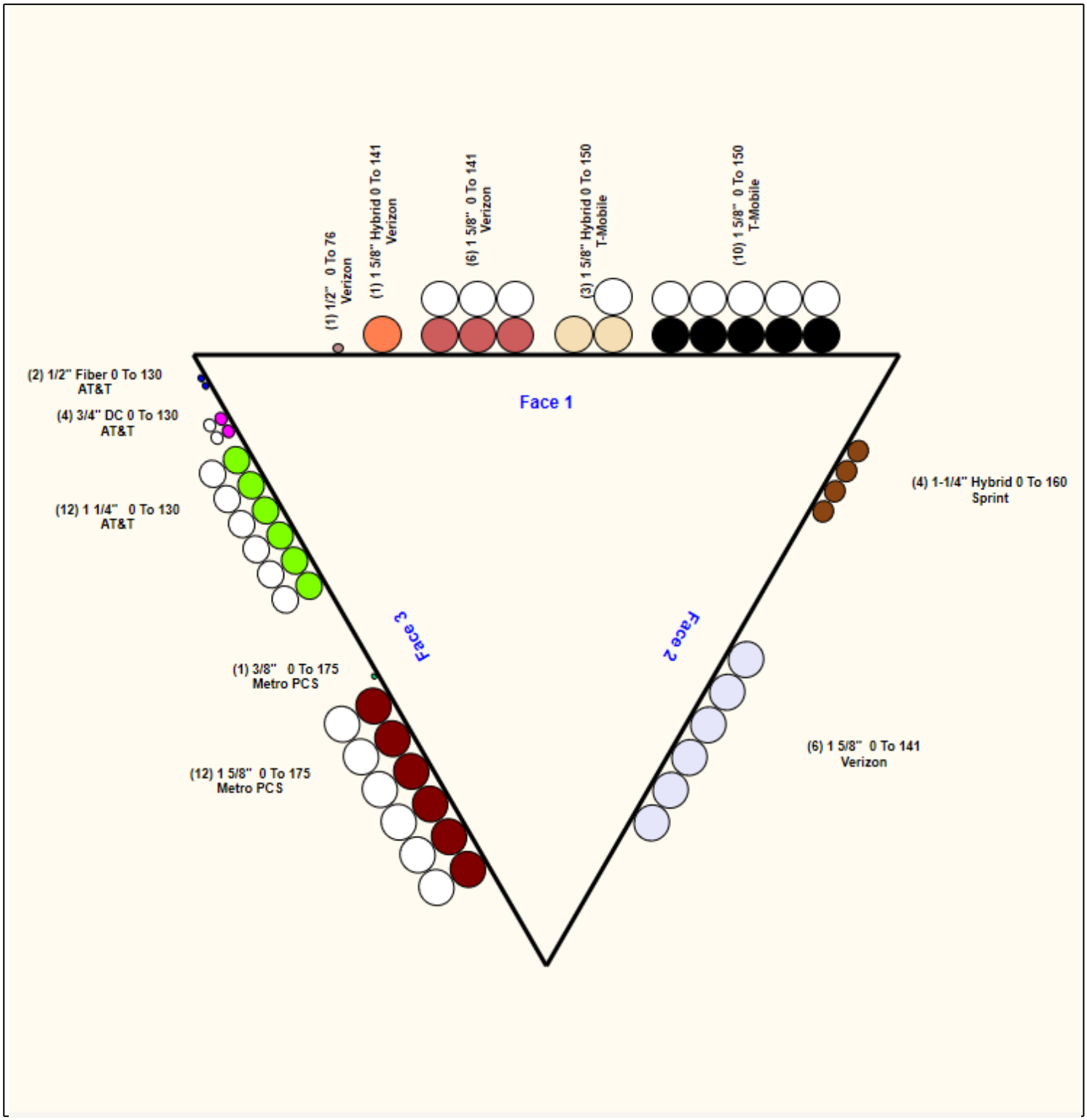


Structure: CT10016-A-SBA - Coax Line Placement

Type: Guyed
Site Name: Montville 3, CT
Height: 190.00 (ft)

9/16/2019

Tower Engineering Solutions



Loading Summary

Structure:	CT10016-A-SBA		**Code:**	EIA/TIA-222-H	9/16/2019
Site Name:	Montville 3, CT		**Exposure:**	B	
Height:	190.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	II	Page: 6

Tower Engineering Solutions

Discrete Appurtenances Properties

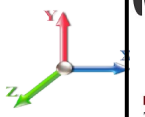
Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	Ice Weight (lb)	Ice CaAa (sf)	Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
175.00	800 10504	6	17.60	3.340	60.33	4.572	54.000	6.100	2.700	0.80	0.72	0.000
175.00	860 10118	6	1.10	0.160	4.60	0.395	7.000	2.400	2.000	0.80	0.50	0.000
175.00	Sector Frame	3	500.00	17.500	973.95	26.955	0.000	0.000	0.000	0.75	0.75	0.000
159.00	RFS APXVSPP18-C-A20	3	57.00	8.020	182.56	8.869	72.000	11.800	7.000	0.80	0.83	1.000
159.00	RFS APXVTM14-C-I20	3	56.00	6.340	156.57	7.071	56.300	12.600	6.300	0.80	0.79	1.000
159.00	Alcatel Lucent 1900 MHz RRH	3	60.00	2.770	115.98	3.621	25.000	11.100	11.400	0.80	0.67	1.000
159.00	Alcatel Lucent 800 MHz RRH	3	53.00	2.490	102.63	3.257	19.700	13.000	10.800	0.80	0.50	1.000
159.00	Alcatel Lucent TD-RRH8x20-25	3	70.00	4.050	139.13	4.581	26.100	18.600	6.700	0.80	0.67	1.000
159.00	Alcatel Lucent 800 MHz Filter	3	8.80	0.780	20.64	1.214	10.000	8.000	3.000	0.80	0.67	1.000
159.00	RFS ACU-A20-N RET	4	1.00	0.140	3.88	0.339	4.000	2.000	3.500	0.80	0.67	1.000
159.00	Sector Frame	3	500.00	17.500	968.40	26.845	0.000	0.000	0.000	0.75	0.75	0.000
150.00	Ericsson KRY 112 144/1	6	20.00	0.410	32.98	0.725	12.000	7.000	4.000	0.80	0.50	0.000
150.00	Sector Frames	3	500.00	17.500	962.19	26.721	0.000	0.000	0.000	0.75	0.75	0.000
150.00	Andrew RR65-18-VDPL2	3	13.50	4.360	72.43	4.989	56.000	8.000	2.800	0.80	0.68	0.000
150.00	RFS APXVAARR24_43-U-NA20	3	128.00	20.240	392.91	21.482	95.900	24.000	7.800	0.80	0.70	0.000
150.00	Ericsosn Radio 4449 B71+B12	3	70.00	1.650	111.36	1.993	15.000	13.200	9.300	0.80	0.67	0.000
150.00	Ericsosn Radio 4449 B12	3	71.00	1.970	106.34	2.332	17.900	13.200	9.400	0.80	0.50	0.000
150.00	Ericsson Air32	3	132.20	6.510	246.82	7.292	57.000	12.900	8.700	0.80	0.87	0.000
141.00	BXA-70063-6CF-EDIN-0	3	17.00	7.570	124.09	8.382	71.000	11.200	5.200	0.80	0.73	0.000
141.00	LNX-8513DS-VTM	3	26.30	8.170	152.35	9.014	72.700	11.900	7.100	0.80	0.83	0.000
141.00	HBXX-6517DS-A2M	6	40.80	8.550	166.98	9.387	74.900	12.000	6.500	0.80	0.77	0.000
141.00	FD9R6004/2C-3L	6	3.10	0.360	8.41	0.653	5.800	6.500	1.500	0.80	0.67	0.000
141.00	RRH2X60-AWS	3	55.00	3.500	107.98	4.022	37.000	11.000	6.000	0.80	0.67	0.000
141.00	DB-T1-6Z-8AB-0Z	1	18.90	4.800	108.42	5.365	24.000	24.000	10.000	1.00	1.00	0.000
141.00	Sector Frame	3	500.00	17.500	962.19	26.721	0.000	0.000	0.000	0.75	0.75	0.000
130.00	7770.00	3	35.00	5.500	116.25	6.179	55.000	11.000	5.000	0.80	0.73	0.000
130.00	HPA-65R-BUU-H8	1	68.00	12.980	246.96	14.009	92.400	14.800	7.400	0.80	0.85	0.000
130.00	HPA-65R-BUU-H6	1	51.00	9.660	203.65	10.532	72.000	14.800	9.000	0.80	0.85	0.000
130.00	SBNHH-1D65A	1	33.50	5.880	129.60	6.568	55.000	11.900	7.100	0.80	0.85	0.000
130.00	LGP21401	6	19.00	1.290	40.96	1.835	14.400	9.200	2.600	0.80	0.67	0.000
130.00	860 10025	6	1.20	0.180	5.11	0.427	7.600	2.400	2.000	0.80	0.67	0.000
130.00	RRUS A2 Module	3	21.20	1.860	44.74	2.495	12.800	15.000	3.400	0.80	0.67	0.000
130.00	DC6-48-60-18-8F	2	31.80	0.920	72.11	1.206	24.000	11.000	11.000	0.80	0.67	0.000
130.00	Sector Frame	3	500.00	17.500	955.12	26.580	0.000	0.000	0.000	0.75	0.75	0.000
130.00	Cci DMP65R-BU8DA	1	105.40	22.730	374.46	25.171	96.000	27.500	7.100	0.80	0.63	0.000
130.00	Cci DMP65R-BU6DA	1	38.00	14.400	226.32	16.248	71.100	23.900	7.900	0.80	0.67	0.000
130.00	Cci DMP65R-BU4DA	1	72.80	10.120	226.98	10.959	48.200	25.200	9.300	0.80	0.72	0.000
130.00	4449 B5/B12	3	71.00	1.970	105.80	2.327	17.900	13.200	9.400	0.80	0.67	0.000
130.00	8843 B2/B66A	3	72.00	1.640	102.54	1.964	14.900	13.200	10.900	0.80	0.67	0.000
76.00	Andrew - GPS 7.5"X3" - GPS	1	1.00	0.130	6.28	0.270	7.500	3.000	3.000	1.00	1.00	0.000
76.00	Stand-Off	1	15.00	4.310	29.39	7.675	0.000	0.000	0.000	1.00	1.00	0.000
	Totals:	**126**	**11,639.00**		**25,296.97**						**Number of Appurtenances :**	**41**

Linear Appurtenances Properties

Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	175.00	1 5/8" Coax	12	1.98	1.04	50.00	3	Block		N	0.50	1.00	
0.00	175.00	3/8" Coax	1	0.44	0.08	100.00	3	Individual NR		N	1.00	1.00	
0.00	160.00	1-1/4" Hybrid	4	1.25	0.95	100.00	2	Individual IR		N	1.00	0.67	
0.00	150.00	1 5/8" Coax	10	1.98	1.04	50.00	1	Block		N	0.50	1.00	
0.00	150.00	1 5/8" Hybrid	3	2.00	1.10	50.00	1	Block		N	0.50	1.00	
0.00	141.00	1 5/8" Coax	6	1.98	1.04	100.00	2	Individual IR		N	1.00	0.67	
0.00	141.00	1 5/8" Coax	6	1.98	1.04	50.00	1	Block		N	0.50	1.00	
0.00	141.00	1 5/8" Hybrid	1	2.00	1.10	100.00	1	Individual NR		N	1.00	1.00	
0.00	130.00	1 1/4" Coax	12	1.55	0.66	50.00	3	Block		N	0.50	1.00	
0.00	130.00	1/2" Hybrid	2	0.50	0.52	100.00	3	Individual NR		N	1.00	1.00	
0.00	130.00	3/4" DC	4	0.75	0.40	50.00	3	Block		N	1.00	1.00	
0.00	76.00	1/2" Coax	1	0.65	0.16	100.00	1	Individual NR		N	1.00	1.00	

Section Forces

Structure:	CT10016-A-SBA	**Code:**	EIA/TIA-222-H	9/16/2019	
Site Name:	Montville 3, CT	**Exposure:**	B		
Height:	190.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 8	



Tower Engineering Solutions

Load Case: 1.2D + 1.0W Normal Wind — 1.2D + 1.0W 126 mph Wind at Normal To Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	24.01	4.917	3.14	0.00	0.81	1.82	1.00	1.00	0.00	7.71	30.62	0.00	1,718.8	0.0	286.23	170.69	428.61
2	12.5	24.01	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	91.86	0.00	1,729.3	0.0	379.05	1577.23	1,956.28
3	27.5	24.01	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	91.86	0.00	1,640.5	0.0	379.05	1577.23	1,956.28
4	42.5	26.54	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	91.86	0.00	1,640.5	0.0	419.07	1743.73	2,162.80
5	60.0	29.29	0.000	16.35	0.00	0.22	2.53	1.00	1.00	0.00	9.66	122.48	0.00	2,291.9	0.0	608.64	2565.71	3,174.35
6	78.5	31.63	0.000	17.11	0.00	0.27	2.37	1.00	1.00	0.00	10.43	103.28	0.00	1,946.2	0.0	665.33	2337.99	3,003.32
7	88.5	32.73	1.299	2.16	0.00	0.31	2.28	1.00	1.00	0.00	2.62	18.43	0.00	416.9	0.0	166.01	432.04	598.05
8	100.0	33.90	0.000	20.24	0.00	0.27	2.37	1.00	1.00	0.00	12.35	121.40	0.00	2,501.6	0.0	843.54	2946.40	3,789.94
9	120.0	35.71	0.000	19.21	0.00	0.26	2.41	1.00	1.00	0.00	11.65	121.40	0.00	2,685.2	0.0	850.22	3103.95	3,954.17
10	140.0	37.32	0.000	19.22	0.00	0.26	2.40	1.00	1.00	0.00	11.65	79.45	0.00	2,087.5	0.0	888.44	2143.79	3,032.23
11	160.0	38.77	11.444	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.47	28.87	0.00	1,933.4	0.0	1379.27	827.09	2,206.36
12	180.0	40.09	11.435	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.45	6.18	0.00	1,661.6	0.0	1424.76	188.31	1,613.07
														22,253.4	**0.0**			**27,875.47**

Load Case: 1.2D + 1.0W 60° Wind — 1.2D + 1.0W 126 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

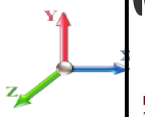
Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	24.01	4.917	3.14	0.00	0.81	1.82	0.80	1.00	0.00	6.72	30.62	0.00	1,718.8	0.0	249.71	170.69	420.39
2	12.5	24.01	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	91.86	0.00	1,729.3	0.0	379.05	1577.23	1,956.28
3	27.5	24.01	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	91.86	0.00	1,640.5	0.0	379.05	1577.23	1,956.28
4	42.5	26.54	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	91.86	0.00	1,640.5	0.0	419.07	1743.73	2,162.80
5	60.0	29.29	0.000	16.35	0.00	0.22	2.53	0.80	1.00	0.00	9.66	122.48	0.00	2,291.9	0.0	608.64	2565.71	3,174.35
6	78.5	31.63	0.000	17.11	0.00	0.27	2.37	0.80	1.00	0.00	10.43	103.28	0.00	1,946.2	0.0	665.33	2337.99	3,003.32
7	88.5	32.73	1.299	2.16	0.00	0.31	2.28	0.80	1.00	0.00	2.36	18.43	0.00	416.9	0.0	149.56	432.04	581.59
8	100.0	33.90	0.000	20.24	0.00	0.27	2.37	0.80	1.00	0.00	12.35	121.40	0.00	2,501.6	0.0	843.54	2946.40	3,789.94
9	120.0	35.71	0.000	19.21	0.00	0.26	2.41	0.80	1.00	0.00	11.65	121.40	0.00	2,685.2	0.0	850.22	3103.95	3,954.17
10	140.0	37.32	0.000	19.22	0.00	0.26	2.40	0.80	1.00	0.00	11.65	79.45	0.00	2,087.5	0.0	888.44	2143.79	3,032.23
11	160.0	38.77	11.444	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.19	28.87	0.00	1,933.4	0.0	1208.39	827.09	2,035.49
12	180.0	40.09	11.435	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.16	6.18	0.00	1,661.6	0.0	1248.15	188.31	1,436.46
														22,253.4	**0.0**			**27,503.31**

Section Forces

Structure:	CT10016-A-SBA	**Code:**	EIA/TIA-222-H	9/16/2019	
Site Name:	Montville 3, CT	**Exposure:**	B		
Height:	190.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 9	



Tower Engineering Solutions

Load Case: 1.2D + 1.0W 90° Wind — 1.2D + 1.0W 126 mph Wind at 90° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	24.01	4.917	3.14	0.00	0.81	1.82	0.85	1.00	0.00	6.97	30.62	0.00	1,718.8	0.0	258.84	170.69	429.53
2	12.5	24.01	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	91.86	0.00	1,729.3	0.0	379.05	1577.23	1,956.28
3	27.5	24.01	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	91.86	0.00	1,640.5	0.0	379.05	1577.23	1,956.28
4	42.5	26.54	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	91.86	0.00	1,640.5	0.0	419.07	1743.73	2,162.80
5	60.0	29.29	0.000	16.35	0.00	0.22	2.53	0.85	1.00	0.00	9.66	122.48	0.00	2,291.9	0.0	608.64	2565.71	3,174.35
6	78.5	31.63	0.000	17.11	0.00	0.27	2.37	0.85	1.00	0.00	10.43	103.28	0.00	1,946.2	0.0	665.33	2337.99	3,003.32
7	88.5	32.73	1.299	2.16	0.00	0.31	2.28	0.85	1.00	0.00	2.43	18.43	0.00	416.9	0.0	153.67	432.04	585.71
8	100.0	33.90	0.000	20.24	0.00	0.27	2.37	0.85	1.00	0.00	12.35	121.40	0.00	2,501.6	0.0	843.54	2946.40	3,789.94
9	120.0	35.71	0.000	19.21	0.00	0.26	2.41	0.85	1.00	0.00	11.65	121.40	0.00	2,685.2	0.0	850.22	3103.95	3,954.17
10	140.0	37.32	0.000	19.22	0.00	0.26	2.40	0.85	1.00	0.00	11.65	79.45	0.00	2,087.5	0.0	888.44	2143.79	3,032.23
11	160.0	38.77	11.444	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.76	28.87	0.00	1,933.4	0.0	1251.11	827.09	2,078.21
12	180.0	40.09	11.435	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.73	6.18	0.00	1,661.6	0.0	1292.30	188.31	1,480.61
														22,253.4	**0.0**			**27,603.42**

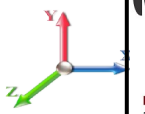
Load Case: 0.9D + 1.0W Normal Wind — 0.9D + 1.0W 126 mph Wind at Normal To Face

Wind Load Factor: 1.00
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	24.01	4.917	3.14	0.00	0.81	1.82	1.00	1.00	0.00	7.71	30.62	0.00	1,289.1	0.0	286.23	170.69	456.92
2	12.5	24.01	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	91.86	0.00	1,297.0	0.0	379.05	1577.23	1,956.28
3	27.5	24.01	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	91.86	0.00	1,230.3	0.0	379.05	1577.23	1,956.28
4	42.5	26.54	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	91.86	0.00	1,230.3	0.0	419.07	1743.73	2,162.80
5	60.0	29.29	0.000	16.35	0.00	0.22	2.53	1.00	1.00	0.00	9.66	122.48	0.00	1,719.0	0.0	608.64	2565.71	3,174.35
6	78.5	31.63	0.000	17.11	0.00	0.27	2.37	1.00	1.00	0.00	10.43	103.28	0.00	1,459.6	0.0	665.33	2337.99	3,003.32
7	88.5	32.73	1.299	2.16	0.00	0.31	2.28	1.00	1.00	0.00	2.62	18.43	0.00	312.6	0.0	166.01	432.04	598.05
8	100.0	33.90	0.000	20.24	0.00	0.27	2.37	1.00	1.00	0.00	12.35	121.40	0.00	1,876.2	0.0	843.54	2946.40	3,789.94
9	120.0	35.71	0.000	19.21	0.00	0.26	2.41	1.00	1.00	0.00	11.65	121.40	0.00	2,013.9	0.0	850.22	3103.95	3,954.17
10	140.0	37.32	0.000	19.22	0.00	0.26	2.40	1.00	1.00	0.00	11.65	79.45	0.00	1,565.6	0.0	888.44	2143.79	3,032.23
11	160.0	38.77	11.444	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.47	28.87	0.00	1,450.1	0.0	1379.27	827.09	2,206.36
12	180.0	40.09	11.435	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.45	6.18	0.00	1,246.2	0.0	1424.76	188.31	1,613.07
														16,690.0	**0.0**			**27,903.78**

Section Forces

Structure:	CT10016-A-SBA	**Code:**	EIA/TIA-222-H	9/16/2019	
Site Name:	Montville 3, CT	**Exposure:**	B		
Height:	190.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 10	



Tower Engineering Solutions

Load Case: 0.9D + 1.0W 60° Wind — 0.9D + 1.0W 126 mph Wind at 60° From Face

Wind Load Factor: 1.00
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	24.01	4.917	3.14	0.00	0.81	1.82	0.80	1.00	0.00	6.72	30.62	0.00	1,289.1	0.0	249.71	170.69	420.39
2	12.5	24.01	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	91.86	0.00	1,297.0	0.0	379.05	1577.23	1,956.28
3	27.5	24.01	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	91.86	0.00	1,230.3	0.0	379.05	1577.23	1,956.28
4	42.5	26.54	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	91.86	0.00	1,230.3	0.0	419.07	1743.73	2,162.80
5	60.0	29.29	0.000	16.35	0.00	0.22	2.53	0.80	1.00	0.00	9.66	122.48	0.00	1,719.0	0.0	608.64	2565.71	3,174.35
6	78.5	31.63	0.000	17.11	0.00	0.27	2.37	0.80	1.00	0.00	10.43	103.28	0.00	1,459.6	0.0	665.33	2337.99	3,003.32
7	88.5	32.73	1.299	2.16	0.00	0.31	2.28	0.80	1.00	0.00	2.36	18.43	0.00	312.6	0.0	149.56	432.04	581.59
8	100.0	33.90	0.000	20.24	0.00	0.27	2.37	0.80	1.00	0.00	12.35	121.40	0.00	1,876.2	0.0	843.54	2946.40	3,789.94
9	120.0	35.71	0.000	19.21	0.00	0.26	2.41	0.80	1.00	0.00	11.65	121.40	0.00	2,013.9	0.0	850.22	3103.95	3,954.17
10	140.0	37.32	0.000	19.22	0.00	0.26	2.40	0.80	1.00	0.00	11.65	79.45	0.00	1,565.6	0.0	888.44	2143.79	3,032.23
11	160.0	38.77	11.444	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.19	28.87	0.00	1,450.1	0.0	1208.39	827.09	2,035.49
12	180.0	40.09	11.435	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.16	6.18	0.00	1,246.2	0.0	1248.15	188.31	1,436.46
														16,690.0	**0.0**			**27,503.31**

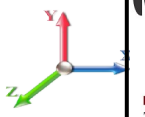
Load Case: 0.9D + 1.0W 90° Wind — 0.9D + 1.0W 126 mph Wind at 90° From Face

Wind Load Factor: 1.00
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	24.01	4.917	3.14	0.00	0.81	1.82	0.85	1.00	0.00	6.97	30.62	0.00	1,289.1	0.0	258.84	170.69	429.53
2	12.5	24.01	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	91.86	0.00	1,297.0	0.0	379.05	1577.23	1,956.28
3	27.5	24.01	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	91.86	0.00	1,230.3	0.0	379.05	1577.23	1,956.28
4	42.5	26.54	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	91.86	0.00	1,230.3	0.0	419.07	1743.73	2,162.80
5	60.0	29.29	0.000	16.35	0.00	0.22	2.53	0.85	1.00	0.00	9.66	122.48	0.00	1,719.0	0.0	608.64	2565.71	3,174.35
6	78.5	31.63	0.000	17.11	0.00	0.27	2.37	0.85	1.00	0.00	10.43	103.28	0.00	1,459.6	0.0	665.33	2337.99	3,003.32
7	88.5	32.73	1.299	2.16	0.00	0.31	2.28	0.85	1.00	0.00	2.43	18.43	0.00	312.6	0.0	153.67	432.04	585.71
8	100.0	33.90	0.000	20.24	0.00	0.27	2.37	0.85	1.00	0.00	12.35	121.40	0.00	1,876.2	0.0	843.54	2946.40	3,789.94
9	120.0	35.71	0.000	19.21	0.00	0.26	2.41	0.85	1.00	0.00	11.65	121.40	0.00	2,013.9	0.0	850.22	3103.95	3,954.17
10	140.0	37.32	0.000	19.22	0.00	0.26	2.40	0.85	1.00	0.00	11.65	79.45	0.00	1,565.6	0.0	888.44	2143.79	3,032.23
11	160.0	38.77	11.444	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.76	28.87	0.00	1,450.1	0.0	1251.11	827.09	2,078.21
12	180.0	40.09	11.435	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.73	6.18	0.00	1,246.2	0.0	1292.30	188.31	1,480.61
														16,690.0	**0.0**			**27,603.42**

Section Forces

Structure:	CT10016-A-SBA	**Code:**	EIA/TIA-222-H	9/16/2019	
Site Name:	Montville 3, CT	**Exposure:**	B		
Height:	190.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 11	



Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi Normal Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	3.78	4.917	5.62	2.48	0.99	2.08	1.00	1.00	0.77	10.77	34.28	9.66	2,604.4	885.6	71.95	1.96	73.92
2	12.5	3.78	0.000	21.80	9.36	0.38	2.11	1.00	1.00	0.91	13.84	119.39	11.34	4,017.4	2288.1	93.95	336.07	430.02
3	27.5	3.78	0.000	22.57	10.13	0.39	2.09	1.00	1.00	0.98	14.43	120.88	12.27	4,110.5	2470.1	96.81	341.46	438.27
4	42.5	4.18	0.000	23.02	10.58	0.40	2.07	1.00	1.00	1.03	14.79	121.75	12.82	4,219.6	2579.1	108.91	380.95	489.86
5	60.0	4.61	0.000	30.56	14.22	0.39	2.08	1.00	1.00	1.06	19.59	163.29	17.69	5,830.8	3538.8	159.55	565.61	725.16
6	78.5	4.98	0.000	34.55	17.45	0.52	1.87	1.00	1.00	1.09	24.50	138.55	13.42	5,293.4	3347.2	194.08	407.24	601.32
7	88.5	5.15	1.299	5.45	3.29	0.57	1.83	1.00	1.00	1.10	5.28	24.80	2.23	1,073.4	656.6	42.21	67.61	109.82
8	100.0	5.34	0.000	41.44	21.20	0.53	1.86	1.00	1.00	1.12	29.59	163.69	14.90	6,540.7	4039.1	249.93	504.22	754.15
9	120.0	5.62	0.000	40.80	21.59	0.53	1.87	1.00	1.00	1.14	28.98	164.24	15.17	6,776.1	4090.9	258.68	539.31	797.99
10	140.0	5.88	0.000	41.15	21.93	0.53	1.86	1.00	1.00	1.16	29.31	108.68	5.97	5,204.2	3116.7	272.75	356.51	629.27
11	160.0	6.10	11.444	33.89	22.22	0.58	1.82	1.00	1.00	1.17	36.24	37.22	3.90	4,306.0	2372.5	341.73	121.95	463.67
12	180.0	6.31	11.435	34.15	22.48	0.58	1.82	1.00	1.00	1.18	36.48	7.16	0.99	3,501.8	1840.3	355.39	26.54	381.93
														53,478.3	**31224.9**			**5,895.38**

Load Case: 1.2D + 1.0Di + 1.0Wi 60° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	3.78	4.917	5.62	2.48	0.99	2.08	0.80	1.00	0.77	9.79	34.28	9.66	2,604.4	885.6	65.38	1.96	67.35
2	12.5	3.78	0.000	21.80	9.36	0.38	2.11	0.80	1.00	0.91	13.84	119.39	11.34	4,017.4	2288.1	93.95	336.07	430.02
3	27.5	3.78	0.000	22.57	10.13	0.39	2.09	0.80	1.00	0.98	14.43	120.88	12.27	4,110.5	2470.1	96.81	341.46	438.27
4	42.5	4.18	0.000	23.02	10.58	0.40	2.07	0.80	1.00	1.03	14.79	121.75	12.82	4,219.6	2579.1	108.91	380.95	489.86
5	60.0	4.61	0.000	30.56	14.22	0.39	2.08	0.80	1.00	1.06	19.59	163.29	17.69	5,830.8	3538.8	159.55	565.61	725.16
6	78.5	4.98	0.000	34.55	17.45	0.52	1.87	0.80	1.00	1.09	24.50	138.55	13.42	5,293.4	3347.2	194.08	407.24	601.32
7	88.5	5.15	1.299	5.45	3.29	0.57	1.83	0.80	1.00	1.10	5.02	24.80	2.23	1,073.4	656.6	40.13	67.61	107.74
8	100.0	5.34	0.000	41.44	21.20	0.53	1.86	0.80	1.00	1.12	29.59	163.69	14.90	6,540.7	4039.1	249.93	504.22	754.15
9	120.0	5.62	0.000	40.80	21.59	0.53	1.87	0.80	1.00	1.14	28.98	164.24	15.17	6,776.1	4090.9	258.68	539.31	797.99
10	140.0	5.88	0.000	41.15	21.93	0.53	1.86	0.80	1.00	1.16	29.31	108.68	5.97	5,204.2	3116.7	272.75	356.51	629.27
11	160.0	6.10	11.444	33.89	22.22	0.58	1.82	0.80	1.00	1.17	33.95	37.22	3.90	4,306.0	2372.5	320.14	121.95	442.09
12	180.0	6.31	11.435	34.15	22.48	0.58	1.82	0.80	1.00	1.18	34.20	7.16	0.99	3,501.8	1840.3	333.11	26.54	359.65
														53,478.3	**31224.9**			**5,842.87**

Section Forces

Structure:	CT10016-A-SBA	**Code:**	EIA/TIA-222-H	9/16/2019	
Site Name:	Montville 3, CT	**Exposure:**	B		
Height:	190.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 90° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 1.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	3.78	4.917	5.62	2.48	0.99	2.08	0.85	1.00	0.77	10.03	34.28	9.66	2,604.4	885.6	67.03	1.96	68.99
2	12.5	3.78	0.000	21.80	9.36	0.38	2.11	0.85	1.00	0.91	13.84	119.39	11.34	4,017.4	2288.1	93.95	336.07	430.02
3	27.5	3.78	0.000	22.57	10.13	0.39	2.09	0.85	1.00	0.98	14.43	120.88	12.27	4,110.5	2470.1	96.81	341.46	438.27
4	42.5	4.18	0.000	23.02	10.58	0.40	2.07	0.85	1.00	1.03	14.79	121.75	12.82	4,219.6	2579.1	108.91	380.95	489.86
5	60.0	4.61	0.000	30.56	14.22	0.39	2.08	0.85	1.00	1.06	19.59	163.29	17.69	5,830.8	3538.8	159.55	565.61	725.16
6	78.5	4.98	0.000	34.55	17.45	0.52	1.87	0.85	1.00	1.09	24.50	138.55	13.42	5,293.4	3347.2	194.08	407.24	601.32
7	88.5	5.15	1.299	5.45	3.29	0.57	1.83	0.85	1.00	1.10	5.08	24.80	2.23	1,073.4	656.6	40.65	67.61	108.26
8	100.0	5.34	0.000	41.44	21.20	0.53	1.86	0.85	1.00	1.12	29.59	163.69	14.90	6,540.7	4039.1	249.93	504.22	754.15
9	120.0	5.62	0.000	40.80	21.59	0.53	1.87	0.85	1.00	1.14	28.98	164.24	15.17	6,776.1	4090.9	258.68	539.31	797.99
10	140.0	5.88	0.000	41.15	21.93	0.53	1.86	0.85	1.00	1.16	29.31	108.68	5.97	5,204.2	3116.7	272.75	356.51	629.27
11	160.0	6.10	11.444	33.89	22.22	0.58	1.82	0.85	1.00	1.17	34.52	37.22	3.90	4,306.0	2372.5	325.54	121.95	447.48
12	180.0	6.31	11.435	34.15	22.48	0.58	1.82	0.85	1.00	1.18	34.77	7.16	0.99	3,501.8	1840.3	338.68	26.54	365.22
														53,478.3	**31224.9**			**5,856.00**

Load Case: 1.0D + 1.0W Normal Wind — 1.0D + 1.0W 60 mph Wind at Normal To Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	5.44	4.917	3.14	0.00	0.81	1.82	1.00	1.00	0.00	7.71	30.62	0.00	1,432.4	0.0	64.91	38.70	103.61
2	12.5	5.44	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	91.86	0.00	1,441.1	0.0	85.95	357.65	443.60
3	27.5	5.44	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	91.86	0.00	1,367.0	0.0	85.95	357.65	443.60
4	42.5	6.02	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	91.86	0.00	1,367.0	0.0	95.03	395.40	490.43
5	60.0	6.64	0.000	16.35	0.00	0.22	2.53	1.00	1.00	0.00	9.66	122.48	0.00	1,910.0	0.0	138.01	581.79	719.81
6	78.5	7.17	0.000	17.11	0.00	0.27	2.37	1.00	1.00	0.00	10.43	103.28	0.00	1,621.8	0.0	150.87	530.16	681.02
7	88.5	7.42	1.299	2.16	0.00	0.31	2.28	1.00	1.00	0.00	2.62	18.43	0.00	347.4	0.0	37.64	97.97	135.61
8	100.0	7.69	0.000	20.24	0.00	0.27	2.37	1.00	1.00	0.00	12.35	121.40	0.00	2,084.7	0.0	191.28	668.12	859.40
9	120.0	8.10	0.000	19.21	0.00	0.26	2.41	1.00	1.00	0.00	11.65	121.40	0.00	2,237.7	0.0	192.79	703.84	896.64
10	140.0	8.46	0.000	19.22	0.00	0.26	2.40	1.00	1.00	0.00	11.65	79.45	0.00	1,739.6	0.0	201.46	486.12	687.58
11	160.0	8.79	11.444	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.47	28.87	0.00	1,611.2	0.0	312.76	187.55	500.31
12	180.0	9.09	11.435	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.46	6.18	0.00	1,384.6	0.0	323.34	42.70	366.04
														18,544.5	**0.0**			**6,327.65**

Section Forces

Structure:	CT10016-A-SBA	**Code:**	EIA/TIA-222-H	9/16/2019	
Site Name:	Montville 3, CT	**Exposure:**	B		
Height:	190.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60° Wind — 1.0D + 1.0W 60 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	5.44	4.917	3.14	0.00	0.81	1.82	0.80	1.00	0.00	6.72	30.62	0.00	1,432.4	0.0	56.62	38.70	95.33
2	12.5	5.44	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	91.86	0.00	1,441.1	0.0	85.95	357.65	443.60
3	27.5	5.44	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	91.86	0.00	1,367.0	0.0	85.95	357.65	443.60
4	42.5	6.02	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	91.86	0.00	1,367.0	0.0	95.03	395.40	490.43
5	60.0	6.64	0.000	16.35	0.00	0.22	2.53	0.80	1.00	0.00	9.66	122.48	0.00	1,910.0	0.0	138.01	581.79	719.81
6	78.5	7.17	0.000	17.11	0.00	0.27	2.37	0.80	1.00	0.00	10.43	103.28	0.00	1,621.8	0.0	150.87	530.16	681.02
7	88.5	7.42	1.299	2.16	0.00	0.31	2.28	0.80	1.00	0.00	2.36	18.43	0.00	347.4	0.0	33.91	97.97	131.88
8	100.0	7.69	0.000	20.24	0.00	0.27	2.37	0.80	1.00	0.00	12.35	121.40	0.00	2,084.7	0.0	191.28	668.12	859.40
9	120.0	8.10	0.000	19.21	0.00	0.26	2.41	0.80	1.00	0.00	11.65	121.40	0.00	2,237.7	0.0	192.79	703.84	896.64
10	140.0	8.46	0.000	19.22	0.00	0.26	2.40	0.80	1.00	0.00	11.65	79.45	0.00	1,739.6	0.0	201.46	486.12	687.58
11	160.0	8.79	11.444	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.19	28.87	0.00	1,611.2	0.0	274.01	187.55	461.56
12	180.0	9.09	11.435	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.18	6.18	0.00	1,384.6	0.0	283.29	42.70	326.00
														18,544.5	**0.0**			**6,236.85**

Load Case: 1.0D + 1.0W 90° Wind — 1.0D + 1.0W 60 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

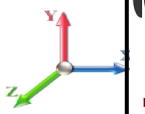
Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	5.44	4.917	3.14	0.00	0.81	1.82	0.85	1.00	0.00	6.97	30.62	0.00	1,432.4	0.0	58.69	38.70	97.40
2	12.5	5.44	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	91.86	0.00	1,441.1	0.0	85.95	357.65	443.60
3	27.5	5.44	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	91.86	0.00	1,367.0	0.0	85.95	357.65	443.60
4	42.5	6.02	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	91.86	0.00	1,367.0	0.0	95.03	395.40	490.43
5	60.0	6.64	0.000	16.35	0.00	0.22	2.53	0.85	1.00	0.00	9.66	122.48	0.00	1,910.0	0.0	138.01	581.79	719.81
6	78.5	7.17	0.000	17.11	0.00	0.27	2.37	0.85	1.00	0.00	10.43	103.28	0.00	1,621.8	0.0	150.87	530.16	681.02
7	88.5	7.42	1.299	2.16	0.00	0.31	2.28	0.85	1.00	0.00	2.43	18.43	0.00	347.4	0.0	34.85	97.97	132.81
8	100.0	7.69	0.000	20.24	0.00	0.27	2.37	0.85	1.00	0.00	12.35	121.40	0.00	2,084.7	0.0	191.28	668.12	859.40
9	120.0	8.10	0.000	19.21	0.00	0.26	2.41	0.85	1.00	0.00	11.65	121.40	0.00	2,237.7	0.0	192.79	703.84	896.64
10	140.0	8.46	0.000	19.22	0.00	0.26	2.40	0.85	1.00	0.00	11.65	79.45	0.00	1,739.6	0.0	201.46	486.12	687.58
11	160.0	8.79	11.444	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.76	28.87	0.00	1,611.2	0.0	283.70	187.55	471.25
12	180.0	9.09	11.435	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.75	6.18	0.00	1,384.6	0.0	293.31	42.70	336.01
														18,544.5	**0.0**			**6,259.55**

Force/Stress Compression Summary

Structure:	CT10016-A-SBA	**Code:**	EIA/TIA-222-H	9/16/2019	
Site Name:	Montville 3, CT	**Exposure:**	B		
Height:	190.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 14	



Tower Engineering Solutions

LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	5	PX - 3" DIA PIPE	-49.24	1.2D + 1.0Di + 1.0Wi 60° Wind	1.34	100	100	100	14.15	50.00	133.93	36.8	Member X
2	20	PX - 3" DIA PIPE	-67.89	1.2D + 1.0W 60° Wind	2.40	200	200	200	50.47	50.00	112.80	60.2	Member X
3	35	PX - 3" DIA PIPE	-86.49	1.2D + 1.0W 60° Wind	2.40	200	200	200	50.47	50.00	112.80	76.7	Member X
4	50	PX - 3" DIA PIPE	-93.25	1.2D + 1.0W 90° Wind	2.40	200	200	200	50.47	50.00	112.80	82.7	Member X
5	70	PX - 3" DIA PIPE	-93.12	1.2D + 1.0W 90° Wind	2.42	200	200	200	51.01	50.00	112.35	82.9	Member X
6	86.96	PX - 3" DIA PIPE	-82.79	1.2D + 1.0W 90° Wind	2.42	100	100	100	25.51	50.00	129.59	63.9	Member X
7	89.99	PX - 3" DIA PIPE	-82.65	1.2D + 1.0W 90° Wind	2.42	100	100	100	25.49	50.00	129.59	63.8	Member X
8	109.9	PX - 3" DIA PIPE	-81.55	1.2D + 1.0W 90° Wind	2.42	100	100	100	25.51	50.00	129.59	62.9	Member X
9	129.9	MOD - 2.5"PX+3'PX1/2P	-112.16	1.2D + 1.0W 60° Wind	2.42	100	100	100	29.67	50.00	158.72	70.7	Member X
10	149.9	MOD - 2.5"PX+3'PX1/2P	-112.32	1.2D + 1.0W 60° Wind	2.42	100	100	100	29.67	50.00	158.72	70.8	Member X
11	169.9	PX - 3" DIA PIPE	-81.46	1.2D + 1.0W 60° Wind	2.42	100	100	100	25.51	50.00	129.59	62.9	Member X
12	189.9	PX - 3" DIA PIPE	-8.35	1.2D + 1.0W Normal Wind	2.42	100	100	100	25.51	50.00	129.59	6.4	Member X

HORIZONTAL MEMBERS

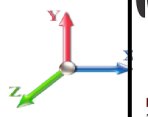
Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	5	SAE - 8X8X0.75	-14.1	1.2D + 1.0W 90° Wind	0.85	100	100	100	6.49	36.00	370.17	0	0			3.8	Member Z
2	20	PSP - ROHN 1 1/2X11G	-1.42	1.2D + 1.0W Normal Wind	3.42	100	100	100		42.00	9.72	1	2			14.6	User Input
3	35	PSP - ROHN 1 1/2X16G	-0.85	1.2D + 1.0W 90° Wind	3.42	100	100	100		42.00	6.49	1	2			13.1	User Input
4	50	PSP - ROHN 1 1/2X16G	-0.51	1.2D + 1.0W Normal Wind	3.42	100	100	100		42.00	6.49	1	2			7.9	User Input
5	70	PSP - ROHN 1 1/2X11G	-1.03	1.2D + 1.0W 90° Wind	3.42	100	100	100		42.00	9.72	1	2			10.6	User Input
6	86.9	PSP - ROHN 1 1/2X16G	-0.28	0.9D + 1.0W 60° Wind	3.42	100	100	100		42.00	6.49	1	2			4.2	User Input
7	89.9	PSP - ROHN 1 1/2X16G	-0.15	0.9D + 1.0W 90° Wind	3.42	100	100	100		42.00	6.49	1	2			2.2	User Input
8	109.	PSP - ROHN 1 1/2X11G	-0.77	0.9D + 1.0W 60° Wind	3.42	100	100	100		42.00	9.72	1	2			8.0	User Input
9	129.	PSP - ROHN 1 1/2X11G	-0.88	0.9D + 1.0W 60° Wind	3.42	100	100	100		42.00	9.72	1	2			9.0	User Input
10	149.	PSP - ROHN 1 1/2X16G	-0.44	0.9D + 1.0W 60° Wind	3.42	100	100	100		42.00	6.49	1	2			6.8	User Input
11	169.	SAE - 2X2X0.25	-1.71	0.9D + 1.0W 60° Wind	3.42	100	100	100	112.43	36.00	18.35	2	1	24.86	33.49	9.3	Member Z
12	189.	SAE - 2X2X0.25	-1.59	0.9D + 1.0W Normal Wind	3.42	100	100	100	112.43	36.00	18.35	2	1	24.86	33.49	8.7	Member Z

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	5				0.00						0.00	0	0				
2	20	PSP - ROHN 1 1/2X11G	-6.64	1.2D + 1.0W 90° Wind	4.17	100	100	100		42.00	9.72	1	2			68.3	User Input
3	35	PSP - ROHN 1 1/2X16G	-5.35	1.2D + 1.0W Normal Wind	4.17	100	100	100		42.00	6.49	1	2			82.5	User Input
4	50	PSP - ROHN 1 1/2X16G	-3.42	1.2D + 1.0W Normal Wind	4.17	100	100	100		42.00	6.49	1	2			52.7	User Input
5	70	PSP - ROHN 1 1/2X11G	-2.92	1.2D + 1.0W 60° Wind	4.19	100	100	100		42.00	9.72	1	2			30.0	User Input
6	86.9	PSP - ROHN 1 1/2X16G	-2.61	1.2D + 1.0W 90° Wind	4.19	100	100	100		42.00	6.49	1	2			40.3	User Input
7	89.9	SAE - 2X2X0.25	-3.68	1.2D + 1.0W 60° Wind	4.19	100	100	100	128.54	36.00	14.65	1	1	7.95	10.0	46.3	Bolt Shear
8	109.	PSP - ROHN 1 1/2X11G	-4.90	1.2D + 1.0W 90° Wind	4.19	100	100	100		42.00	9.72	1	2			50.4	User Input
9	129.	PSP - ROHN 1 1/2X11G	-3.09	1.2D + 1.0W 60° Wind	4.19	100	100	100		42.00	9.72	1	2			31.7	User Input
10	149.	PSP - ROHN 1 1/2X16G	-3.99	1.2D + 1.0W 90° Wind	4.19	100	100	100		42.00	6.49	1	2			61.5	User Input
11	169.	SAE - 2X2X0.25	-8.54	0.9D + 1.0W 90° Wind	4.19	100	100	100	126.56	36.00	15.12	2	1	24.86	33.4	56.5	Member Z
12	189.	SAE - 2X2X0.25	-1.55	0.9D + 1.0W 90° Wind	4.19	100	100	100	126.56	36.00	15.12	2	1	24.86	33.4	10.3	Member Z

Force/Stress Tension Summary

Structure:	CT10016-A-SBA	**Code:**	EIA/TIA-222-H	9/16/2019	
Site Name:	Montville 3, CT	**Exposure:**	B		
Height:	190.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 15	



Tower Engineering Solutions

LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	5				0	0.00		
2	20	PX - 3" DIA PIPE	26.51	0.9D + 1.0W Normal Wind	50	135.90	19.5	Member
3	35	PX - 3" DIA PIPE	56.93	0.9D + 1.0W Normal Wind	50	135.90	41.9	Member
4	50	PX - 3" DIA PIPE	73.31	0.9D + 1.0W Normal Wind	50	135.90	53.9	Member
5	70	PX - 3" DIA PIPE	75.57	0.9D + 1.0W Normal Wind	50	135.90	55.6	Member
6	86.962	PX - 3" DIA PIPE	69.20	0.9D + 1.0W Normal Wind	50	135.90	50.9	Member
7	89.999	PX - 3" DIA PIPE	43.28	0.9D + 1.0W 90° Wind	50	135.90	31.8	Member
8	109.99	PX - 3" DIA PIPE	84.04	0.9D + 1.0W Normal Wind	50	135.90	61.8	Member
9	129.99	MOD - 2.5"PX+3'PX1/2P	99.56	0.9D + 1.0W Normal Wind	50	169.27	58.8	Member
10	149.99	MOD - 2.5"PX+3'PX1/2P	98.97	0.9D + 1.0W Normal Wind	50	169.27	58.5	Member
11	169.99	PX - 3" DIA PIPE	54.48	0.9D + 1.0W Normal Wind	50	135.90	40.1	Member
12	189.99	PX - 3" DIA PIPE	6.17	0.9D + 1.0W 60° Wind	50	135.90	4.5	Member

HORIZONTAL MEMBERS

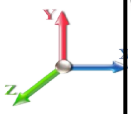
Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	5	SAE - 8X8X0.75	22.82	1.2D + 1.0W Normal Wi	36	370.66	0	0				6.2	Member
2	20	PSP - ROHN 1 1/2X11GA	1.40	1.2D + 1.0W 90° Wind	42	9.72	1	2				14.4	User Input
3	35	PSP - ROHN 1 1/2X16GA	1.13	1.2D + 1.0W Normal Wi	42	5.47	1	2				20.6	User Input
4	50	PSP - ROHN 1 1/2X16GA	0.57	1.2D + 1.0W Normal Wi	42	5.47	1	2				10.4	User Input
5	70	PSP - ROHN 1 1/2X11GA	1.27	1.2D + 1.0W 90° Wind	42	9.72	1	2				13.1	User Input
6	86.962	PSP - ROHN 1 1/2X16GA	0.98	1.2D + 1.0W 90° Wind	42	5.47	1	2				17.9	User Input
7	89.999	PSP - ROHN 1 1/2X16GA	0.96	1.2D + 1.0Di + 1.0Wi Nc	42	5.47	1	2				17.6	User Input
8	109.99	PSP - ROHN 1 1/2X11GA	2.02	1.2D + 1.0W Normal Wi	42	9.72	1	2				20.8	User Input
9	129.99	PSP - ROHN 1 1/2X11GA	1.39	1.2D + 1.0W Normal Wi	42	9.72	1	2				14.3	User Input
10	149.99	PSP - ROHN 1 1/2X16GA	0.96	1.2D + 1.0W Normal Wi	42	5.47	1	2				17.6	User Input
11	169.99	SAE - 2X2X0.25	2.74	1.2D + 1.0W Normal Wi	36	30.46	2	1	24.86	33.49	21.01	13.0	Blck Shear
12	189.99	SAE - 2X2X0.25	0.06	0.9D + 1.0W Normal Wi	36	30.46	2	1	24.86	33.49	21.01	0.3	Blck Shear

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	5	-	0.00		36	0.00	0	0					
2	20	PSP - ROHN 1 1/2X11GA	6.45	1.2D + 1.0W 90° Wind	42	9.72	1	2				66.3	User Input
3	35	PSP - ROHN 1 1/2X16GA	5.16	1.2D + 1.0W 90° Wind	42	5.47	1	2				94.3	User Input
4	50	PSP - ROHN 1 1/2X16GA	3.17	1.2D + 1.0W Normal Wi	42	5.47	1	2				58.0	User Input
5	70	PSP - ROHN 1 1/2X11GA	2.55	1.2D + 1.0W 60° Wind	42	9.72	1	2				26.3	User Input
6	86.962	PSP - ROHN 1 1/2X16GA	2.66	1.2D + 1.0W 60° Wind	42	5.47	1	2				48.6	User Input
7	89.999	SAE - 2X2X0.25	3.56	1.2D + 1.0W 90° Wind	36	30.46	1	1	7.95	10.01	10.43	44.8	Bolt Shear
8	109.99	PSP - ROHN 1 1/2X11GA	3.70	1.2D + 1.0W 60° Wind	42	9.72	1	2				38.1	User Input
9	129.99	PSP - ROHN 1 1/2X11GA	2.35	1.2D + 1.0W 60° Wind	42	9.72	1	2				24.2	User Input
10	149.99	PSP - ROHN 1 1/2X16GA	3.80	1.2D + 1.0W Normal Wi	42	5.47	1	2				69.5	User Input
11	169.99	SAE - 2X2X0.25	6.76	0.9D + 1.0W 90° Wind	36	30.46	2	1	24.86	33.49	19.54	34.6	Blck Shear
12	189.99	SAE - 2X2X0.25	1.21	0.9D + 1.0W 90° Wind	36	30.46	2	1	24.86	33.49	19.54	6.2	Blck Shear

Seismic Section Forces

Structure:	CT10016-A-SBA	**Code:**	EIA/TIA-222-H	9/16/2019	
Site Name:	Montville 3, CT	**Exposure:**	B		
Height:	190.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 16	



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Load Case: 1.2D + 1.0Ev + 1.0Eh

Dead Load Factor	1.20	**Sds**	0.208	**Ss**	0.1950	**Fa**	1.6000	**Ke**	1.0000	**TL**	6.0000
Seismic Load Factor	1.00	**Sd1**	0.084	**S1**	0.0530	**Fv**	2.4000	**Kg**	0.0105	**Cs**	0.0694
Seismic Importance Factor	1.00	**W1**	0.000	**R**	3.0000	**Vs**	2.4817	**T**	0.3620	**f1**	2.7623

Sect #	Elev (ft)	Wz (lb)	Lateral Fsz (lbs)	Vertical Ev (lbs)
1	2.50	1432.3	2.60	59.62
2	12.50	1441.0	13.09	59.98
3	27.50	1367.0	27.31	56.90
4	42.50	1367.0	42.21	56.90
5	60.00	1909.9	83.25	79.49
6	78.48	1637.8	93.38	68.17
7	88.48	347.38	22.33	14.46
8	100.00	2084.7	151.45	86.77
9	120.00	2237.6	195.07	93.13
10	140.00	6467.8	657.82	269.20
11	160.00	6893.6	801.29	286.92
12	180.00	2996.8	391.88	124.73

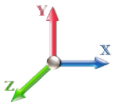
Load Case: 0.9D + 1.0Ev + 1.0Eh

Dead Load Factor	0.90	**Sds**	0.208	**Ss**	0.1950	**Fa**	1.6000	**Ke**	1.0000	**TL**	6.0000
Seismic Load Factor	1.00	**Sd1**	0.084	**S1**	0.0530	**Fv**	2.4000	**Kg**	0.0105	**Cs**	0.0694
Seismic Importance Factor	1.00	**W1**	0.000	**R**	3.0000	**Vs**	2.4817	**T**	0.3135	**f1**	3.1895

Sect #	Elev (ft)	Wz (lb)	Lateral Fsz (lbs)	Vertical Ev (lbs)
1	2.50	1432.3	2.60	59.62
2	12.50	1441.0	13.09	59.98
3	27.50	1367.0	27.31	56.90
4	42.50	1367.0	42.21	56.90
5	60.00	1909.9	83.25	79.49
6	78.48	1637.8	93.38	68.17
7	88.48	347.38	22.33	14.46
8	100.00	2084.7	151.45	86.77
9	120.00	2237.6	195.07	93.13
10	140.00	6467.8	657.82	269.20
11	160.00	6893.6	801.29	286.92
12	180.00	2996.8	391.88	124.73

Support Forces Summary

Structure:	CT10016-A-SBA	**Code:**	EIA/TIA-222-H	9/16/2019	
Site Name:	Montville 3, CT	**Exposure:**	B		
Height:	190.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 17	



Tower Engineering Solutions

Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.0W Normal Wind	1	0.00	105.59	-5.44	
	A1	0.00	-0.78	0.60	
	A1b	-32.06	-32.76	-19.90	
	A1a	32.06	-32.76	-19.90	
1.2D + 1.0W 60° Wind	1	-4.21	91.68	-2.42	
	A1	-0.80	-7.14	6.83	
	A1b	-38.87	-38.57	-22.44	
	A1a	5.52	-7.15	-4.11	
1.2D + 1.0W 90° Wind	1	-5.32	100.28	0.85	
	A1	-1.22	-20.48	22.16	
	A1b	-39.28	-38.62	-21.77	
	A1a	1.46	-2.13	-1.25	
0.9D + 1.0W Normal Wind	1	0.00	96.42	-5.68	
	A1	0.00	-0.79	0.61	
	A1b	-31.89	-32.68	-19.79	
	A1a	31.89	-32.68	-19.79	
0.9D + 1.0W 60° Wind	1	-4.31	82.81	-2.48	
	A1	-0.80	-7.20	6.89	
	A1b	-38.81	-38.59	-22.41	
	A1a	5.57	-7.21	-4.14	
0.9D + 1.0W 90° Wind	1	-5.50	91.16	0.93	
	A1	-1.22	-20.42	22.00	
	A1b	-39.11	-38.55	-21.68	
	A1a	1.47	-2.15	-1.26	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.00	124.90	-1.56	
	A1	0.00	-8.15	8.82	
	A1b	-14.56	-15.42	-8.99	
	A1a	14.56	-15.42	-8.99	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-1.14	124.76	-0.66	
	A1	-0.47	-10.65	11.41	
	A1b	-17.26	-17.83	-9.96	
	A1a	9.64	-10.65	-6.11	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-1.43	124.80	0.12	
	A1	-0.60	-13.03	14.18	
	A1b	-16.73	-17.16	-9.37	
	A1a	8.10	-8.84	-4.94	
1.2D + 1.0Ev + 1.0Eh	1	0.00	76.10	-0.28	
	A1	0.00	-10.35	9.91	
	A1b	-10.46	-12.72	-6.06	
	A1a	10.46	-12.72	-6.06	
0.9D + 1.0Ev + 1.0Eh	1	0.00	67.55	-0.29	
	A1	0.00	-10.52	10.06	
	A1b	-10.58	-12.88	-6.13	
	A1a	10.58	-12.88	-6.13	

1.0D + 1.0W Normal Wind	1	0.00	61.90	-2.51
	A1	0.00	-4.75	4.68
	A1b	-10.17	-12.03	-6.15
	A1a	10.17	-12.03	-6.15
1.0D + 1.0W 60° Wind	1	-1.73	62.91	-1.00
	A1	-0.21	-7.59	7.32
	A1b	-12.99	-14.75	-7.50
	A1a	6.24	-7.59	-3.84
1.0D + 1.0W 90° Wind	1	-2.24	62.42	0.22
	A1	-0.27	-9.80	9.53
	A1b	-12.24	-13.94	-6.92
	A1a	4.70	-5.64	-2.83

Max Reactions (kips)	Base	Anchor 1
Vertical	124.90	38.62
Horizontal	5.68	44.91

Cable Forces Summary

Structure:	CT10016-A-SBA		**Code:**	EIA/TIA-222-H	9/16/2019
Site Name:	Montville 3, CT		**Exposure:**	B	
Height:	190.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	II	Page: 19

Tower Engineering Solutions

Load Case	Elevation (ft)	Cable	Node 1	Node 2	Allow Tension (kips)	Applied Tension (kips)	Use %
1.2D + 1.0W Normal	92.42	5/8 EHS	A1	T1	25.44	0.11	0
			A1b	T1b	25.44	10.54	41
			A1a	T1a	25.44	8.95	35
			A1a	T1	25.44	10.54	41
			A1b	T1a	25.44	8.95	35
			A1	T1b	25.44	0.11	0
	166.96	7/8 EHS	A1	T2	47.82	0.73	2
			A1b	T2b	47.82	19.43	41
			A1a	T2a	47.82	12.25	26
			A1a	T2	47.82	19.43	41
			A1b	T2a	47.82	12.25	26
			A1	T2b	47.82	0.73	2
1.2D + 1.0W 60° Wind	92.42	5/8 EHS	A1	T1	25.44	0.67	3
			A1b	T1b	25.44	12.02	47
			A1a	T1a	25.44	0.63	2
			A1a	T1	25.44	0.66	3
			A1b	T1a	25.44	11.97	47
			A1	T1b	25.44	0.63	2
	166.96	7/8 EHS	A1	T2	47.82	5.48	11
			A1b	T2b	47.82	18.25	38
			A1a	T2a	47.82	3.89	8
			A1a	T2	47.82	5.48	11
			A1b	T2a	47.82	18.24	38
			A1	T2b	47.82	3.88	8
1.2D + 1.0W 90° Wind	92.42	5/8 EHS	A1	T1	25.44	5.10	20
			A1b	T1b	25.44	11.35	45
			A1a	T1a	25.44	0.22	1
			A1a	T1	25.44	0.23	1
			A1b	T1a	25.44	12.59	50
			A1	T1b	25.44	3.86	15
	166.96	7/8 EHS	A1	T2	47.82	14.33	30
			A1b	T2b	47.82	15.32	32
			A1a	T2a	47.82	1.49	3
			A1a	T2	47.82	1.63	3
			A1b	T2a	47.82	21.27	44
			A1	T2b	47.82	7.87	16
0.9D + 1.0W Normal	92.42	5/8 EHS	A1	T1	25.44	0.11	0
			A1b	T1b	25.44	10.36	41
			A1a	T1a	25.44	8.80	35
			A1a	T1	25.44	10.36	41
			A1b	T1a	25.44	8.80	35
			A1	T1b	25.44	0.11	0
	166.96	7/8 EHS	A1	T2	47.82	0.74	2
			A1b	T2b	47.82	19.48	41
			A1a	T2a	47.82	12.33	26
			A1a	T2	47.82	19.48	41
			A1b	T2a	47.82	12.33	26
			A1	T2b	47.82	0.74	2
0.9D + 1.0W 60° Wind	92.42	5/8 EHS	A1	T1	25.44	0.67	3
			A1b	T1b	25.44	11.92	47
			A1a	T1a	25.44	0.63	2
			A1a	T1	25.44	0.67	3
			A1b	T1a	25.44	11.87	47

0.9D + 1.0W 60° Wind	92.42	5/8 EHS	A1	T1b	25.44	0.64	3
	166.96	7/8 EHS	A1	T2	47.82	5.53	12
			A1b	T2b	47.82	18.32	38
			A1a	T2a	47.82	3.92	8
			A1a	T2	47.82	5.53	12
			A1b	T2a	47.82	18.32	38
			A1	T2b	47.82	3.91	8
0.9D + 1.0W 90° Wind	92.42	5/8 EHS	A1	T1	25.44	4.94	19
			A1b	T1b	25.44	11.21	44
			A1a	T1a	25.44	0.22	1
			A1a	T1	25.44	0.23	1
			A1b	T1a	25.44	12.42	49
			A1	T1b	25.44	3.75	15
	166.96	7/8 EHS	A1	T2	47.82	14.38	30
			A1b	T2b	47.82	15.39	32
			A1a	T2a	47.82	1.50	3
			A1a	T2	47.82	1.64	3
			A1b	T2a	47.82	21.33	45
			A1	T2b	47.82	7.94	17
1.2D + 1.0Di + 1.0Wi	92.42	5/8 EHS	A1	T1	25.44	1.02	4
			A1b	T1b	25.44	2.59	10
			A1a	T1a	25.44	2.52	10
			A1a	T1	25.44	2.59	10
			A1b	T1a	25.44	2.52	10
			A1	T1b	25.44	1.02	4
	166.96	7/8 EHS	A1	T2	47.82	6.03	13
			A1b	T2b	47.82	11.04	23
			A1a	T2a	47.82	9.07	19
			A1a	T2	47.82	11.04	23
			A1b	T2a	47.82	9.07	19
			A1	T2b	47.82	6.03	13
1.2D + 1.0Di + 1.0Wi	92.42	5/8 EHS	A1	T1	25.44	1.34	5
			A1b	T1b	25.44	3.27	13
			A1a	T1a	25.44	1.32	5
			A1a	T1	25.44	1.34	5
			A1b	T1a	25.44	3.27	13
			A1	T1b	25.44	1.32	5
	166.96	7/8 EHS	A1	T2	47.82	8.23	17
			A1b	T2b	47.82	11.21	23
			A1a	T2a	47.82	6.84	14
			A1a	T2	47.82	8.23	17
			A1b	T2a	47.82	11.20	23
			A1	T2b	47.82	6.84	14
1.2D + 1.0Di + 1.0Wi	92.42	5/8 EHS	A1	T1	25.44	1.89	7
			A1b	T1b	25.44	3.06	12
			A1a	T1a	25.44	1.07	4
			A1a	T1	25.44	1.07	4
			A1b	T1a	25.44	3.10	12
			A1	T1b	25.44	1.85	7
	166.96	7/8 EHS	A1	T2	47.82	9.82	21
			A1b	T2b	47.82	10.27	21
			A1a	T2a	47.82	6.16	13
			A1a	T2	47.82	6.77	14
			A1b	T2a	47.82	11.50	24
			A1	T2b	47.82	7.86	16
1.2D + 1.0Ev + 1.0Eh	92.42	5/8 EHS	A1	T1	25.44	0.42	2
			A1b	T1b	25.44	0.51	2
			A1a	T1a	25.44	0.50	2
			A1a	T1	25.44	0.51	2
			A1b	T1a	25.44	0.50	2
			A1	T1b	25.44	0.42	2
	166.96	7/8 EHS	A1	T2	47.82	7.12	15
			A1b	T2b	47.82	8.99	19
			A1a	T2a	47.82	8.30	17
			A1a	T2	47.82	8.99	19
			A1b	T2a	47.82	8.30	17
			A1	T2b	47.82	7.12	15

0.9D + 1.0Ev + 1.0Eh	92.42	5/8 EHS	A1	T1	25.44	0.42	2
			A1b	T1b	25.44	0.51	2
			A1a	T1a	25.44	0.50	2
			A1a	T1	25.44	0.51	2
			A1b	T1a	25.44	0.50	2
			A1	T1b	25.44	0.42	2
	166.96	7/8 EHS	A1	T2	47.82	7.23	15
			A1b	T2b	47.82	9.09	19
			A1a	T2a	47.82	8.41	18
			A1a	T2	47.82	9.09	19
			A1b	T2a	47.82	8.41	18
			A1	T2b	47.82	7.23	15
1.0D + 1.0W Normal	92.42	5/8 EHS	A1	T1	25.44	0.27	1
			A1b	T1b	25.44	0.93	4
			A1a	T1a	25.44	0.88	3
			A1a	T1	25.44	0.93	4
			A1b	T1a	25.44	0.88	3
			A1	T1b	25.44	0.27	1
	166.96	7/8 EHS	A1	T2	47.82	3.43	7
			A1b	T2b	47.82	9.54	20
			A1a	T2a	47.82	6.34	13
			A1a	T2	47.82	9.54	20
			A1b	T2a	47.82	6.34	13
			A1	T2b	47.82	3.43	7
1.0D + 1.0W 60° Wind	92.42	5/8 EHS	A1	T1	25.44	0.37	1
			A1b	T1b	25.44	1.72	7
			A1a	T1a	25.44	0.36	1
			A1a	T1	25.44	0.37	1
			A1b	T1a	25.44	1.72	7
			A1	T1b	25.44	0.36	1
	166.96	7/8 EHS	A1	T2	47.82	6.36	13
			A1b	T2b	47.82	9.21	19
			A1a	T2a	47.82	4.20	9
			A1a	T2	47.82	6.35	13
			A1b	T2a	47.82	9.21	19
			A1	T2b	47.82	4.19	9
1.0D + 1.0W 90° Wind	92.42	5/8 EHS	A1	T1	25.44	0.56	2
			A1b	T1b	25.44	1.41	6
			A1a	T1a	25.44	0.28	1
			A1a	T1	25.44	0.28	1
			A1b	T1a	25.44	1.49	6
			A1	T1b	25.44	0.55	2
	166.96	7/8 EHS	A1	T2	47.82	8.21	17
			A1b	T2b	47.82	7.87	16
			A1a	T2a	47.82	3.52	7
			A1a	T2	47.82	4.51	9
			A1b	T2a	47.82	9.85	21
			A1	T2b	47.82	5.11	11

Max Reactions

Base:	124.90 (Vertical)	5.68 (Horizontal)
Anchor 1:	38.62 (Vertical)	44.91 (Horizontal)

Max Usages

Max Leg: 82.9% (1.2D + 1.0W 90° Wind - Sect 5)
Max Diag: 94.3% (1.2D + 1.0W 90° Wind - Sect 3)
Max Horiz: 20.8% (1.2D + 1.0W Normal Wind - Sect 8)
Max Cable: 49.5% (1.2D + 1.0W 90° Wind) - Elev: 92 ft

Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.0Ev + 1.0Eh - Normal To Face	74.85	0.1884	-0.0012	0.0489
	130.00	0.1489	-0.0002	0.1291
	142.11	0.1188	-0.0001	0.1577
	150.00	0.0960	-0.0001	0.1766
	159.69	0.0661	-0.0001	0.1826
	174.85	0.0187	-0.0001	0.1767
0.9D + 1.0W 126 mph Wind at 60° From Face	74.85	1.1725	0.0293	0.1820
	130.00	1.0991	0.0194	0.5467
	142.11	0.9474	0.0147	0.8807
	150.00	0.8117	0.0113	1.1074
	159.69	0.6203	0.0066	1.2186
	174.85	0.2969	0.0110	1.2055
0.9D + 1.0W 126 mph Wind at 90° From Face	74.85	2.0270	0.1529	0.4109
	130.00	1.7329	0.1305	1.1246
	142.11	1.4611	0.1245	1.4792
	150.00	1.2430	0.1197	1.7187
	159.69	0.9504	0.1201	1.8295
	174.85	0.4715	0.1180	1.8026
0.9D + 1.0W 126 mph Wind at Normal To Face	74.85	2.1622	-0.0010	0.4411
	130.00	1.8732	0.0001	1.1487
	142.11	1.5897	0.0007	1.5363
	150.00	1.3617	0.0002	1.7956
	159.69	1.0556	0.0035	1.8799
	174.85	0.5537	0.0062	1.8747
1.0D + 1.0W 60 mph Wind at 60° From Face	74.85	0.7321	0.0080	0.1386
	130.00	0.5437	0.0058	0.5220
	142.11	0.4229	0.0042	0.6285
	150.00	0.3317	0.0030	0.7053
	159.69	0.2127	0.0017	0.7290
	174.85	0.0201	0.0020	0.7236

1.0D + 1.0W 60 mph Wind at 90° From Face	74.85	0.8828	0.0572	0.1706
	130.00	0.6402	0.0409	0.6427
	142.11	0.4920	0.0338	0.7644
	150.00	0.3817	0.0293	0.8419
	159.69	0.2390	0.0261	0.8728
	174.85	0.0153	0.0237	0.8658
1.0D + 1.0W 60 mph Wind at Normal To Face	74.85	1.0221	-0.0013	0.2032
	130.00	0.7316	0.0002	0.7593
	142.11	0.5584	0.0005	0.8877
	150.00	0.4307	0.0004	0.9755
	159.69	0.2658	0.0007	0.9988
	174.85	0.0007	0.0015	0.9969
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	74.85	0.6186	0.0098	0.0869
	130.00	0.4575	0.0073	0.4246
	142.11	0.3587	0.0055	0.5140
	150.00	0.2845	0.0044	0.5796
	159.69	0.1867	0.0032	0.6002
	174.85	0.0281	0.0028	0.5962
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	74.85	0.7412	0.0627	0.1066
	130.00	0.5286	0.0519	0.5298
	142.11	0.4066	0.0470	0.6309
	150.00	0.3157	0.0440	0.6971
	159.69	0.1979	0.0420	0.7243
	174.85	0.0248	0.0405	0.7199
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	74.85	0.8482	-0.0019	0.1232
	130.00	0.5940	0.0001	0.6218
	142.11	0.4515	0.0001	0.7311
	150.00	0.3465	0.0000	0.8021
	159.69	0.2104	0.0008	0.8262
	174.85	0.0098	-0.0015	0.8261
1.2D + 1.0Ev + 1.0Eh - Normal To Face	74.85	0.1953	-0.0013	0.0493
	130.00	0.1532	-0.0002	0.1345
	142.11	0.1218	-0.0001	0.1636
	150.00	0.0982	-0.0001	0.1827
	159.69	0.0673	-0.0001	0.1888
	174.85	0.0182	-0.0001	0.1829
1.2D + 1.0W 126 mph Wind at 60° From Face	74.85	1.1792	0.0294	0.1774
	130.00	1.1026	0.0195	0.5494
	142.11	0.9503	0.0148	0.8835
	150.00	0.8142	0.0114	1.1104
	159.69	0.6224	0.0068	1.2215
	174.85	0.2982	0.0112	1.2086
1.2D + 1.0W 126 mph Wind at 90° From Face	74.85	2.0471	0.1494	0.4057
	130.00	1.7450	0.1302	1.1352
	142.11	1.4710	0.1255	1.4896
	150.00	1.2514	0.1215	1.7293
	159.69	0.9571	0.1225	1.8395
	174.85	0.4756	0.1210	1.8131
1.2D + 1.0W 126 mph Wind at Normal To Face	74.85	2.1814	-0.0011	0.4346
	130.00	1.8848	0.0001	1.1576
	142.11	1.5994	0.0007	1.5451
	150.00	1.3703	0.0002	1.8044
	159.69	1.0627	0.0035	1.8885
	174.85	0.5586	0.0062	1.8834

Guyed Tower Base Design

			Date: 9/16/2019
Customer Name:	SBA Communications Corp	**EIA/TIA Standard:**	EIA-222-H
Site Name:		**Structure Height (Ft.):**	190
Site Nmber:	CT10016-A-SBA	**Engineer Name:**	J. Tibbetts
Engr. Number:	85331	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Guyed Tower

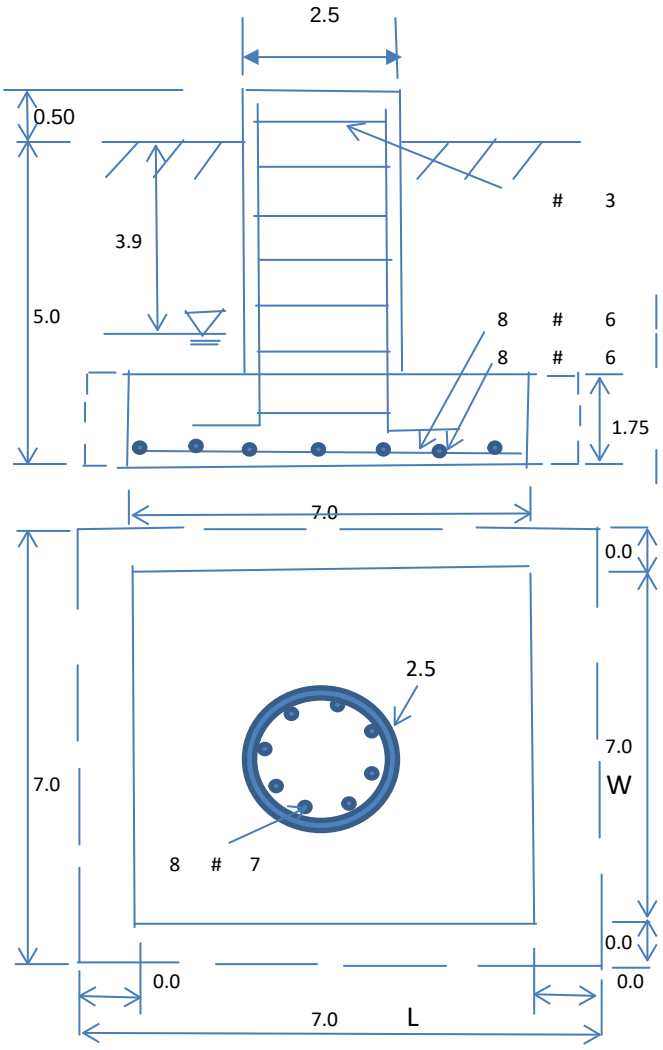
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	124.9	Shear Force (Kips):	5.7
Uplift Force (Kips):	0.0	Moment (Kips-ft):	
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	2.5	Depth of Base BG (ft.):	5.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	1.75
Length of Pad (ft.):	7	Width of Pad (ft.):	7
Final Length of pad (ft)	7.0	Final width of pad (ft):	7.0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	36	
Vertical Rebar Size #:	7	Tie / Stirrup Size #:	3	
Qty. of Vertical Rebars:	8	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	6	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	8	Qty. of Rebar in Pad (W):	8	

Soil Design Parameters:

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	52.6	Pcf		
Water Table B.G.S. (ft):	3.9	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	30000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	30
					Angle from Bottm of Pad:	25

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.6

Total Dry Soil Volume (cu. Ft.):	143.30	Total Dry Soil Weight (Kips):	16.48
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	16.48	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	50.26	Total Dry Concrete Weight (Kips):	7.54
Total Buoyant Concrete Volume (cu. Ft.):	53.90	Total Buoyant Concrete Weight (Kips):	4.72
Total Effective Concrete Weight (Kips):	12.26	Total Vertical Load on Base (Kips):	153.64

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	3328.8	<	Allowable Factored Soil Bearing (psf):	18000	0.18	OK!
Calculated Foundation Allowable Axail Capacity (Kips):	882.0	>	Design Factored Axial Load (Kips):	144	0.16	OK!

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00		
				Load/ Capacity Ratio	
(1) Concrete Pier:					
Vertical Steel Rebar Area (sq. in./each):	0.60	Tie / Stirrup Area (sq. in./each):	0.11		
Calculated Moment Capacity (Mn,Kips-Ft):	248.7	> Design Factored Moment (Mu, Kips-Ft	21.3	0.09	OK!
Calculated Shear Capacity (Kips):	89.8	> Design Factored Shear (Kips):	5.7	0.06	OK!
Calculated Tension Capacity (Tn, Kips):	259.2	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	930.9	> Design Factored Axial Load (Pu Kips):	124.9	0.13	OK!
Moment & Axial Strength Combination(Pu/Pn+Mu/Mn):	0.22	OK!			
Pier Reinforcement Ratio:	0.007				
(2).Concrete Pad:					
One-Way Design Shear Capacity (L-Dir. Kips);	121.6	> One-Way Factored Shear (L-Dir Kips):	14.4	0.12	OK!
One-Way Design Shear Capacity (W-Dir. Kips):	121.6	> One-Way Factored Shear (W-Dir Kips)	14.4	0.12	OK!
Two-Way Design Shear Capacity (Kips):	433.3	> Two-Way Factored Shear (Kips):	93.4	0.22	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0024	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0024		OK!
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	271.4	> Moment at Bottom (L-Direct. K-Ft):	46.6	0.17	OK!
Lower Steel Pad Moment Capacity (W-Dir. Kips-ft):	271.4	> Moment at Bottom (W-Dir. Kips-Ft):	46.6	0.17	OK!

Guy Anchor Analysis and Design

				Date
				43724
Customer Name:	SBA Comm unications C orp	**EIA/TIA Standard:**	EIA-222-H
Site Name:	0	**Structure Height (Ft.):**	190
Site Nmber:	CT10016-A-SBA	**Engineer Name:**	J T ibbetts
Engr. Number:	85331	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calc ulations **Number of Anchors:** *1 Set*

Soil Design Parameters:

Soil nit Weight (pcf):	*115.0*	*Soil uoant Weight:*	*52.6*	*cf*	*Cohesion of Soils (psf):*		
Water Table . .S . (ft):	*3.9*	*nit W eight of Water:*	*62.4*	*pcf*	Internal Angle of Friction (°)		*34*
lti mate lateral ressure (psf):		*ltimate Sin Fr iction:*	*200*	*sf*	*Coefficient of Shear Friction:*		*0.40*
Conical Failure Angle from Top:	*30*	*Failure Angle from ottm*	*20*				

Material Properties:

Concrete Strength (psi):	*4000*	*ni t Weight of Concrete:*	*150.0*	*psf*	*Horiontal Rebar Y ield (psi):*		*60000*
Shear Strength Reduction Factor:	*0.75*				*Fleure Streng th Reduction Factor:*		*0.9*

A. Inner Anchors:

Radius (ft.): *150*

1. Design Reactions (Factored):

plift (ips:)	*3.6*	*Shear (ips)*	*44.9*	*Angle of force resultant (Ø):*	*40.7*

2. Foundation Geometries:

loc ase Dept h .. S. (ft):	*12.0*	*loc with/without toe*	*o*		*Water Table below grade (ft):*		*3.90*
Length of Anchor loc (L ft .):	*10.0*	*Width of Anchor loc:*	*3.0*	*ft.*	*Thicness of Anchor loc (ft.) :*		*3.0*
Concrete loc top of Anchor	*o*						

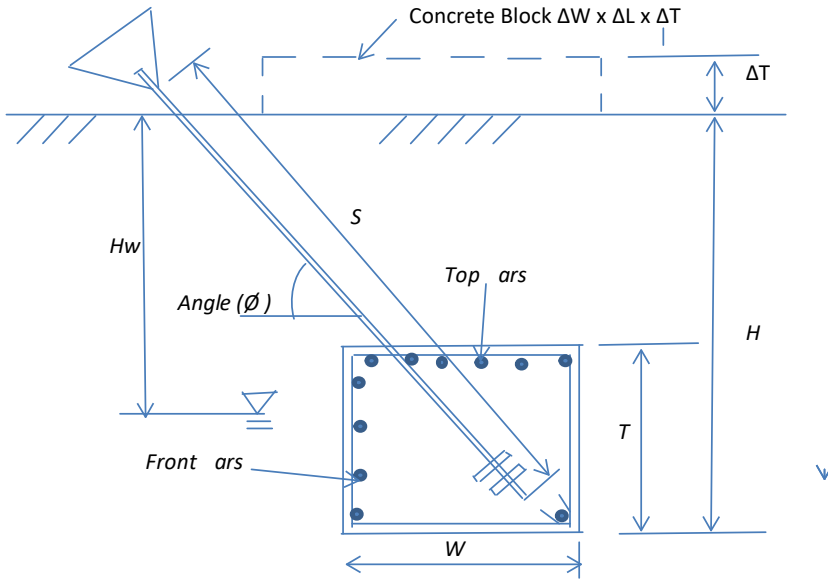
(1). Inner Anchors:

Radius ft.):	150		
H (ft.):	12.0	Hw (ft.):	3.9
L (ft.):	10.0	W (ft.):	3.0
T (ft.):	3.0	Angle (Ø)	40.7
S (ft):	19.17		

Top bars: 4 # 7

Front bars: 4 # 7

Concrete Volume (Cu. Yd.)/Each: 3.33



3. Foundation Analysis and Design:

Total Dry Soil Volume (cu. Ft.):	662.25	Total Dry Soil Weight (Kips):	68.26
Total Buoyant Soil Volume (cu. Ft.):	510.38	Total Buoyant Soil Weight (Kips):	26.85
Total Effective Soil Weight (Kips):	96.03	Weight of the Concrete Block at Top (Kips):	0.00
Total Dry Concrete Volume (cu. Ft.):	0.00	Total Dry Concrete Weight (Kip):	0.00
Total Buoyant Concrete Volume (cu. Ft.):	90.00	Total Buoyant Concrete Weight (Kips):	7.88
Total Effective Concrete Weight (Kips):	7.88	Weight Reduction Factor:	0.9
Soil Uplift Strength Reduction Factor A:	0.75	Shear Strength Reduction Factor on Soil:	0.75
Soil Uplift Strength Reduction Factor B:	0.9		

4. Check Soil and Foundation Capacities:

Nominal Factored Uplift Resistance:	89.65	Kips >	Design Uplift Force (Kips):	38.6	OK!
Ultimate Shear Friction Resistance at base:	9.55	Kips	Ultimate Resistance Pressure:	2814.4	Psf
Factored Shear Resistance:	73.19	Kips >	Design Shear Force (Kips):	44.9	OK!

5. Design Concrete Block:

Rebar Size (#):	7	Wind Load Factor on Concrete Design:	1.00	
Qty. of the Rebar at top of the block:	4	Qty. of the Rebar in the front of the block:	4	
Area of Single Rebar (sq. in.):	0.60	Factor for concrete compression zone:	0.85	
One Way Shear due to Shear Force (Kips):	22.5	One Way Shear Capacity for shear (kips):	109.3	OK!
One Way Shear due to Uplift (Kips):	19.3	One Way Shear Capacity for uplift (kips):	109.3	OK!
Moment due to Shear Load (Kips-ft):	56.1	Flexural Capacity for Shear Load (Kips-ft):	345.4	OK!
Moment due to uplift Load (Kips-ft):	48.3	Flexural Capacity for uplift Load (Kips-ft):	345.4	OK!
Ratio of Design Moment/Moment capacity:	0.16			
Max. Ratio of Shear Force/Shear capacity:	0.21	OK!		

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   Your driver will pickup your shipment(s) as usual.

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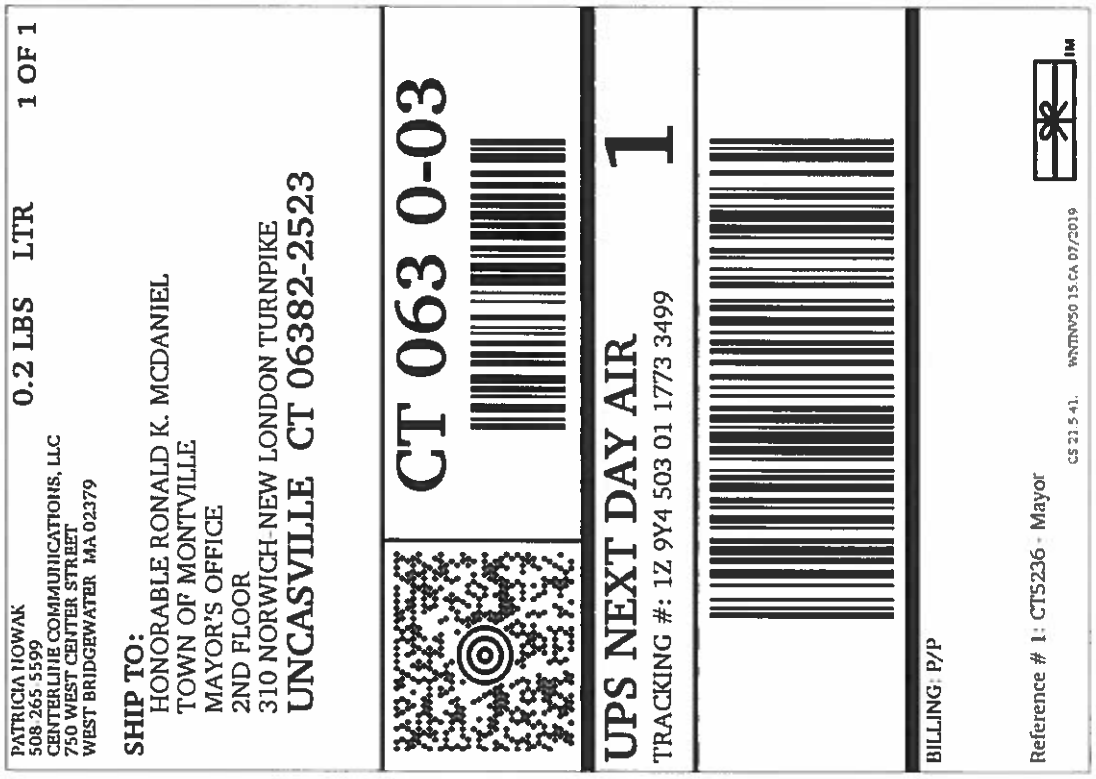

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Reference # 1: CT5236 - BD

CS 21543 WNTNV50 15 CA 07/2019

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
TOWN LINE GENERAL STORE
450 E CENTER ST
WEST BRIDGEWATER ,MA 02379

UPS Access Point™
M&M SEAFOOD
1124 MAIN ST
BROCKTON ,MA 02301

UPS Access Point™
BOOST MOBILE 649
649 WARREN AVE
BROCKTON ,MA 02301

FOLD HERE

PATRICIA HOWAK
508-265-5599
CENTERLINE COMMUNICATIONS, LLC
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

0.2 LBS LTR 1 OF 1

SHIP TO:
WILLIAM PIENIADZ
TOWN OF MONTVILLE
PLANNING AND ZONING COMMISSION
310 NORWICH-NEW LONDON TURNPIKE
UNCASVILLE CT 06382-2523

CT 063 0-03

UPS NEXT DAY AIR 1

TRACKING #: 1Z 9Y4 503 01 1133 7517

BILLING: P/P

Reference # 1: CT5236 - PL and ZN

CS 21.5.41 WMMV50 15 CA 07/2019

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