QC Development
PO Box 916
Storrs, CT 06268
860-670-9068
Mark.Roberts@QCDevelopment.net

October 25, 2019

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

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T) – CT2055
376 Butlertown Road, Montville, CT 06370
N 41.42160556
W 72.21260278

Dear Ms. Bachman:

AT&T currently maintains six (6) antennas at the 161-foot level of the existing 195-foot Guyed Tower at 376 Butlertown Road, Montville, CT. The tower is owned by Wireless Solutions LLC and the property is owned by Antonio Iaconiello. AT&T now intends to remove three (3) existing CCI antennas and install three (3) new CCI DMP65R-BU8DA antennas and three (3) CCI OPA65R-BU8BA antennas. AT&T will also remove three (3) Ericsson RRUS-11 Remote Radio Units (RRU) and install three (3) Ericsson 4449 B5/B12 and three (3) Ericsson 8843 B2/B66A RRUs. The new antennas and RRUs will also be installed at the 161-foot level of the tower.

This facility was approved by the Montville Planning and Zoning Commission on March 28, 2000. There were no conditions that could feasibly be violated by this modification, including total facility height or mounting restrictions. This modification therefore complies with the aforementioned approval.

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

tower and property owners.

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

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

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

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

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

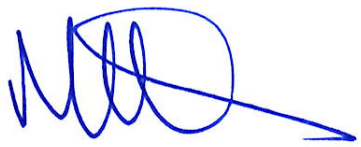
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

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

Sincerely,



Mark Roberts
QC Development
Consultant for AT&T

Attachments

cc: Ronald McDaniel - Elected Official
Marcia A. Vlaun – Town Planner
Antonio J. Iaconiello – Property Owner
Wireless Solutions LLC - Tower Owner (via e-mail)

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							0.18%
AT&T UMTS	2	500	161	0.0150	880	0.5867	0.26%
AT&T UMTS	1	500	161	0.0075	1900	1.0000	0.07%
AT&T LTE	1	500	161	0.0075	700	0.4667	0.16%
AT&T LTE	1	500	161	0.0075	1900	1.0000	0.07%
AT&T LTE	1	500	161	0.0075	2300	1.0000	0.07%
Site Total							0.82%

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

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

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							0.18%
AT&T UMTS	1	500	161	0.0075	850	0.5667	0.13%
AT&T LTE	1	1476	161	0.0221	700	0.4667	0.47%
AT&T LTE	1	1000	161	0.0150	850	0.5667	0.26%
AT&T 5G	1	1000	161	0.0150	850	0.5667	0.26%
AT&T LTE	2	3664	161	0.1097	1900	1.0000	1.10%
AT&T LTE	2	3837	161	0.1149	2100	1.0000	1.15%
Site Total							3.56%

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

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

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING GUYED TOWER:
- NEW AT&T ANTENNAS: DMP65R-BU8DA (TOTAL OF 1 PER ALPHA SECTOR).
- NEW AT&T ANTENNAS: OPA65R-BU8BA (TOTAL OF 1 PER ALPHA SECTOR).
- NEW AT&T ANTENNAS: DMP65R-BU6DA (TOTAL OF 1 PER BETA SECTOR).
- NEW AT&T ANTENNAS: OPA65R-BU6BA (TOTAL OF 1 PER BETA SECTOR).
- NEW AT&T ANTENNAS: DMP65R-BU4DA (TOTAL OF 1 PER GAMMA SECTOR).
- NEW AT&T ANTENNAS: OPA65R-BU4BA (TOTAL OF 1 PER GAMMA SECTOR)
- NEW AT&T RRUS: 4449 B5/B12 (700/850) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 8843 B2/B66A (1900/AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T SURGE ARRESTOR: DC6-48-60-18-8C-EV (TOTAL OF 1) WITH (2) DC POWER LINES AND (1) FIBER RUN.

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- SWAP BB WITH (2) 6630 + IDLE FOR 5G.
- INSTALL (1) DC12-48-60-RM

ITEMS TO BE REMOVED:
- EXISTING AT&T LTE ANTENNAS (HPA-65R-BUU-H8) (TYP. OF 1 PER ALPHA SECTOR, TOTAL OF 1) (TO BE REMOVED & REPLACED).
- EXISTING AT&T LTE ANTENNAS (HPA-65R-BUU-H6) (TYP. OF 1 PER BETA SECTOR, TOTAL OF 1) (TO BE REMOVED & REPLACED).
- EXISTING AT&T LTE ANTENNA (SBNHH-1D65A) (TOTAL OF 1 FOR GAMMA SECTOR) (TO BE REMOVED & REPLACED).
- EXISTING AT&T RRUS-11 B12 (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE REMOVED & REPLACED).

SITE ADDRESS:	376 BUTLERTOWN ROAD MONTVILLE, CT 06353
LATITUDE:	41.421603° N, 42° 25' 17.77" N
LONGITUDE:	72.212610° W, 72° 12' 45.39" W
TYPE OF SITE:	GUYED TOWER/INDOOR/OUTDOOR
STRUCTURE HEIGHT:	195'-0"±
RAD CENTER:	161'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
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SITE NUMBER: CT2055

SITE NAME: MONTVILLE BUTLER TOWN ROAD

FA CODE: 10035374

PACE ID: MRCTB040761, MRCTB040498, MRCTB040403, MRCTB040584

PROJECT: LTE 2C_3C_4C 2020 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:
TURN LEFT ONTO ENTERPRISE DR. TURN LEFT ONTO CAPITAL BLVD. USE THE LEFT LANE TO TURN LEFT ONTO STATE HWY 411. TURN LEFT TO MERGE ONTO I-91 N. TAKE CT-2 E AND CT-11 S TO CT-82 E IN SALEM. TAKE EXIT 4 FROM CT-11 S. MERGE ONTO I-91 N. TAKE EXIT 25-26 TO MERGE ONTO CT-3 N TOWARD GLASTONBURY. TAKE THE EXIT ONTO CT-2 E TOWARD NORWICH. KEEP RIGHT AT THE FORK TO CONTINUE ON CT-11 S, FOLLOW SIGNS FOR NEW LONDON. CONTINUE ONTO EXIT 4 (SIGNS FOR CT-82/SALEM/HADLYME). TAKE CT-85 S TO BUTLERTOWN RD IN MONTVILLE. TURN LEFT ONTO CT-82 E. AT THE TRAFFIC CIRCLE, TAKE THE 1ST EXIT ONTO CT-85 S. TURN RIGHT ONTO CT-161 S. TURN LEFT ONTO BUTLERTOWN RD. 376 BUTLERTOWN ROAD WILL BE ON THE RIGHT IN .1 MILES.

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2055
SITE NAME: MONTVILLE BUTLER TOWN ROAD

376 BUTLERTOWN ROAD
MONTVILLE, CT 06353
NEW LONDON COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/25/19	ISSUED FOR CONSTRUCTION	TR	AT	DPH
A	08/28/19	ISSUED FOR REVIEW	JRC	AT	DPH

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

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

AT&T

TITLE SHEET
LTE 2C_3C_4C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2055	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 – SAI
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

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

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

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

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

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

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2055
SITE NAME: MONTVILLE BUTLER TOWN ROAD

376 BUTLERTOWN ROAD
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at&t
500 ENTERPRISE DRIVE, SUITE 3A
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

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

AT&T

GENERAL NOTES
LTE 2C_3C_4C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2055	GN-1	1

NOTE:

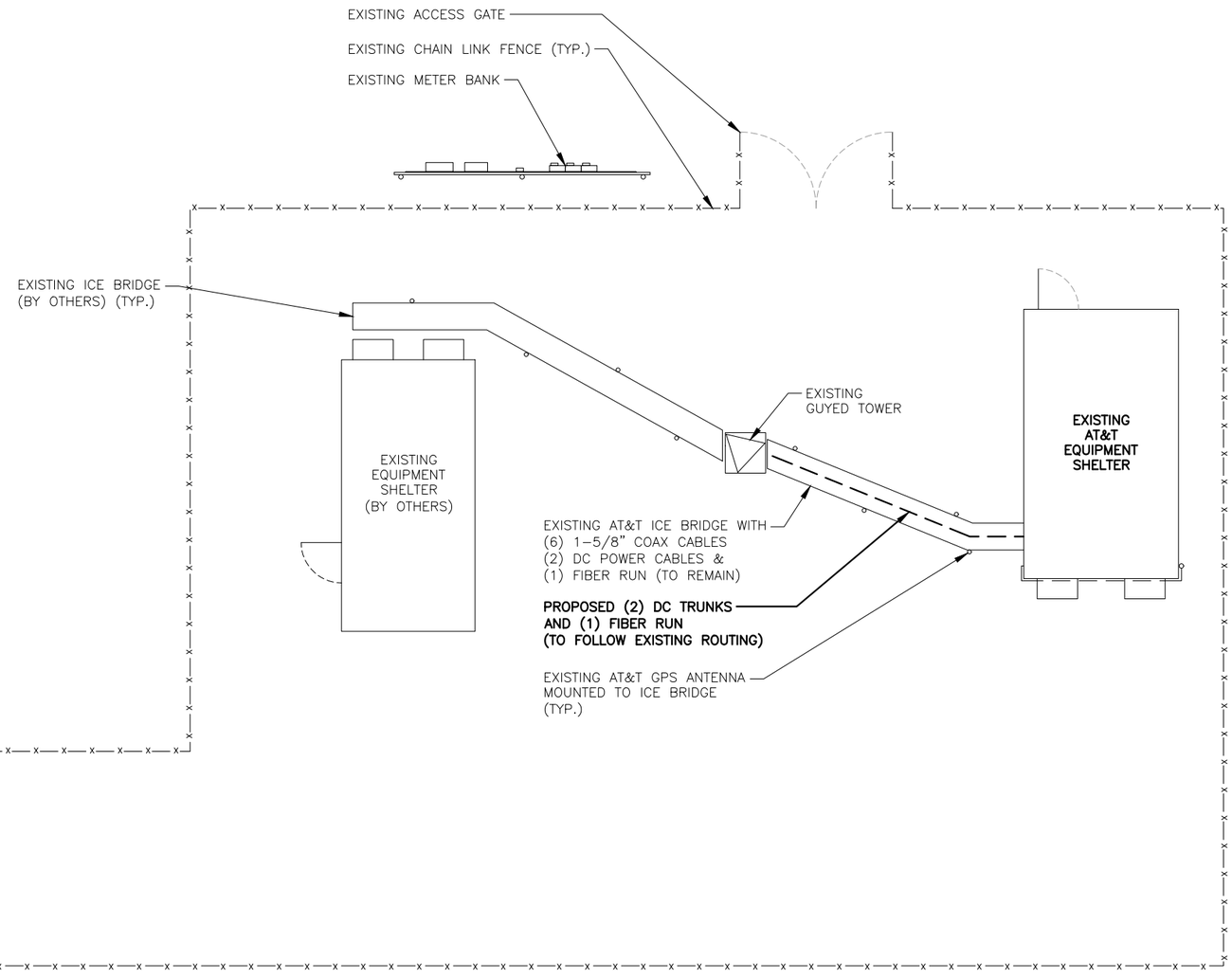
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: AUGUST 19, 2019 (REV.1)

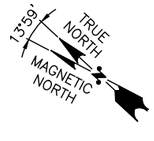
NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: OCTOBER 04, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

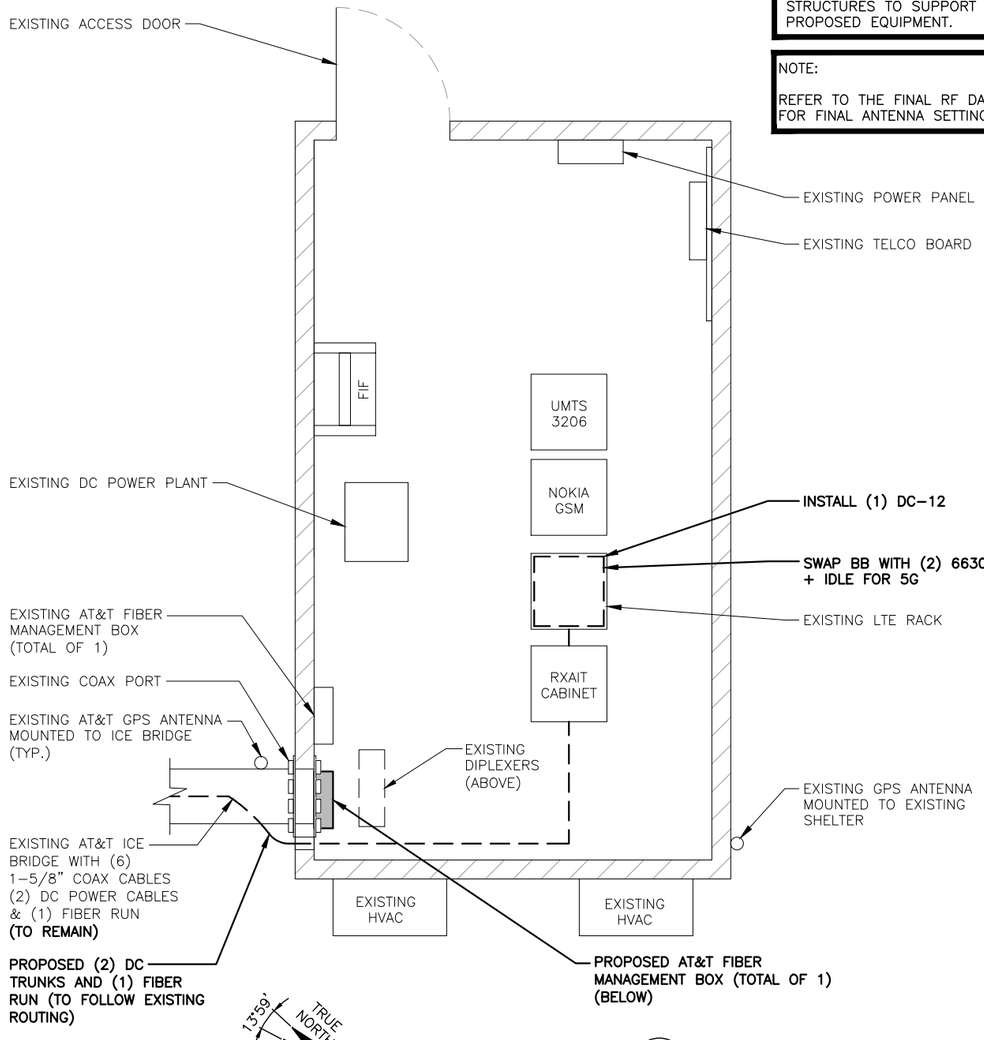
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

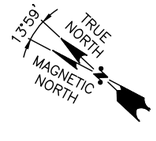




COMPOUND PLAN (1 / A-1)
22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"

0 2'-8" 5'-4" 10'-8" 16'-0"





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

0 1'-0" 2'-0" 4'-0" 6'-0"

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

SAI
12 INDUSTRIAL WAY
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SITE NUMBER: CT2055
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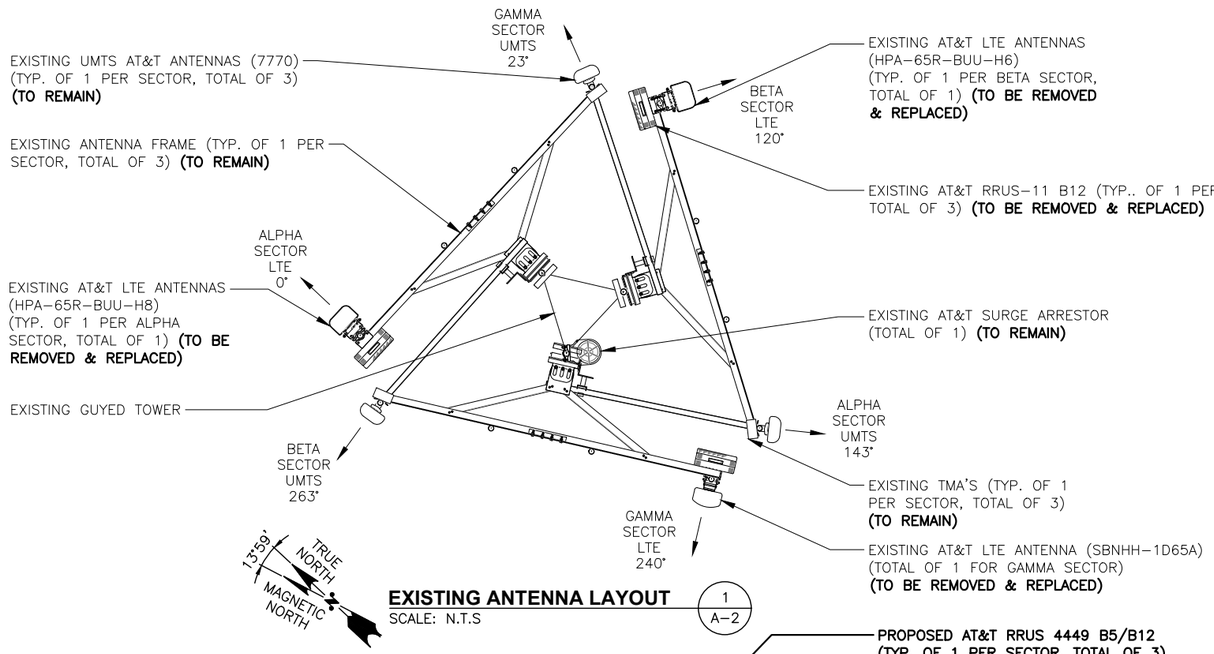
AT&T

COMPOUND & EQUIPMENT PLANS
LTE 2C_3C_4C 2020 UPGRADE

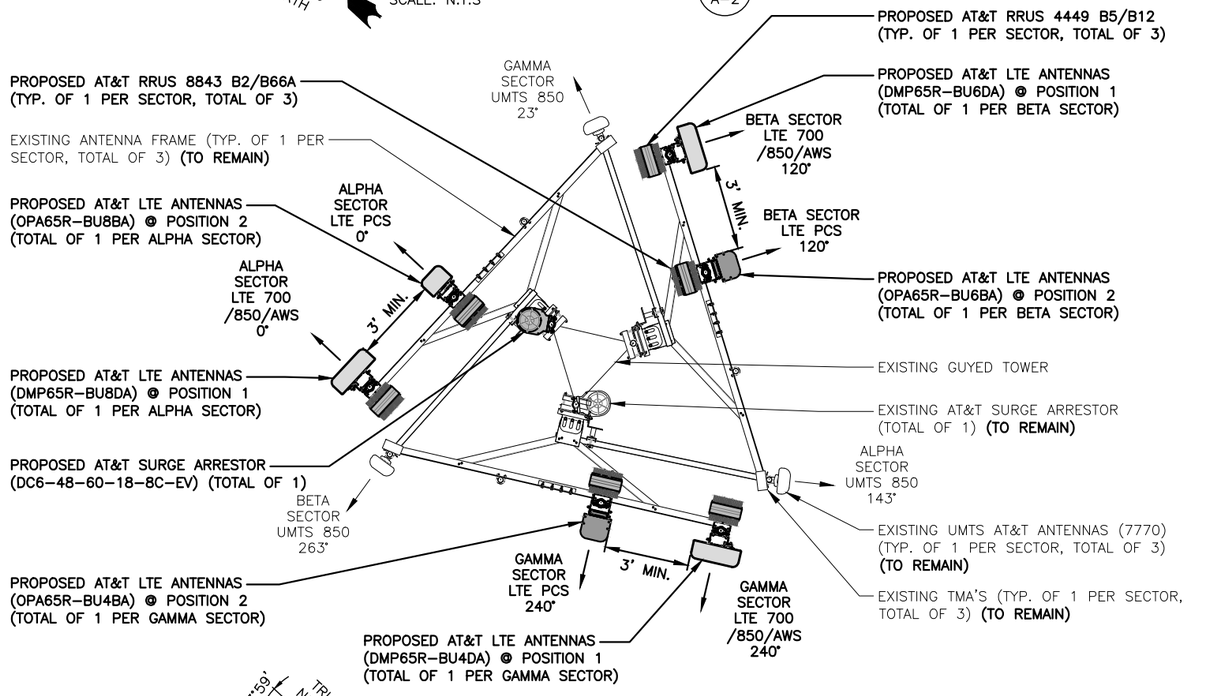
SITE NUMBER	DRAWING NUMBER	REV
CT2055	A-1	1



EXISTING ANTENNA LAYOUT

SCALE: N.T.S

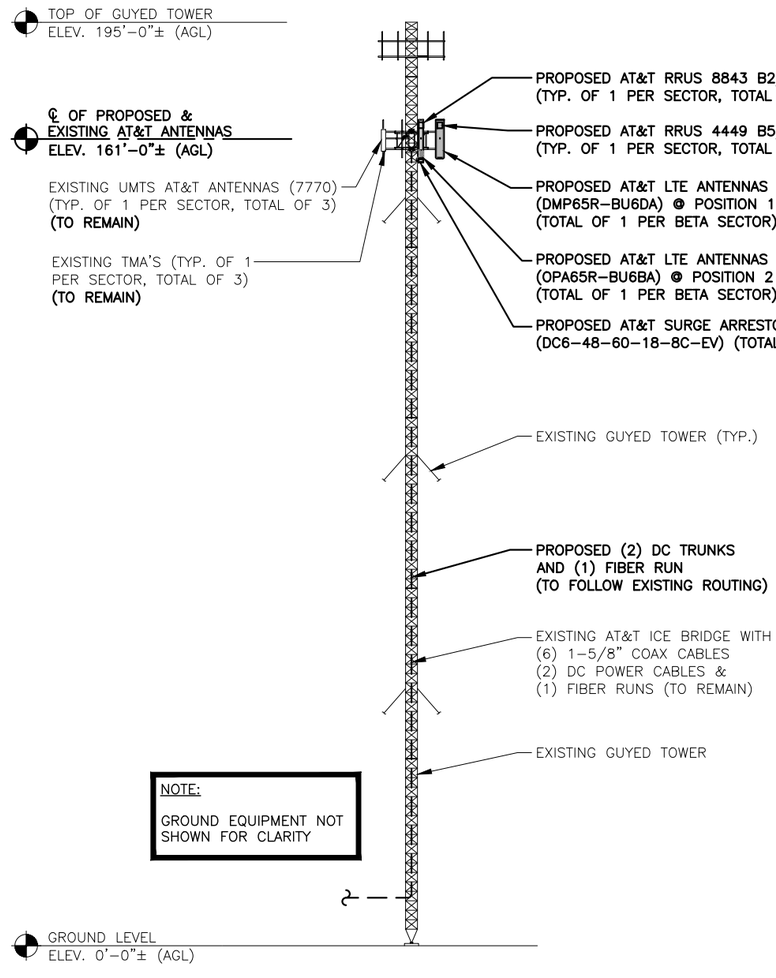
1 / A-2



PROPOSED ANTENNA LAYOUT

SCALE: N.T.S

2 / A-2



NOTE:

GROUND EQUIPMENT NOT SHOWN FOR CLARITY

ELEVATION

22x34 SCALE: 1/16"=1'-0"
11x17 SCALE: 1/32"=1'-0"

3 / A-2

0 8'-0" 16'-0" 32'-0" 48'-0"

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 19, 2019 (REV.1)

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: OCTOBER 04, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

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

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

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2055
SITE NAME: MONTVILLE BUTLER TOWN ROAD

376 BUTLERTOWN ROAD
MONTVILLE, CT 06353
NEW LONDON COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/25/19	ISSUED FOR CONSTRUCTION	TR	AT	DPH
A	08/28/19	ISSUED FOR REVIEW	JRC	AT	DPH

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

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

AT&T

ANTENNA LAYOUTS & ELEVATION
LTE 2C_3C_4C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2055	A-2	1

ANTENNA SCHEDULE

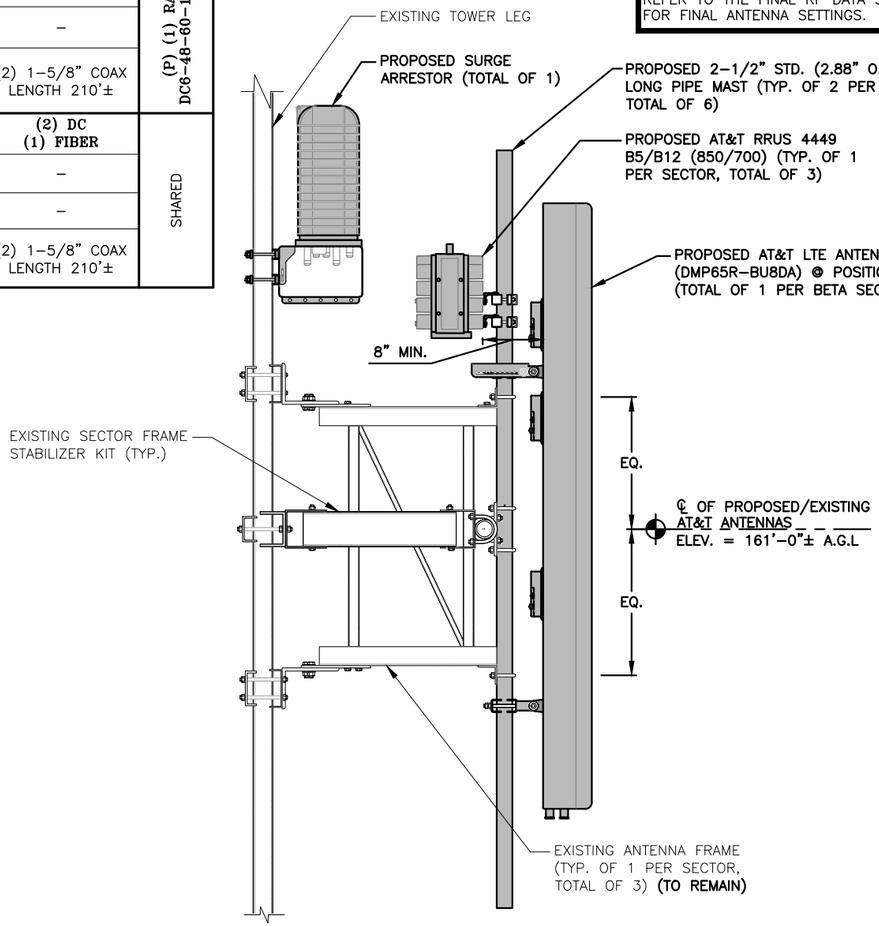
SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	**PROPOSED**	**LTE 700 /850/AWS**	**DMP65R-BU8DA**	**96x20.7x7.7**	**161'-0"±**	**0°**	–	**(P)(1) 4449 B5/B12 (700/850)**	**14.9X13.2X10.4**	**(2) DC (1) FIBER**	(E) (1) RAYCAP DC6-48-60-18-8F
A2	**PROPOSED**	**LTE PCS**	**OPA65R-BU8BA**	**95.9x11.7x8.4**	**161'-0"±**	**0°**	–	**(P)(1) 8843 B2/B66A (1900/AWS)**	**14.9X13.2X10.9**	–	
A3	–	–	–	–	–	–	–	–	–	–	
A4	EXISTING	UMTS 850	POWERWAVE 7770	55x11x5	161'-0"±	143°	(1)(E) DTMABP7819VG12A1 (2)(E)(G) POWERWAVE /LGP 21901	–	–	(2) 1-5/8" COAX LENGTH 210'±	
B1	**PROPOSED**	**LTE 700 /850/AWS**	**DMP65R-BU6DA**	**71.2x20.7x7.7**	**161'-0"±**	**120°**	–	**(P)(1) 4449 B5/B12 (700/850)**	**14.9X13.2X10.4**	–	(P) (1) RAYCAP DC6-48-60-18-8C-EV
B2	**PROPOSED**	**LTE PCS**	**OPA65R-BU6BA**	**71.1x11.7x8.4**	**161'-0"±**	**120°**	–	**(P)(1) 8843 B2/B66A (1900/AWS)**	**14.9X13.2X10.9**	–	
B3	–	–	–	–	–	–	–	–	–	–	
B4	EXISTING	UMTS 850	POWERWAVE 7770	55x11x5	161'-0"±	263°	(1)(E) DTMABP7819VG12A1 (2)(E)(G) POWERWAVE /LGP 21901	–	–	(2) 1-5/8" COAX LENGTH 210'±	
C1	**PROPOSED**	**LTE 700 /850/AWS**	**DMP65R-BU4DA**	**48x20.7x7.7**	**161'-0"±**	**240°**	–	**(P)(1) 4449 B5/B12 (700/850)**	**14.9X13.2X10.4**	**(2) DC (1) FIBER**	SHARED
C2	**PROPOSED**	**LTE PCS**	**OPA65R-BU4BA**	**48x11.7x8.4**	**161'-0"±**	**240°**	–	**(P)(1) 8843 B2/B66A (1900/AWS)**	**14.9X13.2X10.9**	–	
C3	–	–	–	–	–	–	–	–	–	–	
C4	EXISTING	UMTS 850	POWERWAVE 7770	55x11x5	161'-0"±	23°	(1)(E) DTMABP7819VG12A1 (2)(E)(G) POWERWAVE /LGP 21901	–	–	(2) 1-5/8" COAX LENGTH 210'±	

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

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 19, 2019 (REV.1)

NOTE:
REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: OCTOBER 04, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

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



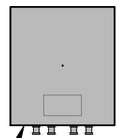
PROPOSED LTE ANTENNA MOUNTING DETAIL (4 / A-3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"
0 0'-6" 1'-0" 2'-0" 3'-0"

RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
(3)P	4449 B5/B12 (850/700)	14.9"x13.2"x10.4"
(3)P	8843 B2/B66A (1900/AWS)	14.9"x13.2"x10.9"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

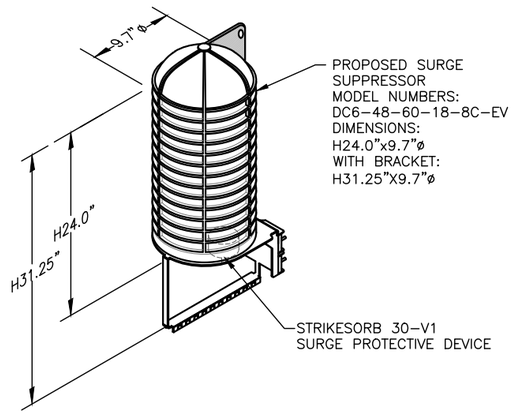
NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



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:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

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

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

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A	08/28/19	ISSUED FOR REVIEW	JRC	AT	DPH

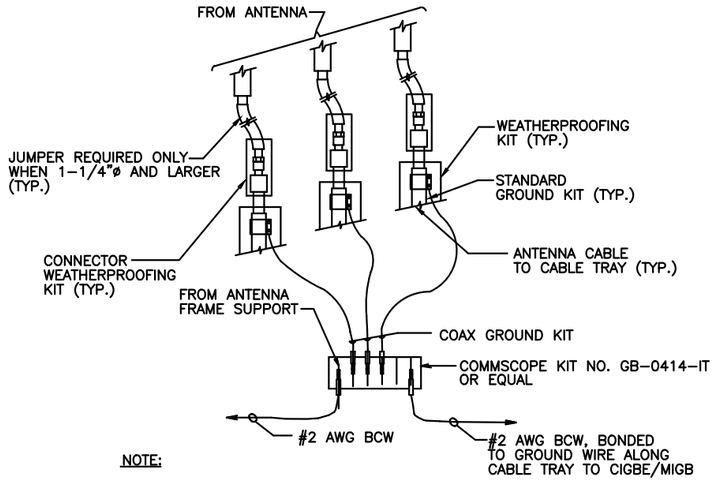
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

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

AT&T

DETAILS
LTE 2C_3C_4C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2055	A-3	1

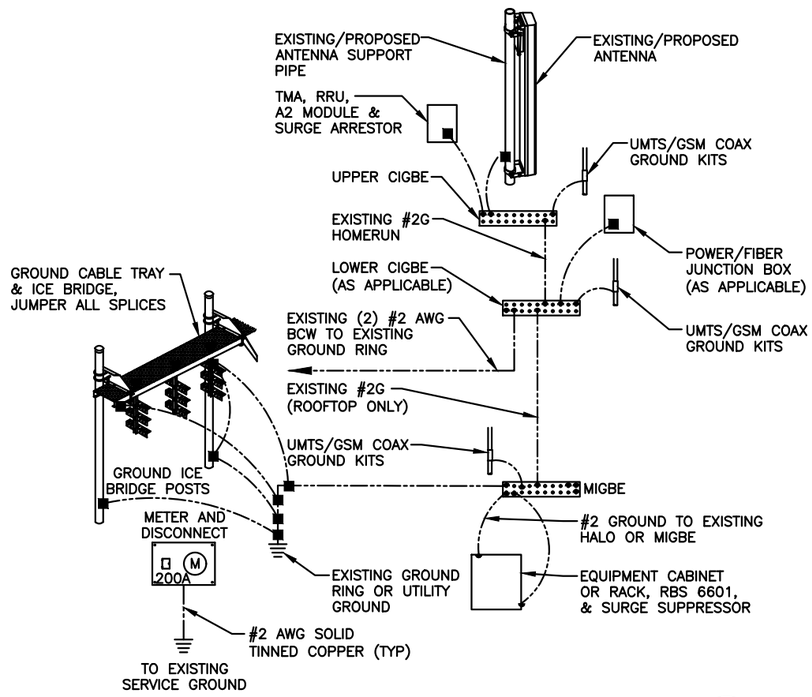


NOTE:

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

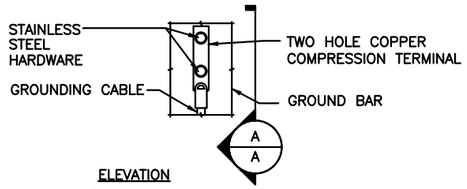
GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

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

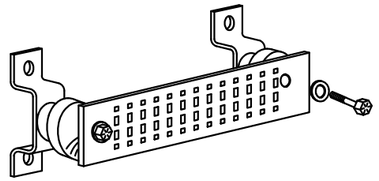
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

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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SITE NUMBER: CT2055
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at&t
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A	08/28/19	ISSUED FOR REVIEW	JRC	AT	DPH

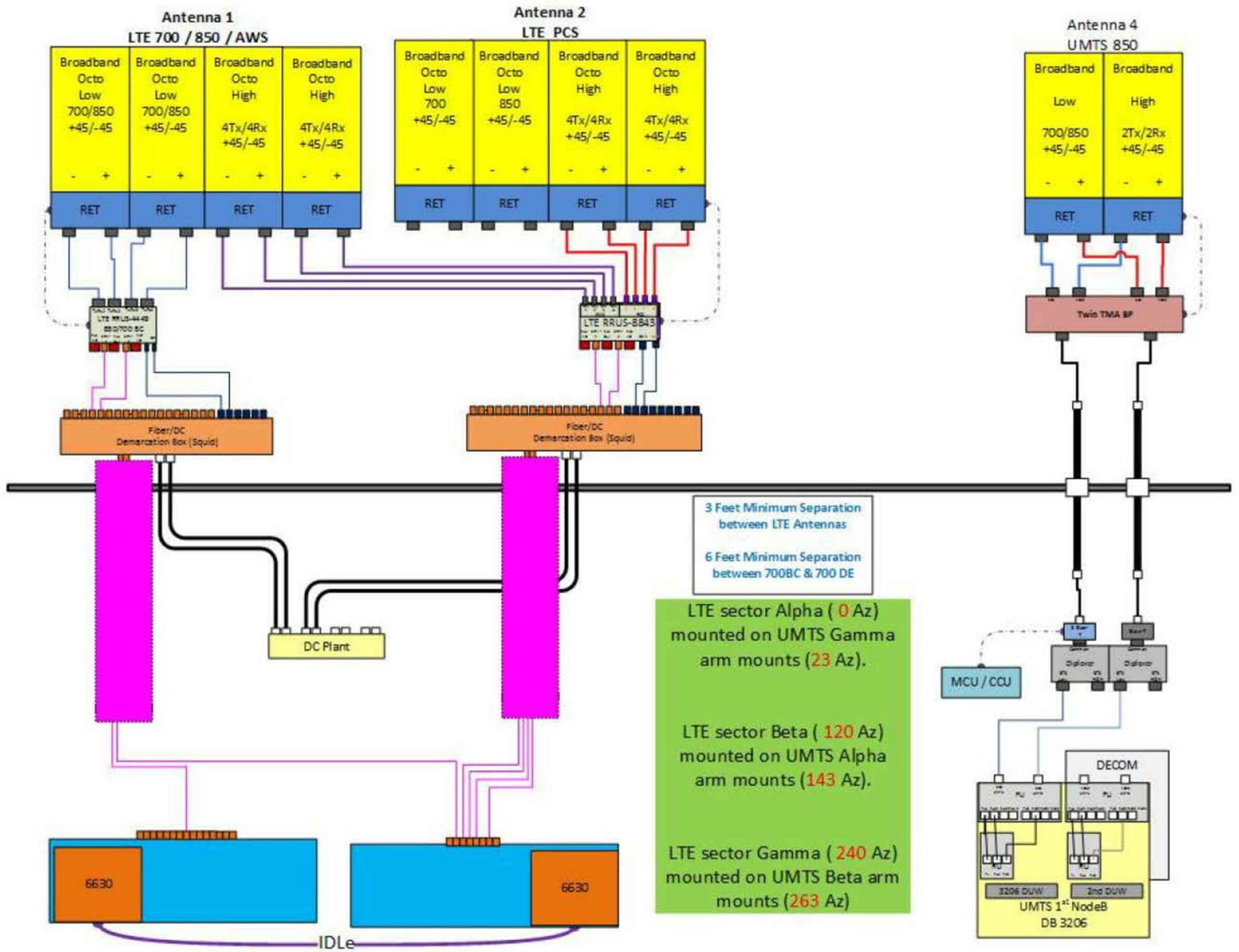
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

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

AT&T

GROUNDING DETAILS
LTE 2C_3C_4C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2055	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.

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A	08/28/19	ISSUED FOR REVIEW	JRC	AT	DPH

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

AT&T

RF PLUMBING DIAGRAM
LTE 2C_3C_4C 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2055	RF–1	1

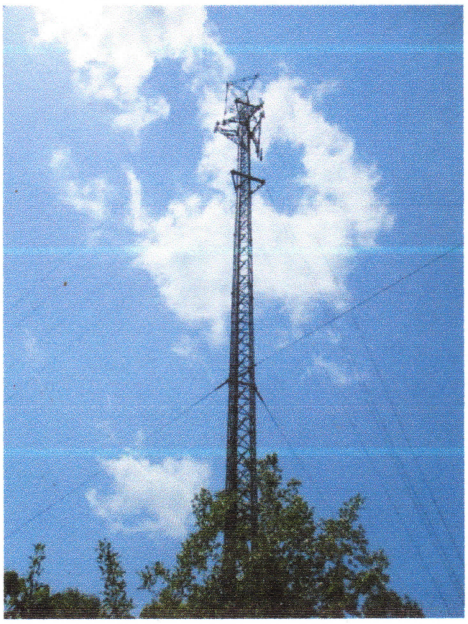
STRUCTURAL ANALYSIS REPORT

For

CT2055
MONTVILLE BUTLER TOWN ROAD

376 BUTLERTOWN ROAD
MONTVILLE, CT 06353

Antennas Mounted to the Tower



Prepared for:

SAI at&t

Dated: October 4, 2019

Prepared by:

HDG HUDSON Design Group LLC

45 Beechwood Drive
North Andover, MA 01845
(P) 978.557.5553 (F) 978.336.5586
www.hudsondesigngroupllc.com

STATE OF CONNECTICUT
GI KAI WANG
No. 22220
LICENSED PROFESSIONAL ENGINEER
10/4/2019

SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by AT&T to conduct a structural evaluation of the 195' guyed tower supporting the proposed AT&T antennas located at elevation 161' above the ground level.

This report represents this office's findings, conclusions and recommendations pertaining to the support of AT&T's existing and proposed antennas listed below.

Record drawings of the existing tower were not available for our use. The previous structural analysis report prepared by GPD Group, dated December 10, 2013 was available and obtained for our use.

CONCLUSION SUMMARY:

Based on our evaluation, we have determined that the existing tower and foundation **are in conformance** with the ANSI/TIA-222-G Standard for the loading considered under the criteria listed in this report. The tower structure is rated at **81.7%** - (Guy at El.118' Controlling).

HUDSON Design Group LLC

APPURTENANCES CONFIGURATION:

Tenant	Appurtenances	Elev.	Mount
	(3) Empty T - Frame	194'	Tower Leg
	(12) DB844H90 Antennas	183'	T - Frame
AT&T	(3) 7770 Antennas	161'	T - Frame
AT&T	(3) DTMABP7819VG12A	161'	T - Frame
AT&T	(1) DC6-48-60-18-8F	161'	Tower Leg
AT&T	***(1) DMP65R-BU8D Antenna***	161'	T - Frame
AT&T	***(1) DMP65R-BU6D Antenna***	161'	T - Frame
AT&T	***(1) DMP65R-BU4D Antenna***	161'	T - Frame
AT&T	***(1) OPA65R-BU8B Antenna***	161'	T - Frame
AT&T	***(1) OPA65R-BU6B Antenna***	161'	T - Frame
AT&T	***(1) OPA65R-BU4B Antenna***	161'	T - Frame
AT&T	***(3) 4449 B5/B12***	161'	T - Frame
AT&T	***(3) 8843 B2/B66A***	161'	T - Frame
AT&T	***(1) DC6-48-60-18-8C-EV***	161'	Tower Leg

Proposed AT&T Appurtenances shown in Bold.

AT&T EXISTING/PROPOSED COAX CABLES:

Tenant	Coax Cables	Elev.	Mount
AT&T	(6) 1 5/8" Cables	161'	Tower Face
AT&T	(2) DC Power Cables	161'	Tower Face
AT&T	(1) Fiber Cable	161'	Tower Face
AT&T	***(2) DC Power Cables***	161'	Tower Face
AT&T	***(1) Fiber Cable***	161'	Tower Face

Proposed AT&T Coax Cables shown in Bold.

ANALYSIS RESULTS SUMMARY:

Component	Max. Stress Ratio	Elev. of Component (ft)	Pass/Fail	Comments
Legs	74.9 %	155 – 175	PASS	
Diagonals	41.6 %	175 – 195	PASS	
Top Girt	9.3 %	95 – 115	PASS	
Bottom Girt	80.6 %	4.8 – 15	PASS	
Guy	**81.7 %**	118	PASS	**Controlling**
Top Guy Pull-Off	42.9 %	178	PASS	
Torque Arm	58.0 %	178	PASS	
Foundation	63.7 %	-	PASS	

HUDSON Design Group LLC

DESIGN CRITERIA:

1. EIA/TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

2. 2018 Connecticut State Building Code

   City/Town: Montville
   County: New London
   Wind Load: 120 mph
   Structural Class: II
   Exposure Category: B
   Topographic Category: 1
   Crest Height: 0 ft.
   Ice Thickness: 0.75 inch

ASSUMPTIONS:

1. The appurtenances configuration is as stated in the previous structural analysis report prepared by GPD Group, dated December 10, 2013. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.

2. The tower and foundation are properly constructed and maintained. 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. The support mounts and platforms are not analyzed and are considered adequate to support the loading. The analysis is limited to the primary support structure itself.

4. All prior structural modification, if any, are assumed to be as per the data supplied (if available), and installed properly.

SUPPORT RECOMMENDATIONS:

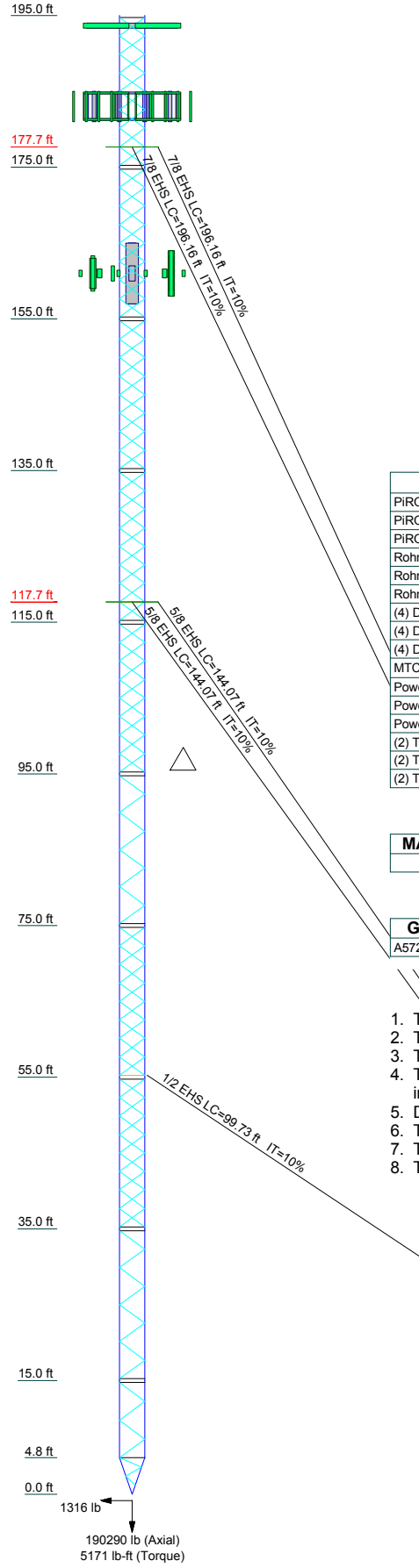
HDG recommends that the proposed antennas and RRHs be mounted on the existing T-frame supported by the tower; the proposed surge arrestor be mounted on the tower leg.

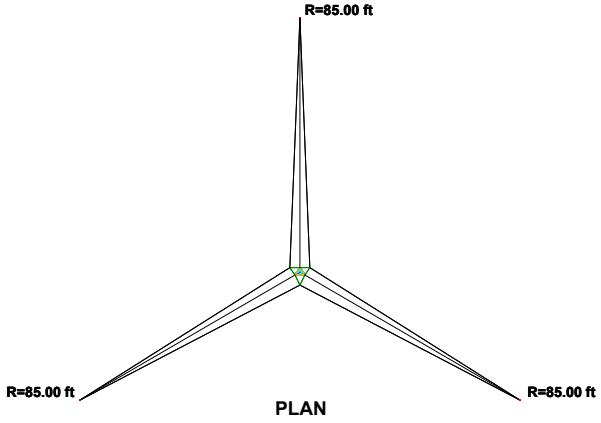
Photo 1: Photo illustrating the Tower with Appurtenances shown.

HUDSON
Design Group LLC

CALCULATIONS

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11
Legs	ROHN 2.5 EH					ROHN 3 EH					
Leg Grade	A572-50										
Diagonals	ROHN TS1.5x11 ga										
Diagonal Grade	A53-B-35										
Top Girts	ROHN TS1.5x11 ga										N.A.
Bottom Girts	ROHN TS1.5x11 ga						N.A.				N.A.
Top Guy Pull-Offs	SR 1 1/4	N.A.	N.A.	SR 1 1/4	N.A.		SR 1 1/4		N.A.		
Face Width (ft)	3.416				72 @ 2.4375					4 @ 2.4875	A
# Panels @ (ft)	1774.5	853.0	1008.6	1746.1	1008.6	830.3	1033.3	1008.6	830.3	440.1	199.4
Weight (lb)	10732.9										





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
PiROD 12' T-Frame	194	DC6-48-60-18-8F	161
PiROD 12' T-Frame	194	DMP65R-BU8D w/mount pipe (ATI - Proposed)	161
PiROD 12' T-Frame	194	DMP65R-BU6D w/mount pipe	161
Rohn 6'x12' Boom Gate	183	DMP65R-BU4D w/mount pipe	161
Rohn 6'x12' Boom Gate	183	OPA65R-BU8B w/mount pipe	161
Rohn 6'x12' Boom Gate	183	OPA65R-BU6B w/mount pipe	161
(4) DB844H90 w/Mount Pipe	183	OPA65R-BU4B w/mount pipe	161
(4) DB844H90 w/Mount Pipe	183	4449 B5/B12	161
(4) DB844H90 w/Mount Pipe	183	4449 B5/B12	161
MTC3615-3 (ATI - existing)	161	4449 B5/B12	161
Powerwave 7770 w/mount pipe	161	8843 B2/B66A	161
Powerwave 7770 w/mount pipe	161	8843 B2/B66A	161
Powerwave 7770 w/mount pipe	161	8843 B2/B66A	161
(2) TMA DTMABP7819VG12A	161	DC6-48-60-18-8C-EV	161
(2) TMA DTMABP7819VG12A	161		
(2) TMA DTMABP7819VG12A	161		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	4 @ 1.2		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A53-B-35	35 ksi	63 ksi

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 120 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 81.7%

ALL REACTIONS ARE FACTORED

Hudson Design Group LLC
45 Beechwood Drive
North Andover, MA 01845
Phone: (978) 557-5553
FAX: (978) 336-5586

Job: ***CT2055***			
Project: ***195 ft Guyed Tower***			
Client: AT&T	Drawn by: kw		App'd:
Code: TIA-222-G	Date: 10/04/19		Scale: NTS
Path: C:\Users\kwang\Documents\HUDSON DESIGN GROUP\AAA\CT2055 - GT (AT&T SAI)\CT2055\CT2055.eri			Dwg No. E-1

Tower Input Data

The main tower is a 3x guyed tower with an overall height of 195.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 3.42 ft at the top and tapered at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in New London County, Connecticut.
Basic wind speed of 120 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Pressures are calculated at each section.
Safety factor used in guy design is 1.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Tower Section Geometry

Tower Section	*Tower Elevation*	*Assembly Database*	*Description*	*Section Width*	*Number of Sections*	*Section Length*
	ft			*ft*		*ft*
T1	195.00-175.00			3.42	1	20.00
T2	175.00-155.00			3.42	1	20.00
T3	155.00-135.00			3.42	1	20.00
T4	135.00-115.00			3.42	1	20.00
T5	115.00-95.00			3.42	1	20.00
T6	95.00-75.00			3.42	1	20.00
T7	75.00-55.00			3.42	1	20.00
T8	55.00-35.00			3.42	1	20.00
T9	35.00-15.00			3.42	1	20.00
T10	15.00-4.80			3.42	1	10.20
T11	4.80-0.00			3.42	1	4.80

Tower Section Geometry *(cont'd)*

Tower Section	*Tower Elevation*	*Diagonal Spacing*	*Bracing Type*	*Has K Brace End Panels*	*Has Horizontals*	*Top Girt Offset*	*Bottom Girt Offset*
	ft	*ft*				*in*	*in*
T1	195.00-175.00	2.44	X Brace	No	No	3.0000	3.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T2	175.00-155.00	2.44	X Brace	No	No	3.0000	3.0000
T3	155.00-135.00	2.44	X Brace	No	No	3.0000	3.0000
T4	135.00-115.00	2.44	X Brace	No	No	3.0000	3.0000
T5	115.00-95.00	2.44	X Brace	No	No	3.0000	3.0000
T6	95.00-75.00	2.44	K Brace Left	No	No	3.0000	3.0000
T7	75.00-55.00	2.44	X Brace	No	No	3.0000	3.0000
T8	55.00-35.00	2.44	X Brace	No	No	3.0000	3.0000
T9	35.00-15.00	2.44	K Brace Left	No	No	3.0000	3.0000
T10	15.00-4.80	2.49	K Brace Left	No	No	3.0000	0.0000
T11	4.80-0.00	1.20	K Brace Left	No	No	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 195.00-175.00	Pipe	ROHN 2.5 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x11 ga	A53-B-35 (35 ksi)
T2 175.00-155.00	Pipe	ROHN 2.5 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x11 ga	A53-B-35 (35 ksi)
T3 155.00-135.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x11 ga	A53-B-35 (35 ksi)
T4 135.00-115.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x11 ga	A53-B-35 (35 ksi)
T5 115.00-95.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x11 ga	A53-B-35 (35 ksi)
T6 95.00-75.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x11 ga	A53-B-35 (35 ksi)
T7 75.00-55.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x11 ga	A53-B-35 (35 ksi)
T8 55.00-35.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x11 ga	A53-B-35 (35 ksi)
T9 35.00-15.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x11 ga	A53-B-35 (35 ksi)
T10 15.00-4.80	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x11 ga	A53-B-35 (35 ksi)
T11 4.80-0.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x11 ga	A53-B-35 (35 ksi)

Guy Data

Guy Elevation ft	Guy Grade		Guy Size	Initial Tension lb	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
177.688	EHS	A	7/8	7970.00	10%	19000	1.581	195.98	85.00	0.0000	0.00	100%
		B	7/8	7970.00	10%	19000	1.581	195.98	85.00	0.0000	0.00	100%
		C	7/8	7970.00	10%	19000	1.581	195.98	85.00	0.0000	0.00	100%
117.688	EHS	A	5/8	4240.00	10%	21000	0.813	143.94	85.00	0.0000	0.00	100%
		B	5/8	4240.00	10%	21000	0.813	143.94	85.00	0.0000	0.00	100%
		C	5/8	4240.00	10%	21000	0.813	143.94	85.00	0.0000	0.00	100%

55.25	EHS	A	1/2	2690.00	10%	21000	0.517	99.65	85.00	0.0000	0.00	100%
		B	1/2	2690.00	10%	21000	0.517	99.65	85.00	0.0000	0.00	100%
		C	1/2	2690.00	10%	21000	0.517	99.65	85.00	0.0000	0.00	100%

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
step rungs	A	No	No	Af (CaAa)	195.00 - 5.00	0.0000	0.5	1	1	0.0000	12.0000		1.00
Safety Line 3/8	A	No	No	Af (CaAa)	195.00 - 5.00	0.0000	0.5	1	1	0.0000	0.3750		0.22
1 5/8	A	No	No	Ar (CaAa)	183.00 - 8.00	0.0000	0	12	12	0.0000	1.9800		1.04
**********													
1 5/8 (AT&T - Existing)	B	No	No	Ar (CaAa)	161.00 - 8.00	0.0000	0	6	6	0.0000	1.9800		1.04
WR-VG122ST-BRDA	B	No	No	Ar (CaAa)	161.00 - 8.00	0.0000	0.3	2	2	0.0000	0.4000		0.25
FB-L98B-002	B	No	No	Ar (CaAa)	161.00 - 8.00	0.0000	0.35	1	1	0.0000	0.4000		0.25
**********													
WR-VG122ST-BRDA (AT&T - Proposed)	B	No	No	Ar (CaAa)	161.00 - 8.00	0.0000	0.4	3	3	0.0000	0.4000		0.25
FB-L98B-002	B	No	No	Ar (CaAa)	161.00 - 8.00	0.0000	0.45	1	1	0.0000	0.4000		0.25

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
PiROD 12' T-Frame	A	From Leg	2.00 0.00	0.0000	194.00	No Ice 1/2" Ice	12.20 17.60	12.20 17.60	360.00 490.00
			0.00			1" Ice	23.00	23.00	620.00
PiROD 12' T-Frame	B	From Leg	2.00 0.00	0.0000	194.00	No Ice 1/2" Ice	12.20 17.60	12.20 17.60	360.00 490.00
			0.00			1" Ice	23.00	23.00	620.00
PiROD 12' T-Frame	C	From Leg	2.00 0.00	0.0000	194.00	No Ice 1/2" Ice	12.20 17.60	12.20 17.60	360.00 490.00
			0.00			1" Ice	23.00	23.00	620.00
Rohn 6'x12' Boom Gate	A	From Leg	2.00 0.00	0.0000	183.00	No Ice 1/2" Ice	16.60 19.80	16.60 19.80	560.00 700.00
			0.00			1" Ice	23.00	23.00	840.00
Rohn 6'x12' Boom Gate	B	From Leg	2.00 0.00	0.0000	183.00	No Ice 1/2" Ice	16.60 19.80	16.60 19.80	560.00 700.00
			0.00			1" Ice	23.00	23.00	840.00
Rohn 6'x12' Boom Gate	C	From Leg	2.00	0.0000	183.00	No Ice	16.60	16.60	560.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00				1/2" Ice	19.80	19.80	700.00
			0.00				1" Ice	23.00	23.00	840.00
(4) DB844H90 w/Mount Pipe	A	From Leg	4.00		0.0000	183.00	No Ice	3.58	5.46	35.55
			0.00				1/2" Ice	4.20	6.49	80.31
			0.00				1" Ice	4.70	7.24	131.19
(4) DB844H90 w/Mount Pipe	B	From Leg	4.00		0.0000	183.00	No Ice	3.58	5.46	35.55
			0.00				1/2" Ice	4.20	6.49	80.31
			0.00				1" Ice	4.70	7.24	131.19
(4) DB844H90 w/Mount Pipe	C	From Leg	4.00		0.0000	183.00	No Ice	3.58	5.46	35.55
			0.00				1/2" Ice	4.20	6.49	80.31
			0.00				1" Ice	4.70	7.24	131.19
**********										
MTC3615-3	A	None			0.0000	161.00	No Ice	49.30	49.30	2293.00
(AT&T - existing)							1/2" Ice	52.20	52.20	2682.00
							1" Ice	55.10	55.10	3071.00
Powerwave 7770 w/mount	A	From Leg	4.00		0.0000	161.00	No Ice	5.65	4.10	57.25
pipe			0.00				1/2" Ice	6.03	4.75	103.17
			0.00				1" Ice	6.42	5.42	155.38
Powerwave 7770 w/mount	B	From Leg	4.00		0.0000	161.00	No Ice	5.65	4.10	57.25
pipe			0.00				1/2" Ice	6.03	4.75	103.17
			0.00				1" Ice	6.42	5.42	155.38
Powerwave 7770 w/mount	C	From Leg	4.00		0.0000	161.00	No Ice	5.65	4.10	57.25
pipe			0.00				1/2" Ice	6.03	4.75	103.17
			0.00				1" Ice	6.42	5.42	155.38
(2) TMA	A	From Leg	3.00		0.0000	161.00	No Ice	0.98	0.34	19.20
DTMABP7819VG12A			0.00				1/2" Ice	1.10	0.42	26.50
			0.00				1" Ice	1.23	0.51	35.65
(2) TMA	B	From Leg	3.00		0.0000	161.00	No Ice	0.98	0.34	19.20
DTMABP7819VG12A			0.00				1/2" Ice	1.10	0.42	26.50
			0.00				1" Ice	1.23	0.51	35.65
(2) TMA	C	From Leg	3.00		0.0000	161.00	No Ice	0.98	0.34	19.20
DTMABP7819VG12A			0.00				1/2" Ice	1.10	0.42	26.50
			0.00				1" Ice	1.23	0.51	35.65
DC6-48-60-18-8F	C	From Leg	1.00		0.0000	161.00	No Ice	0.79	0.79	20.00
			0.00				1/2" Ice	1.27	1.27	35.12
			0.00				1" Ice	1.45	1.45	52.57
**********										
DMP65R-BU8D w/mount	A	From Leg	4.00		0.0000	161.00	No Ice	18.16	10.71	148.11
pipe			0.00				1/2" Ice	18.89	12.24	273.63
(AT&T - Proposed)			0.00				1" Ice	19.61	13.58	410.85
DMP65R-BU6D w/mount	B	From Leg	4.00		0.0000	161.00	No Ice	12.96	7.28	104.95
pipe			0.00				1/2" Ice	13.57	8.46	197.40
			0.00				1" Ice	14.14	9.35	298.38
DMP65R-BU4D w/mount	C	From Leg	4.00		0.0000	161.00	No Ice	8.52	4.69	86.25
pipe			0.00				1/2" Ice	8.96	5.31	151.38
			0.00				1" Ice	9.42	5.93	223.14
OPA65R-BU8B w/mount	A	From Leg	4.00		0.0000	161.00	No Ice	11.51	11.24	124.11
pipe			0.00				1/2" Ice	12.23	12.77	221.49
			0.00				1" Ice	12.93	14.12	330.02
OPA65R-BU6B w/mount	B	From Leg	4.00		0.0000	161.00	No Ice	8.11	7.67	80.55
pipe			0.00				1/2" Ice	8.67	8.85	151.53
			0.00				1" Ice	9.19	9.75	230.49
OPA65R-BU4B w/mount	C	From Leg	4.00		0.0000	161.00	No Ice	5.20	5.56	61.25
pipe			0.00				1/2" Ice	5.58	6.19	114.57
			0.00				1" Ice	5.97	6.82	174.08
4449 B5/B12	A	From Leg	3.00		0.0000	161.00	No Ice	1.64	1.29	74.00
			0.00				1/2" Ice	1.80	1.44	91.12

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00			1" Ice	1.97	1.59	110.94
4449 B5/B12	B	From Leg	3.00	0.0000	161.00	No Ice	1.64	1.29	74.00
			0.00			1/2" Ice	1.80	1.44	91.12
			0.00			1" Ice	1.97	1.59	110.94
4449 B5/B12	C	From Leg	3.00	0.0000	161.00	No Ice	1.64	1.29	74.00
			0.00			1/2" Ice	1.80	1.44	91.12
			0.00			1" Ice	1.97	1.59	110.94
8843 B2/B66A	A	From Leg	3.00	0.0000	161.00	No Ice	1.64	1.35	74.00
			0.00			1/2" Ice	1.80	1.50	91.60
			0.00			1" Ice	1.97	1.65	111.91
8843 B2/B66A	B	From Leg	3.00	0.0000	161.00	No Ice	1.64	1.35	74.00
			0.00			1/2" Ice	1.80	1.50	91.60
			0.00			1" Ice	1.97	1.65	111.91
8843 B2/B66A	C	From Leg	3.00	0.0000	161.00	No Ice	1.64	1.35	74.00
			0.00			1/2" Ice	1.80	1.50	91.60
			0.00			1" Ice	1.97	1.65	111.91
DC6-48-60-18-8C-EV	A	From Leg	1.00	0.0000	161.00	No Ice	0.81	0.81	33.00
			0.00			1/2" Ice	1.30	1.30	48.38
			0.00			1" Ice	1.48	1.48	66.11

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Mast	Max. Vert	6	190290.39	10.03	15.90
	Max. H_x	12	136115.28	1142.40	653.78
	Max. H_z	12	136115.28	1142.40	653.78
	Max. M_x	1	0.00	-2.63	-9.07
	Max. M_z	1	0.00	-2.63	-9.07
	Max. Torsion	5	4612.66	-627.58	517.08
	Min. Vert	1	92173.69	-2.63	-9.07
	Min. H_x	4	132636.15	-1016.25	578.49
	Min. H_z	8	130539.55	-3.93	-1015.10
	Min. M_x	1	0.00	-2.63	-9.07
	Min. M_z	1	0.00	-2.63	-9.07
	Min. Torsion	11	-5170.77	621.68	521.46
Guy C @ 85 ft Elev 0 ft Azimuth 240 deg	Max. Vert	10	-3326.36	-914.88	526.68
	Max. H_x	10	-3326.36	-914.88	526.68
	Max. H_z	5	-94609.51	-53185.55	29436.10
	Min. Vert	5	-94609.51	-53185.55	29436.10
	Min. H_x	5	-94609.51	-53185.55	29436.10
	Min. H_z	10	-3326.36	-914.88	526.68
Guy B @ 85 ft Elev 0 ft Azimuth 120 deg	Max. Vert	6	-3177.10	844.09	485.79
	Max. H_x	11	-94626.87	53194.05	29436.72
	Max. H_z	13	-90163.52	48775.37	29478.31
	Min. Vert	11	-94626.87	53194.05	29436.72
	Min. H_x	6	-3177.10	844.09	485.79
	Min. H_z	7	-4257.66	1752.84	443.25

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Guy A @ 85 ft Elev 0 ft Azimuth 0 deg	Max. Vert	2	-3393.72	0.10	-1097.29
	Max. H_x	11	-49446.69	1697.02	-31201.26
	Max. H_z	2	-3393.72	0.10	-1097.29
	Min. Vert	7	-90081.38	-1143.45	-56957.38
	Min. H_x	6	-79386.00	-1803.43	-50292.98
	Min. H_z	7	-90081.38	-1143.45	-56957.38

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	92173.69	2.63	9.07	0.00	0.00	144.59
1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy	175914.65	5.77	75.62	0.00	0.00	353.82
1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy	159368.04	554.82	-141.24	0.00	0.00	-366.68
1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy	132636.15	1016.25	-578.49	0.00	0.00	-3594.03
1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy	176366.72	627.58	-517.08	0.00	0.00	-4612.66
1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy	190290.39	-10.03	-15.90	0.00	0.00	-3019.90
1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy	169820.63	-169.38	651.31	0.00	0.00	-564.99
1.2 Dead+1.6 Wind 180 deg - No Ice+1.0 Guy	130539.55	3.93	1015.10	0.00	0.00	69.43
1.2 Dead+1.6 Wind 210 deg - No Ice+1.0 Guy	159280.76	144.27	564.06	0.00	0.00	860.71
1.2 Dead+1.6 Wind 240 deg - No Ice+1.0 Guy	181033.26	-20.62	3.23	0.00	0.00	3480.67
1.2 Dead+1.6 Wind 270 deg - No Ice+1.0 Guy	176397.29	-621.68	-521.46	0.00	0.00	5170.77
1.2 Dead+1.6 Wind 300 deg - No Ice+1.0 Guy	136115.28	-1142.40	-653.78	0.00	0.00	4242.28
1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy	169931.99	-634.96	-159.62	0.00	0.00	1090.56
1.2 Dead+1.0 Ice+1.0 Temp+Guy	159534.93	-4.59	60.80	0.00	0.00	243.96
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy	160670.76	-4.27	-198.85	0.00	0.00	435.11
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy	160917.88	98.60	-156.72	0.00	0.00	333.34
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy	161207.82	207.31	-61.34	0.00	0.00	-9.86
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy	161015.00	285.10	81.19	0.00	0.00	-292.00
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy	160758.46	264.31	216.23	0.00	0.00	-210.27
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy	160954.57	144.27	278.99	0.00	0.00	-1.66
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy	161150.53	-4.78	279.25	0.00	0.00	55.08
1.2 Dead+1.0 Wind 210	160918.43	-142.15	258.74	0.00	0.00	156.43

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	lb-ft	lb-ft	lb-ft
deg+1.0 Ice+1.0 Temp+1.0 Guy 1.2 Dead+1.0 Wind 240	160725.71	-253.49	204.16	0.00	0.00	498.13
deg+1.0 Ice+1.0 Temp+1.0 Guy 1.2 Dead+1.0 Wind 270	161013.29	-294.41	80.85	0.00	0.00	782.95
deg+1.0 Ice+1.0 Temp+1.0 Guy 1.2 Dead+1.0 Wind 300	161259.88	-236.10	-73.18	0.00	0.00	704.37
deg+1.0 Ice+1.0 Temp+1.0 Guy 1.2 Dead+1.0 Wind 330	160954.08	-118.73	-177.15	0.00	0.00	493.58
deg+1.0 Ice+1.0 Temp+1.0 Guy Dead+Wind 0 deg - Service+Guy	92334.89	2.75	-207.53	0.00	0.00	153.94
Dead+Wind 30 deg - Service+Guy	92358.78	109.38	-178.58	0.00	0.00	61.19
Dead+Wind 60 deg - Service+Guy	92386.19	214.60	-113.19	0.00	0.00	-317.87
Dead+Wind 90 deg - Service+Guy	92362.69	308.75	11.12	0.00	0.00	-572.96
Dead+Wind 120 deg - Service+Guy	92329.92	245.97	149.77	0.00	0.00	-338.31
Dead+Wind 150 deg - Service+Guy	92358.49	133.47	232.62	0.00	0.00	36.14
Dead+Wind 180 deg - Service+Guy	92383.42	2.53	222.17	0.00	0.00	135.76
Dead+Wind 210 deg - Service+Guy	92359.86	-106.71	195.24	0.00	0.00	228.55
Dead+Wind 240 deg - Service+Guy	92336.66	-212.70	133.27	0.00	0.00	606.89
Dead+Wind 270 deg - Service+Guy	92366.55	-303.48	10.77	0.00	0.00	862.72
Dead+Wind 300 deg - Service+Guy	92394.13	-236.90	-129.46	0.00	0.00	628.92
Dead+Wind 330 deg - Service+Guy	92358.44	-125.29	-216.12	0.00	0.00	253.57

Maximum Tower Deflections - Service Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
T1	195 - 175	1.757	37	0.0331	0.1157
T2	175 - 155	1.657	37	0.0238	0.1174
T3	155 - 135	1.546	36	0.0589	0.1370
T4	135 - 115	1.263	36	0.0760	0.1299
T5	115 - 95	0.983	30	0.0504	0.1191
T6	95 - 75	0.830	30	0.0364	0.1452
T7	75 - 55	0.677	30	0.0399	0.1779
T8	55 - 35	0.504	30	0.0368	0.1844
T9	35 - 15	0.360	30	0.0386	0.1789
T10	15 - 4.8	0.173	30	0.0506	0.1506
T11	4.8 - 0	0.056	30	0.0546	0.0966

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
194.00	PiROD 12' T-Frame	37	1.751	0.0320	0.1155	765660
183.00	Rohn 6'x12' Boom Gate	37	1.695	0.0227	0.1142	319025
177.69	Guy	37	1.670	0.0223	0.1157	234022
161.00	MTC3615-3	36	1.593	0.0469	0.1322	25107
117.69	Guy	30	1.013	0.0541	0.1187	28114
55.25	Guy	30	0.506	0.0368	0.1845	83329

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	195 - 175	Leg	ROHN 2.5 EH	3	-41396.70	101331.00	40.9	Pass
T2	175 - 155	Leg	ROHN 2.5 EH	58	-69068.10	92155.60	74.9	Pass
T3	155 - 135	Leg	ROHN 3 EH	115	-63566.00	125134.00	50.8	Pass
T4	135 - 115	Leg	ROHN 3 EH	173	-88729.10	125110.00	70.9	Pass
T5	115 - 95	Leg	ROHN 3 EH	230	-89066.00	128052.00	69.6	Pass
T6	95 - 75	Leg	ROHN 3 EH	288	-67976.00	111808.00	60.8	Pass
T7	75 - 55	Leg	ROHN 3 EH	320	-76843.60	126025.00	61.0	Pass
T8	55 - 35	Leg	ROHN 3 EH	377	-76845.50	128124.00	60.0	Pass
T9	35 - 15	Leg	ROHN 3 EH	434	-70054.20	111808.00	62.7	Pass
T10	15 - 4.8	Leg	ROHN 3 EH	466	-67738.10	110914.00	61.1	Pass
T11	4.8 - 0	Leg	ROHN 3 EH	487	-71120.30	123768.00	57.5	Pass
T1	195 - 175	Diagonal	ROHN TS1.5x11 ga	12	-6057.83	14578.70	41.6	Pass
T2	175 - 155	Diagonal	ROHN TS1.5x11 ga	112	-4484.07	14578.70	30.8	Pass
T3	155 - 135	Diagonal	ROHN TS1.5x11 ga	127	-4223.72	14634.30	28.9	Pass
T4	135 - 115	Diagonal	ROHN TS1.5x11 ga	184	-5090.71	14634.30	34.8	Pass
T5	115 - 95	Diagonal	ROHN TS1.5x11 ga	283	-3572.53	14634.30	24.4	Pass
T6	95 - 75	Diagonal	ROHN TS1.5x11 ga	317	-2274.88	10421.40	21.8	Pass
T7	75 - 55	Diagonal	ROHN TS1.5x11 ga	330	-2025.51	14634.30	13.8	Pass
T8	55 - 35	Diagonal	ROHN TS1.5x11 ga	428	-3021.65	14634.30	20.6	Pass
T9	35 - 15	Diagonal	ROHN TS1.5x11 ga	463	-2768.32	10421.40	26.6	Pass
T10	15 - 4.8	Diagonal	ROHN TS1.5x11 ga	485	-3124.57	10355.60	30.2	Pass
T11	4.8 - 0	Diagonal	ROHN TS1.5x11 ga	491	-4786.71	15461.30	31.0	Pass
T1	195 - 175	Top Girt	ROHN TS1.5x11 ga	6	-141.68	12019.10	1.2	Pass
T2	175 - 155	Top Girt	ROHN TS1.5x11 ga	63	1017.50	16387.80	6.2	Pass
T3	155 - 135	Top Girt	ROHN TS1.5x11 ga	120	1181.03	16387.80	7.2	Pass
T4	135 - 115	Top Girt	ROHN TS1.5x11 ga	177	857.07	16387.80	5.2	Pass
T5	115 - 95	Top Girt	ROHN TS1.5x11 ga	233	1526.52	16387.80	9.3	Pass
T6	95 - 75	Top Girt	ROHN TS1.5x11 ga	290	966.16	16387.80	5.9	Pass
T7	75 - 55	Top Girt	ROHN TS1.5x11 ga	323	736.24	16387.80	4.5	Pass
T8	55 - 35	Top Girt	ROHN TS1.5x11 ga	380	1159.34	16387.80	7.1	Pass
T9	35 - 15	Top Girt	ROHN TS1.5x11 ga	436	1053.71	16387.80	6.4	Pass
T10	15 - 4.8	Top Girt	ROHN TS1.5x11 ga	470	1097.28	16387.80	6.7	Pass
T1	195 - 175	Bottom Girt	ROHN TS1.5x11 ga	9	2518.29	16387.80	15.4	Pass
T2	175 - 155	Bottom Girt	ROHN TS1.5x11 ga	66	725.78	16387.80	4.4	Pass
T3	155 - 135	Bottom Girt	ROHN TS1.5x11 ga	123	761.77	16387.80	4.6	Pass
T4	135 - 115	Bottom Girt	ROHN TS1.5x11 ga	180	1644.30	16387.80	10.0	Pass
T5	115 - 95	Bottom Girt	ROHN TS1.5x11 ga	237	968.95	16387.80	5.9	Pass
T6	95 - 75	Bottom Girt	ROHN TS1.5x11 ga	292	540.32	16387.80	3.3	Pass
T8	55 - 35	Bottom Girt	ROHN TS1.5x11 ga	382	988.55	16387.80	6.0	Pass
T9	35 - 15	Bottom Girt	ROHN TS1.5x11 ga	440	776.19	16387.80	4.7	Pass
T10	15 - 4.8	Bottom Girt	ROHN TS1.5x11 ga	474	13213.20	16387.80	80.6	Pass
T1	195 - 175	Guy A@177.688	7/8	510	31259.00	47820.00	65.4	Pass
T4	135 - 115	Guy A@117.688	5/8	525	18265.10	25440.00	71.8	Pass
T7	75 - 55	Guy A@55.25	1/2	531	10807.90	16140.00	67.0	Pass
T1	195 - 175	Guy B@177.688	7/8	507	32062.40	47820.00	67.0	Pass
T4	135 - 115	Guy B@117.688	5/8	522	20756.70	25440.00	81.6	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T7	75 - 55	Guy B@55.25	1/2	530	12642.10	16140.00	78.3	Pass
T1	195 - 175	Guy C@177.688	7/8	499	32072.50	47820.00	67.1	Pass
T4	135 - 115	Guy C@117.688	5/8	514	20794.20	25440.00	81.7	Pass
T7	75 - 55	Guy C@55.25	1/2	529	12644.10	16140.00	78.3	Pass
T1	195 - 175	Top Guy Pull-Off@177.688	1 1/4	505	-7797.84	18167.80	42.9	Pass
T4	135 - 115	Top Guy Pull-Off@117.688	1 1/4	520	-6229.05	18636.50	33.4	Pass
T7	75 - 55	Top Guy Pull-Off@55.25	1 1/4	327	4816.82	39760.80	12.1	Pass
T1	195 - 175	Torque Arm Top@177.688	MC18x42.7	512	-6932.27	379902.00	58.0	Pass
T4	135 - 115	Torque Arm Top@117.688	C15x33.9	527	3823.92	322704.00	46.2	Pass
							Summary	
							Leg (T2)	74.9 Pass
							Diagonal (T1)	41.6 Pass
							Top Girt (T5)	9.3 Pass
							Bottom Girt (T10)	80.6 Pass
							Guy A (T4)	71.8 Pass
							Guy B (T4)	81.6 Pass
							Guy C (T4)	81.7 Pass
							Top Guy Pull-Off (T1)	42.9 Pass
							Torque Arm Top (T1)	58.0 Pass
							RATING =	**81.7** **Pass**

Guyed Tower Pier and Pad Foundation

BU #: CT2055
Site Name: MONTVILLE BUTLER TOWN RO
App Number:

Design Reactions		
Shear, **S**:	1.3	kips
Compression, **Cn**:	190.3	kips
Tower Height, **H**:	195	ft

Pad Properties		
Depth, **D**:	5	ft
Pad Width, **W**:	11.5	ft
Pad Thickness, **T**:	2	ft
Ext. Above Grade, **E**:	0.5	ft
Neglected Depth, **N**:	0	ft
Pad Rebar Size, **Sp**:	7	
Pad Rebar Quanity, **mp**:	13	5

Pier Properties		
Pier Diameter, **Pd**:	3	ft
Pier Rebar Size, **Sc**:	7	
Pier Rebar Quanity, **mc**:	12	9
Pier Tie Size, **St**:		3
Tie Quanity, **mt**:		8

Material Properties		
Rebar Tensile, **Fy**:	60000	psi
Concrete Strength, **F'c**:	3000	psi
Concrete Density, **δc**:	0.15	kcf
Clear Cover, **cc**:	3	in

Soil Properties		
Soil Unit Weight, **γ**:	0.130	kcf
Ultimate Bearing, **Bc**:	6.000	ksf
Cohesion, **Co**:	0	ksf
Friction Angle, **Φ**:	30	deg
Passive Pressure, **Pp**:	0	pcf
Base Friction, **μ**:	0.4	
Seismic Zone, **z**:		

Design Checks

	Capacity/ Availability	Demand/ Limits	Check	
Shear Capacity (kips)	89.88	1.30	**OK**	1.4%
Bearing (ksf)	3.60	2.29	**OK**	63.7%
Pad Shear - 1-way (kips)	310.85	88.96	**OK**	28.6%
Pad Shear - 2-way (kips)	600.39	263.31	**OK**	43.9%
Pier Rebar Area (in^2)	7.20	5.09	**OK**	
Pad Rebar Area (in2)	7.80	2.98	**OK**	
Pier Moment Capacity (k-ft)	922.17	4.55	**OK**	0.5%
Pier Bar Spacing (in)	6.98	12 > s > 4.5	**OK**	
Pad Bar Spacing (in)	10.05	12 > s > 4.5	**OK**	
Pier Development Length (in)	39	26.42	**OK**	
Pad Development Length (in)	21	26.42	**OK**	
Hook Development Length (in)	66.00	13.42	**OK**	
Rebar Hook Length (in)	51.00	14.00	**OK**	
Rebar Hook Length (in)	51.00	14.00	**OK**	

Modification Checks

	Capacity/ Availability	Demand/ Limits	Check
Sleeve Rebar Area (in2):	15.8	0.00	**Not Used**
Sleeve Moment Capacity (k-ft):	922.17	4.55	**Not Used**
Sleeve Rebar Spacing (in):	N/a	12 > s > 4.5	**Not Used**
Sleeve Tie Spacing (in):	N/A	#DIV/0!	**Not Used**
Minimum Extra Thickness (in):	0	0	**Not Used**
Pad Rebar Area-short (in2):	14	0.00	**Not Used**
Pad Rebar Area-long (in2):	14	0.00	**Not Used**
Pad Rebar Spacing-short (in):	8.94	12 > s > 4.5	**Not Used**
Pad Rebar Spacing-long (in):	8.94	12 > s > 4.5	**Not Used**
End Cap Width (ft):	0	0	**Not Used**
End Cap Rebar Area (in2):	3.16	0	**Not Used**
Rebar Spacing (in):	-3	12 > s > 4.5	**Not Used**
Tie Spacing (in):	8.9	132 > s > 4.5	**Not Used**
Dowel Area (in2):	2.2	0.00	**Not Used**
Dowel Embedment (in):	9	6	**Not Used**
Shear Strength of Cone (kips):	21.78	23.76	**Not Used**
Dowel Edge Dist (in):	12	3.43	**Not Used**
Dowel Spacing (in):	28.5	18	**Not Used**
Dowel Edge Dist (vert) (in):	12	3.43	**Not Used**
Dowel Devel. Length (in):	-3.00	15.38	**Not Used**

Modifications

Pier Sleeve, ds:	0	in	**End Cap Width, Wec:**	0	ft
Revised Pier Diameter, **dx**:	3	ft	Revised Width, **Wx**:	11.5	ft
PS Rebar Size, **Ss**:	8		EC Rebar Size, **Sec**:	8	per side, top & bottom
Rebar Quanity, **ms**:	20	0	Rebar Quanity, **mec**:	4	0
Tie Size, **Sst**:	5		EC Tie Size, **Sect**:	4	per side
Tie Quanity, **mst**:	9	#DIV/0!	Tie Quanity, **mect**:	15	0
Pad Thickness, Te:	0	in	EC Dowel Size, **Secd**:	6	per side
Revised Pad Thickness, **Tx**:	2.00	ft	Dowel Quanity, **mecd**:	5	0
Rebar Size, **Se**:	9		Rows of Dowels, **Nd**:	1	
Rebar Quanity (long), **me**:	14	0	Dowel Depth, **decd**:	9	in
Rebar Quanity (short), **mex**:	14	0	Edge Distance, **eecd**:	12	in
Dowel Size, **Sed**:	4				
Dowel Quanity, **med**:	16	0			

Anchor Block Foundation

Checks capacity of anchor blocks with or without a berm for a guyed tower per TIA-222-G

BU#: CT2055
Site Name:
App Number:
Location: *B*

Design Reactions		
Shear, **S**:	60.8	kips
Uplift, **Ua**:	94.6	kips
Resultant Force, **Rf**:	112.5	kips
Tower Height, **H**:	195.0	ft
Guy Anchor Radius, **R**:	85.0	ft

Guyed Anchor Properties		
Depth to Bottom of Deadman, **Da**:	14.0	ft
Anchor Width, **Wa**:	4.0	ft
Anchor Thickness, **Ta**:	3.5	ft
Anchor Length, **La**:	25.0	ft
Concrete Volume, **Vc**:	13.0	yd^3
Frost Depth, **Fd**:	0	ft
Guyed Anchor Rebar Size, **Sa**:		
No. of Bars in Top of Block:		#N/A
No. of Bars in Front of Block:		#N/A
Anchor Shaft Diameter, d**s**:		in

Material Properties		
Rebar Tensile, **Fy**:	60000	psi
Concrete Strength, **F'c**:	3000	psi
Concrete Density, **δx**:	0.150	kcf
Clear Cover, **cc**:	3	in
Strength Reduction Factor, **φ**:	0.75	
Anchor Shaft Grade, **Fy'**:		ksi

Skin Friction		
Ultimate Soil Friction, f_s =	0	ksf

Design Checks	*Capacity/ Availability*	*Demand/ Limits*	*Check*	*%*
Shear (kips):	261.37	60.80	**OK**	**23.3%**
Uplift Capacity (kips):	356.37	94.60	**OK**	**26.5%**
Uplift Rebar Area (sq.in.):	#N/A	2.31	**#N/A**	**N/A**
Shear Rebar Area (sq.in):	#N/A	1.53	**#N/A**	**N/A**
Top Rebar Spacing (in):	#N/A	4.5<s<12	**#N/A**	**N/A**
Front Rebar Spacing (in):	#N/A	4.5<s<12	**#N/A**	**N/A**
Anchor Shaft (kips):	0.00	112.50	**#DIV/0!**	**#DIV/0!**

Soil Properties — No. of Soil Layers? 3

Layer	φ, deg	c, ksf	δ, kcf	d, ft
Berm	0	0.000	0.130	0.00
1	36	0.000	0.135	3.00
2	36	0.000	0.068	10.00
3	36	0.000	0.068	14.00
Backfill	30	0.000	0.110	☐ use

*key: φ = *Internal Angle of Friction*
δ = *Soil Unit Weight*
d = Depth to Bottom of Layer

August 14, 2019
August 19, 2019 (Rev.1)

SAI Communications
12 Industrial Way
Salem NH, 03079

RE:		
	Site Number:	CT2055 (LTE 2C/3C/4C)
	FA Number:	10035374
	PACE Number:	MRCTB040498
	PT Number:	2051A0PQEH
	Site Name:	MONTVILLE BUTLER TOWN ROAD
	Site Address:	376 Butlertown Road Montville, CT 06353

To Whom It May Concern:

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

- (3) 7770 Antennas (55.0"x11.0"x5.0" - Wt. = 35 lbs. /each)
- (3) DTMABP7819VG12A TMA's (10.7"x11.1"x3.8" - Wt. = 20 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each) (Tower Mount)
- **(1) DMP65R-BU8DA Antennas (96.0"x20.7"x7.7" – Wt. = 96 lbs. /each)**
- **(1) DMP65R-BU6DA Antennas (71.2"x20.7"x7.7" – Wt. = 80 lbs. /each)**
- **(1) DMP65R-BU4DA Antennas (48.0"x20.7"x7.7" – Wt. = 68 lbs. /each)**
- **(1) OPA65R-BU8B Antennas (95.9"x11.7"x8.4" – Wt. = 69 lbs. /each)**
- **(1) OPA65R-BU6A Antennas (71.1"x11.7"x8.4" – Wt. = 58 lbs. /each)**
- **(1) OPA65R-BU4B Antennas (48.0"x11.7"x10.1"– Wt. = 43 lbs. /each)**
- **(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" Φ – Wt. = 33 lbs. /each) (Tower Mount)**

**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 22, 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 135 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 1.17 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 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing tower with threaded rods and clamps. The connection is considered OK by visual inspection.

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

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (LTE 2C/3C/4C) Mount Rating	37	LC1	98%	**PASS**

Reference Documents:

- Mount mapping report prepared by ProVertic LLC.

This determination was based on the following limitations and assumptions:

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

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

Respectfully Submitted,
Hudson Design Group LLC

Michael Cabral
Vice President

STATE OF CONNECTICUT
DANIEL HAMM
24778
LICENSED
PROFESSIONAL ENGINEER

Daniel P. Hamm, PE
Principal

FIELD PHOTOS:











p: 978.557.5553 f: 978.336.5586 a: 45 Beechwood Drive, N. Andover, MA 01845
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HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 8/19/2019
Project Name: MONTVILLE BUTLER TOWN ROAD
Project No.: CT2055
Designed By: JN **Checked By:** MSC

HUDSON Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

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

z=	161 (ft)
z_g=	1200 (ft)
α=	7.0
K_z=	**1.132**

$Kzmin \leq Kz \leq 2.01$

Table 2-4

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

2.6.6.2 Topographic Factor:

Table 2-5

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

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

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

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

K_h=	#DIV/0!	
K_c=		(from Table 2-4)
K_t=		(from Table 2-5)
f=		(from Table 2-5)
z=	161	
z_s=	225	(Mean elevation of base of structure above sea level)
H=		(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)

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

Category=	1

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} =	**1.17** (from Sec. 2.6.10)

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

t_{iz} = **1.17** in

Date: 8/19/2019
Project Name: MONTVILLE BUTLER TOWN ROAD
Project No.: CT2055
Designed By: JN 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=	197	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=	1.132	(from 2.6.5.2)		
K_{zt}=	1.0	(from 2.6.6.2.1)		
K_s=	1.0	(from 2.6.7)		
K_e=	0.99	(from 2.6.8)		
K_d=	0.85	(from Table 2-2)		
V_{max}=	135	mph (Ultimate Wind Speed)		
$V_{max\ (ice)}$=	50	mph		
V_{30}=	30	mph		

q_z=	44.54
$q_{z\ (ice)}$=	6.11
$q_{z\ (30)}$=	2.20

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

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Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		$1.2 - 2.8(r_s) \geq 0.85$	$1.4 - 4.0(r_s) \geq 0.90$	$2.0 - 6.0(r_s) \geq 1.25$
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	39 ≤ 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 = 1.17 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)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	796	125	39
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	8.20	1.44	500	84	25
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.44	1.24	566	89	28
OPA65R-BU6B Antenna	71.1	11.7	8.4	5.78	6.08	1.36	350	59	17
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.32	1.20	369	59	18
OPA65R-BU4B Antenna	48.0	11.7	10.1	3.90	4.10	1.27	221	38	11
7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	245	43	12
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.13	1.20	73	14	4
4449 B5/B12 RRH (Shielded)	14.9	0.0	10.4	0.00	0.00	1.20	0	0	0
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.20	73	14	4
8843 B2/B66A RRH (Shielded)	14.9	1.5	10.9	0.16	9.93	1.50	10	4	1
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.96	1.20	44	9	2
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	50	9	2

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HUDSON Design Group LLC

WIND LOADS

Angle =	30	(deg)	Ice Thickness =	1.17	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)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	796	362	687
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	500	386	471
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	566	250	487
OPA65R-BU6B Antenna	71.1	11.7	8.4	5.78	4.15	6.08	8.46	1.36	1.45	350	268	329
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	369	156	316
OPA65R-BU4B Antenna	48.0	11.7	10.1	3.90	3.37	4.10	4.75	1.27	1.30	221	195	214
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	245	130	217
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	73	58	69
4449 B5/B12 RRH (Shielded)	14.9	6.6	10.4	0.68	1.08	2.26	1.43	1.20	1.20	36	58	42
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	73	60	70
8843 B2/B66A RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	36	60	42
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	44	15	37

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.74	6.86	4.27	9.79	1.28	1.49	123	63	108
OPA65R-BU8B Antenna	98.2	14.0	10.7	9.58	7.33	7.00	9.14	1.40	1.47	82	66	78
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.77	5.13	3.19	7.32	1.23	1.41	88	44	77
OPA65R-BU6B Antenna	73.4	14.0	10.7	7.16	5.48	5.23	6.84	1.32	1.39	58	47	55
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.06	3.51	2.18	5.01	1.20	1.31	59	28	51
OPA65R-BU4B Antenna	50.3	14.0	12.4	4.91	4.35	3.58	4.05	1.25	1.27	37	34	37
7770 Antenna	57.3	13.3	7.3	5.31	2.92	4.30	7.81	1.28	1.43	42	25	38
4449 B5/B12 RRH	17.2	15.5	12.7	1.86	1.53	1.11	1.35	1.20	1.20	14	11	13
4449 B5/B12 RRH (Shielded)	17.2	7.8	12.7	0.93	1.53	2.22	1.35	1.20	1.20	7	11	8
8843 B2/B66A RRH	17.2	15.5	13.2	1.86	1.59	1.11	1.30	1.20	1.20	14	12	13
8843 B2/B66A RRH (Shielded)	17.2	7.8	13.2	0.93	1.59	2.22	1.30	1.20	1.20	7	12	8
DTMABP7819VG12A TMA	13.0	13.4	6.1	1.22	0.56	0.97	2.12	1.20	1.20	9	4	8

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	39	18	34
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	25	19	23
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	28	12	24
OPA65R-BU6B Antenna	71.1	11.7	8.4	5.78	4.15	6.08	8.46	1.36	1.45	17	13	16
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	18	8	16
OPA65R-BU4B Antenna	48.0	11.7	10.1	3.90	3.37	4.10	4.75	1.27	1.30	11	10	11
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	11
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	3
4449 B5/B12 RRH (Shielded)	14.9	6.6	10.4	0.68	1.08	2.26	1.43	1.20	1.20	2	3	2
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
8843 B2/B66A RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	2	3	2
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	2	1	2

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Project No.: CT2055
Designed By: JN Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	1.17	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)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	796	362	470
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	500	386	414
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	566	250	329
OPA65R-BU6B Antenna	71.1	11.7	8.4	5.78	4.15	6.08	8.46	1.36	1.45	350	268	288
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	369	156	209
OPA65R-BU4B Antenna	48.0	11.7	10.1	3.90	3.37	4.10	4.75	1.27	1.30	221	195	201
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	245	130	159
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	73	58	61
4449 B5/B12 RRH (Shielded)	14.9	9.9	10.4	1.02	1.08	1.51	1.43	1.20	1.20	55	58	57
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	73	60	63
8843 B2/B66A RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	55	60	59
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	44	15	22

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.74	6.86	4.27	9.79	1.28	1.49	123	63	78
OPA65R-BU8B Antenna	98.2	14.0	10.7	9.58	7.33	7.00	9.14	1.40	1.47	82	66	70
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.77	5.13	3.19	7.32	1.23	1.41	88	44	55
OPA65R-BU6B Antenna	73.4	14.0	10.7	7.16	5.48	5.23	6.84	1.32	1.39	58	47	49
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.06	3.51	2.18	5.01	1.20	1.31	59	28	36
OPA65R-BU4B Antenna	50.3	14.0	12.4	4.91	4.35	3.58	4.05	1.25	1.27	37	34	35
7770 Antenna	57.3	13.3	7.3	5.31	2.92	4.30	7.81	1.28	1.43	42	25	30
4449 B5/B12 RRH	17.2	15.5	12.7	1.86	1.53	1.11	1.35	1.20	1.20	14	11	12
4449 B5/B12 RRH (Shielded)	17.2	11.7	12.7	1.40	1.53	1.48	1.35	1.20	1.20	10	11	11
8843 B2/B66A RRH	17.2	15.5	13.2	1.86	1.59	1.11	1.30	1.20	1.20	14	12	12
8843 B2/B66A RRH (Shielded)	17.2	11.7	13.2	1.40	1.59	1.48	1.30	1.20	1.20	10	12	11
DTMABP7819VG12A TMA	13.0	13.4	6.1	1.22	0.56	0.97	2.12	1.20	1.20	9	4	5

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	39	18	23
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	25	19	20
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	28	12	16
OPA65R-BU6B Antenna	71.1	11.7	8.4	5.78	4.15	6.08	8.46	1.36	1.45	17	13	14
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	18	8	10
OPA65R-BU4B Antenna	48.0	11.7	10.1	3.90	3.37	4.10	4.75	1.27	1.30	11	10	10
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	8
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	3
4449 B5/B12 RRH (Shielded)	14.9	9.9	10.4	1.02	1.08	1.51	1.43	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	4	3	3
8843 B2/B66A RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	3	3	3
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	2	1	1

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Designed By: JN Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	90	(deg)	Ice Thickness =	1.17	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)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	796	362	362
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	500	386	386
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	566	250	250
OPA65R-BU6B Antenna	71.1	11.7	8.4	5.78	4.15	6.08	8.46	1.36	1.45	350	268	268
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	369	156	156
OPA65R-BU4B Antenna	48.0	11.7	10.1	3.90	3.37	4.10	4.75	1.27	1.30	221	195	195
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	245	130	130
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	73	58	58
4449 B5/B12 RRH (Shielded)	14.9	0.0	10.4	0.00	1.08	0.00	1.43	1.20	1.20	0	58	58
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	73	60	60
8843 B2/B66A RRH (Shielded)	14.9	1.5	10.9	0.16	1.13	9.93	1.37	1.50	1.20	10	60	60
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	44	15	15

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.74	6.86	4.27	9.79	1.28	1.49	123	63	63
OPA65R-BU8B Antenna	98.2	14.0	10.7	9.58	7.33	7.00	9.14	1.40	1.47	82	66	66
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.77	5.13	3.19	7.32	1.23	1.41	88	44	44
OPA65R-BU6B Antenna	73.4	14.0	10.7	7.16	5.48	5.23	6.84	1.32	1.39	58	47	47
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.06	3.51	2.18	5.01	1.20	1.31	59	28	28
OPA65R-BU4B Antenna	50.3	14.0	12.4	4.91	4.35	3.58	4.05	1.25	1.27	37	34	34
7770 Antenna	57.3	13.3	7.3	5.31	2.92	4.30	7.81	1.28	1.43	42	25	25
4449 B5/B12 RRH	17.2	15.5	12.7	1.86	1.53	1.11	1.35	1.20	1.20	14	11	11
4449 B5/B12 RRH (Shielded)	17.2	2.3	12.7	0.28	1.53	7.36	1.35	1.41	1.20	2	11	11
8843 B2/B66A RRH	17.2	15.5	13.2	1.86	1.59	1.11	1.30	1.20	1.20	14	12	12
8843 B2/B66A RRH (Shielded)	17.2	3.8	13.2	0.46	1.59	4.49	1.30	1.29	1.20	4	12	12
DTMABP7819VG12A TMA	13.0	13.4	6.1	1.22	0.56	0.97	2.12	1.20	1.20	9	4	4

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	39	18	18
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	25	19	19
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	28	12	12
OPA65R-BU6B Antenna	71.1	11.7	8.4	5.78	4.15	6.08	8.46	1.36	1.45	17	13	13
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	18	8	8
OPA65R-BU4B Antenna	48.0	11.7	10.1	3.90	3.37	4.10	4.75	1.27	1.30	11	10	10
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	6
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	3
4449 B5/B12 RRH (Shielded)	14.9	0.0	10.4	0.00	1.08	0.00	1.43	1.20	1.20	0	3	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
8843 B2/B66A RRH (Shielded)	14.9	1.5	10.9	0.16	1.13	9.93	1.37	1.50	1.20	1	3	3
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	2	1	1

Date: 8/19/2019
Project Name: MONTVILLE BUTLER TOWN ROAD
Project No.: CT2055
Designed By: JN Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	120	(deg)	Ice Thickness =	1.17	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)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	796	362	470
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	500	386	414
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	566	250	329
OPA65R-BU6B Antenna	71.1	11.7	8.4	5.78	4.15	6.08	8.46	1.36	1.45	350	268	288
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	369	156	209
OPA65R-BU4B Antenna	48.0	11.7	10.1	3.90	3.37	4.10	4.75	1.27	1.30	221	195	201
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	245	130	159
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	73	58	61
4449 B5/B12 RRH (Shielded)	14.9	9.9	10.4	1.02	1.08	1.51	1.43	1.20	1.20	55	58	57
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	73	60	63
8843 B2/B66A RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	55	60	59
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	44	15	22

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.74	6.86	4.27	9.79	1.28	1.49	123	63	78
OPA65R-BU8B Antenna	98.2	14.0	10.7	9.58	7.33	7.00	9.14	1.40	1.47	82	66	70
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.77	5.13	3.19	7.32	1.23	1.41	88	44	55
OPA65R-BU6B Antenna	73.4	14.0	10.7	7.16	5.48	5.23	6.84	1.32	1.39	58	47	49
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.06	3.51	2.18	5.01	1.20	1.31	59	28	36
OPA65R-BU4B Antenna	50.3	14.0	12.4	4.91	4.35	3.58	4.05	1.25	1.27	37	34	35
7770 Antenna	57.3	13.3	7.3	5.31	2.92	4.30	7.81	1.28	1.43	42	25	30
4449 B5/B12 RRH	17.2	15.5	12.7	1.86	1.53	1.11	1.35	1.20	1.20	14	11	12
4449 B5/B12 RRH (Shielded)	17.2	11.7	12.7	1.40	1.53	1.48	1.35	1.20	1.20	10	11	11
8843 B2/B66A RRH	17.2	15.5	13.2	1.86	1.59	1.11	1.30	1.20	1.20	14	12	12
8843 B2/B66A RRH (Shielded)	17.2	11.7	13.2	1.40	1.59	1.48	1.30	1.20	1.20	10	12	11
DTMABP7819VG12A TMA	13.0	13.4	6.1	1.22	0.56	0.97	2.12	1.20	1.20	9	4	5

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	39	18	23
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	25	19	20
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	28	12	16
OPA65R-BU6B Antenna	71.1	11.7	8.4	5.78	4.15	6.08	8.46	1.36	1.45	17	13	14
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	18	8	10
OPA65R-BU4B Antenna	48.0	11.7	10.1	3.90	3.37	4.10	4.75	1.27	1.30	11	10	10
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	8
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	3
4449 B5/B12 RRH (Shielded)	14.9	9.9	10.4	1.02	1.08	1.51	1.43	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	4	3	3
8843 B2/B66A RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	3	3	3
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	2	1	1

Date: 8/19/2019
Project Name: MONTVILLE BUTLER TOWN ROAD
Project No.: CT2055
Designed By: JN Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	150	(deg)	Ice Thickness =	1.17	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)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	796	362	687
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	500	386	471
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	566	250	487
OPA65R-BU6B Antenna	71.1	11.7	8.4	5.78	4.15	6.08	8.46	1.36	1.45	350	268	329
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	369	156	316
OPA65R-BU4B Antenna	48.0	11.7	10.1	3.90	3.37	4.10	4.75	1.27	1.30	221	195	214
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	245	130	217
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	73	58	69
4449 B5/B12 RRH (Shielded)	14.9	6.6	10.4	0.68	1.08	2.26	1.43	1.20	1.20	36	58	42
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	73	60	70
8843 B2/B66A RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	36	60	42
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	44	15	37

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.74	6.86	4.27	9.79	1.28	1.49	123	63	108
OPA65R-BU8B Antenna	98.2	14.0	10.7	9.58	7.33	7.00	9.14	1.40	1.47	82	66	78
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.77	5.13	3.19	7.32	1.23	1.41	88	44	77
OPA65R-BU6B Antenna	73.4	14.0	10.7	7.16	5.48	5.23	6.84	1.32	1.39	58	47	55
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.06	3.51	2.18	5.01	1.20	1.31	59	28	51
OPA65R-BU4B Antenna	50.3	14.0	12.4	4.91	4.35	3.58	4.05	1.25	1.27	37	34	37
7770 Antenna	57.3	13.3	7.3	5.31	2.92	4.30	7.81	1.28	1.43	42	25	38
4449 B5/B12 RRH	17.2	15.5	12.7	1.86	1.53	1.11	1.35	1.20	1.20	14	11	13
4449 B5/B12 RRH (Shielded)	17.2	7.8	12.7	0.93	1.53	2.22	1.35	1.20	1.20	7	11	8
8843 B2/B66A RRH	17.2	15.5	13.2	1.86	1.59	1.11	1.30	1.20	1.20	14	12	13
8843 B2/B66A RRH (Shielded)	17.2	7.8	13.2	0.93	1.59	2.22	1.30	1.20	1.20	7	12	8
DTMABP7819VG12A TMA	13.0	13.4	6.1	1.22	0.56	0.97	2.12	1.20	1.20	9	4	8

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	39	18	34
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	25	19	23
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	28	12	24
OPA65R-BU6B Antenna	71.1	11.7	8.4	5.78	4.15	6.08	8.46	1.36	1.45	17	13	16
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	18	8	16
OPA65R-BU4B Antenna	48.0	11.7	10.1	3.90	3.37	4.10	4.75	1.27	1.30	11	10	11
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	11
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	3
4449 B5/B12 RRH (Shielded)	14.9	6.6	10.4	0.68	1.08	2.26	1.43	1.20	1.20	2	3	2
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
8843 B2/B66A RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	2	3	2
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	2	1	2

Date: 8/19/2019
Project Name: MONTVILLE BUTLER TOWN ROAD
Project No.: CT2055
Designed By: JN **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.17 in.
Density of ice: 56 pcf

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:		266 lbs
Weight of object:	96.0 lbs	
Combined weight of ice and object:		362 lbs

OPA65R-BU8B Antenna

Weight of ice based on total radial SF area:

Height (in):	95.9	
Width (in):	11.7	
Depth (in):	8.4	
Total weight of ice on object:		178 lbs
Weight of object:	69.0 lbs	
Combined weight of ice and object:		247 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:		197 lbs
Weight of object:	80.0 lbs	
Combined weight of ice and object:		277 lbs

OPA65R-BU6B Antenna

Weight of ice based on total radial SF area:

Height (in):	71.1	
Width (in):	11.7	
Depth (in):	8.4	
Total weight of ice on object:		132 lbs
Weight of object:	55.0 lbs	
Combined weight of ice and object:		187 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:		133 lbs
Weight of object:	68.0 lbs	
Combined weight of ice and object:		201 lbs

OPA65R-BU4B Antenna

Weight of ice based on total radial SF area:

Height (in):	48.0	
Width (in):	11.7	
Depth (in):	10.1	
Total weight of ice on object:		95 lbs
Weight of object:	43.0 lbs	
Combined weight of ice and object:		138 lbs

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:		87 lbs
Weight of object:	35.0 lbs	
Combined weight of ice and object:		122 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:		32 lbs
Weight of object:	73.0 lbs	
Combined weight of ice and object:		105 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

DTMA8P7819VG12A TMA

Weight of ice based on total radial SF area:

Height (in):	10.7	
Width (in):	11.1	
Depth (in):	3.8	
Total weight of ice on object:		16 lbs
Weight of object:	20.0 lbs	
Combined weight of ice and object:		36 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:		31 lbs
Weight of object:	33 lbs	
Combined weight of ice and object:		64 lbs

L 3x3 Angles

Weight of ice based on total radial SF area:

Height (in):	3	
Width (in):	3	
Per foot weight of ice on object:		8 plf

C 5-1/2x4x1/4

Weight of ice based on total radial SF area:

Height (in):	5.5	
Width (in):	4	
Per foot weight of ice on object:		11 plf

PL 10x3/8

Weight of ice based on total radial SF area:

Height (in):	10	
Width (in):	0.375	
Per foot weight of ice on object:		16 plf

3/4" Round Bar

Per foot weight of ice:

diameter (in):	0.75	
Per foot weight of ice on object:		3 plf

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

HUDSON
Design Group LLC

Mount Calculations
(Existing Conditions)


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Hewlett-Packard Company

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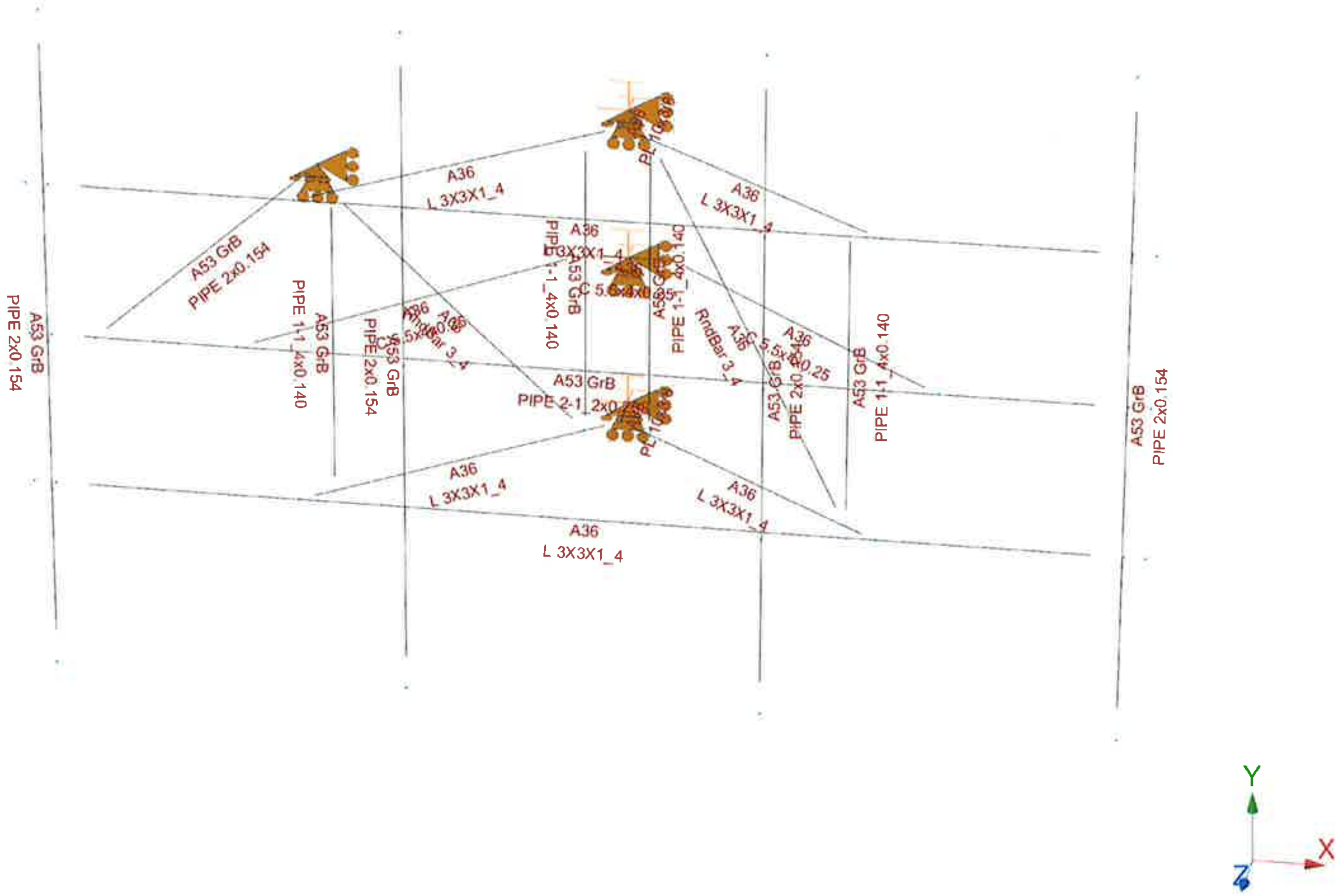

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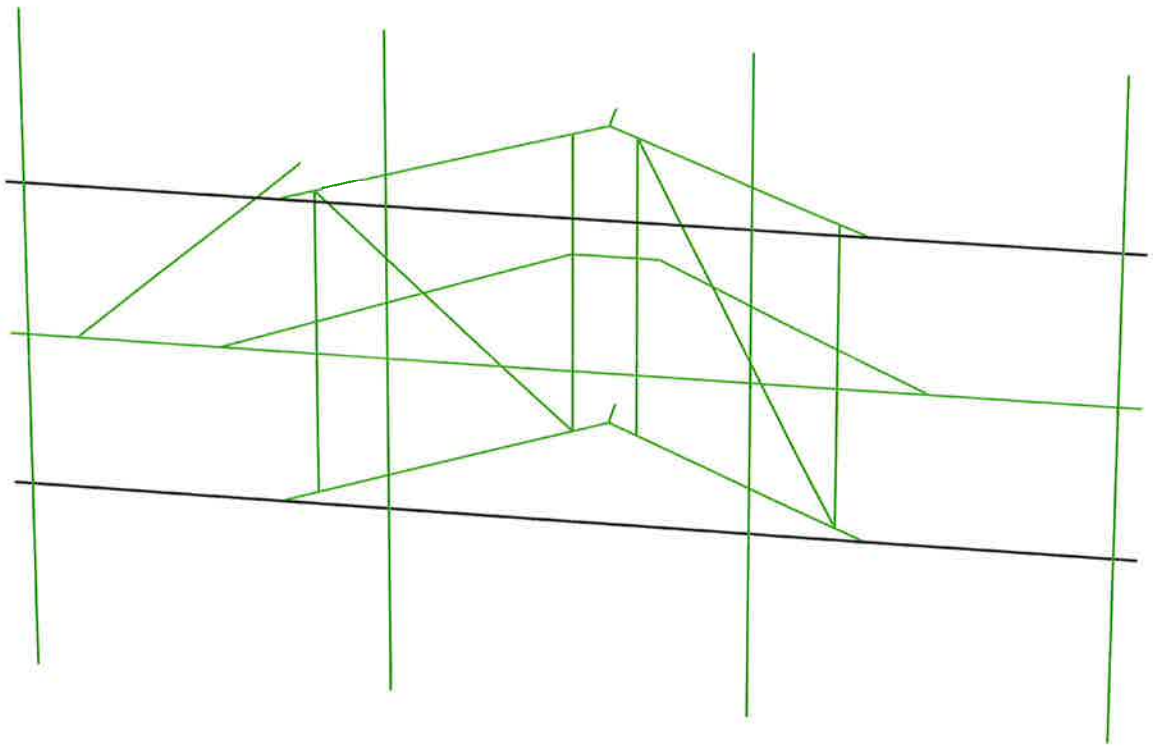

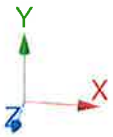

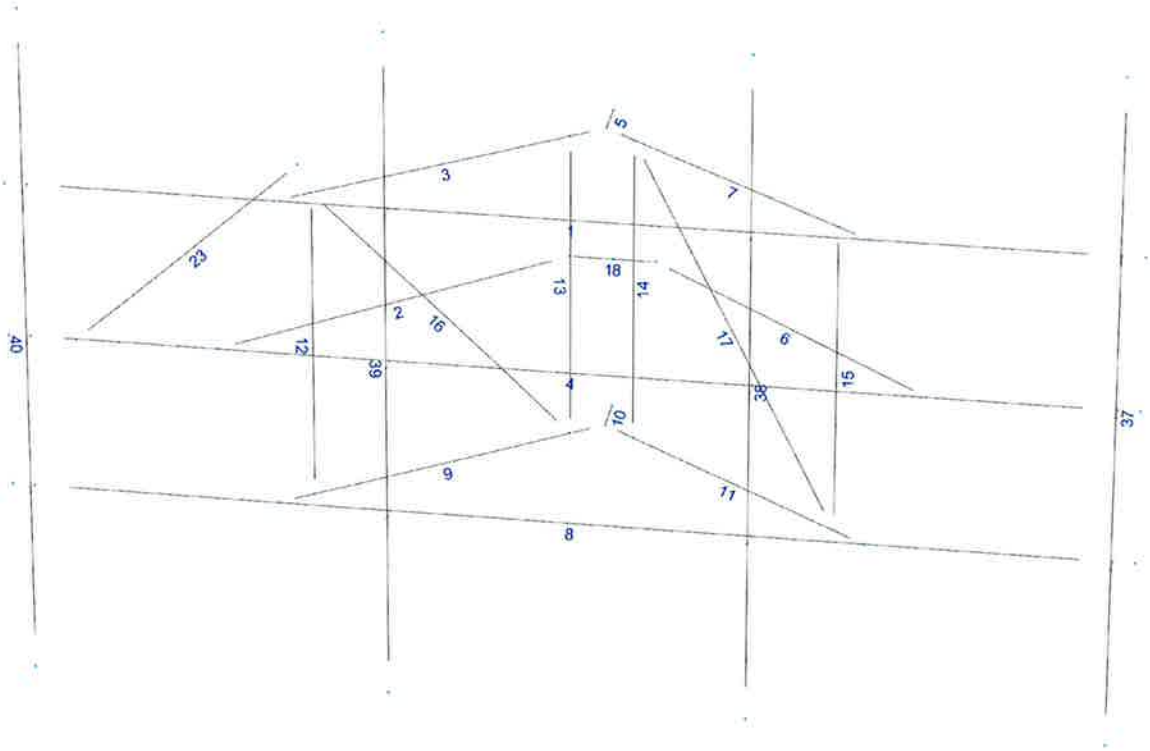
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Load data

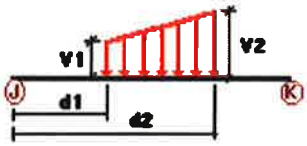
GLOSSARY

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
LLa4	250 lb Live Load Antenna 4	No	LL

Distributed force on members

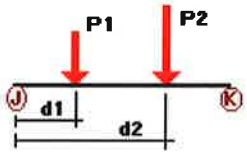


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	1	z	-0.022	0.00	0.00	No	0.00	No
	2	z	-0.026	0.00	0.00	No	0.00	No
	3	z	-0.022	0.00	0.00	No	0.00	No
	4	z	-0.013	0.00	0.00	No	0.00	No
	6	z	-0.026	0.00	0.00	No	0.00	No
	7	z	-0.022	0.00	0.00	No	0.00	No
	8	z	-0.022	0.00	0.00	No	0.00	No
	9	z	-0.022	0.00	0.00	No	0.00	No
	11	z	-0.022	0.00	0.00	No	0.00	No
	12	z	-0.007	0.00	0.00	No	0.00	No
	13	z	-0.007	0.00	0.00	No	0.00	No
	14	z	-0.007	0.00	0.00	No	0.00	No
	15	z	-0.007	0.00	0.00	No	0.00	No
	16	z	-0.003	0.00	0.00	No	0.00	No
	17	z	-0.003	0.00	0.00	No	0.00	No
	18	z	-0.026	0.00	0.00	No	0.00	No
	23	z	-0.011	0.00	0.00	No	0.00	No
	39	z	-0.011	0.00	0.00	No	0.00	No
W30	1	z	-0.022	0.00	0.00	No	0.00	No
	2	z	-0.026	0.00	0.00	No	0.00	No
	3	z	-0.022	0.00	0.00	No	0.00	No
	4	z	-0.013	0.00	0.00	No	0.00	No
	6	z	-0.026	0.00	0.00	No	0.00	No
	7	z	-0.022	0.00	0.00	No	0.00	No
	8	z	-0.022	0.00	0.00	No	0.00	No
	9	z	-0.022	0.00	0.00	No	0.00	No
	11	z	-0.022	0.00	0.00	No	0.00	No
	12	z	-0.007	0.00	0.00	No	0.00	No
	13	z	-0.007	0.00	0.00	No	0.00	No
	14	z	-0.007	0.00	0.00	No	0.00	No
	15	z	-0.007	0.00	0.00	No	0.00	No
	16	z	-0.003	0.00	0.00	No	0.00	No
	17	z	-0.003	0.00	0.00	No	0.00	No
	18	z	-0.026	0.00	0.00	No	0.00	No
	23	z	-0.011	0.00	0.00	No	0.00	No
	39	z	-0.011	0.00	0.00	No	0.00	No
W60	1	x	-0.022	0.00	0.00	No	0.00	No
	2	x	-0.026	0.00	0.00	No	0.00	No
	3	x	-0.022	0.00	0.00	No	0.00	No
	4	x	-0.013	0.00	0.00	No	0.00	No
	6	x	-0.026	0.00	0.00	No	0.00	No
	7	x	-0.022	0.00	0.00	No	0.00	No
	8	x	-0.022	0.00	0.00	No	0.00	No
	9	x	-0.022	0.00	0.00	No	0.00	No
	11	x	-0.022	0.00	0.00	No	0.00	No
	12	x	-0.007	0.00	0.00	No	0.00	No
	13	x	-0.007	0.00	0.00	No	0.00	No
	14	x	-0.007	0.00	0.00	No	0.00	No
	15	x	-0.007	0.00	0.00	No	0.00	No
	16	x	-0.003	0.00	0.00	No	0.00	No
	17	x	-0.003	0.00	0.00	No	0.00	No
	18	x	-0.026	0.00	0.00	No	0.00	No
	23	x	-0.011	0.00	0.00	No	0.00	No
	37	x	-0.011	0.00	0.00	No	0.00	No
	38	x	-0.011	0.00	0.00	No	0.00	No
	39	x	-0.011	0.00	0.00	No	0.00	No
	40	x	-0.011	0.00	0.00	No	0.00	No
W90	2	x	-0.026	0.00	0.00	No	0.00	No
	3	x	-0.022	0.00	0.00	No	0.00	No
	6	x	-0.026	0.00	0.00	No	0.00	No

	7	x	-0.022	0.00	0.00	No	0.00	No
	9	x	-0.022	0.00	0.00	No	0.00	No
	11	x	-0.022	0.00	0.00	No	0.00	No
	12	x	-0.007	0.00	0.00	No	0.00	No
	13	x	-0.007	0.00	0.00	No	0.00	No
	14	x	-0.007	0.00	0.00	No	0.00	No
	15	x	-0.007	0.00	0.00	No	0.00	No
	16	x	-0.003	0.00	0.00	No	0.00	No
	17	x	-0.003	0.00	0.00	No	0.00	No
	23	x	-0.011	0.00	0.00	No	0.00	No
	37	x	-0.011	0.00	0.00	No	0.00	No
	38	x	-0.011	0.00	0.00	No	0.00	No
	39	x	-0.011	0.00	0.00	No	0.00	No
	40	x	-0.011	0.00	0.00	No	0.00	No
W120	1	x	-0.022	0.00	0.00	No	0.00	No
	2	x	-0.026	0.00	0.00	No	0.00	No
	3	x	-0.022	0.00	0.00	No	0.00	No
	4	x	-0.013	0.00	0.00	No	0.00	No
	6	x	-0.026	0.00	0.00	No	0.00	No
	7	x	-0.022	0.00	0.00	No	0.00	No
	8	x	-0.022	0.00	0.00	No	0.00	No
	9	x	-0.022	0.00	0.00	No	0.00	No
	11	x	-0.022	0.00	0.00	No	0.00	No
	12	x	-0.007	0.00	0.00	No	0.00	No
	13	x	-0.007	0.00	0.00	No	0.00	No
	14	x	-0.007	0.00	0.00	No	0.00	No
	15	x	-0.007	0.00	0.00	No	0.00	No
	16	x	-0.003	0.00	0.00	No	0.00	No
	17	x	-0.003	0.00	0.00	No	0.00	No
	18	x	-0.026	0.00	0.00	No	0.00	No
	23	x	-0.011	0.00	0.00	No	0.00	No
	37	x	-0.011	0.00	0.00	No	0.00	No
	38	x	-0.011	0.00	0.00	No	0.00	No
	39	x	-0.011	0.00	0.00	No	0.00	No
	40	x	-0.011	0.00	0.00	No	0.00	No
W150	1	z	0.022	0.00	0.00	No	0.00	No
	2	z	0.026	0.00	0.00	No	0.00	No
	3	z	0.022	0.00	0.00	No	0.00	No
	4	z	0.013	0.00	0.00	No	0.00	No
	6	z	0.026	0.00	0.00	No	0.00	No
	7	z	0.022	0.00	0.00	No	0.00	No
	8	z	0.022	0.00	0.00	No	0.00	No
	9	z	0.022	0.00	0.00	No	0.00	No
	11	z	0.022	0.00	0.00	No	0.00	No
	12	z	0.007	0.00	0.00	No	0.00	No
	13	z	0.007	0.00	0.00	No	0.00	No
	14	z	0.007	0.00	0.00	No	0.00	No
	15	z	0.007	0.00	0.00	No	0.00	No
	16	z	0.003	0.00	0.00	No	0.00	No
	17	z	0.003	0.00	0.00	No	0.00	No
	18	z	0.026	0.00	0.00	No	0.00	No
	23	z	0.011	0.00	0.00	No	0.00	No
	39	z	0.011	0.00	0.00	No	0.00	No
Di	1	y	-0.008	0.00	0.00	No	0.00	No
	2	**y**	**-0.011**	**0.00**	**0.00**	**No**	**0.00**	**No**
	3	**y**	**-0.008**	**0.00**	**0.00**	**No**	**0.00**	**No**
	4	**y**	**-0.006**	**0.00**	**0.00**	**No**	**0.00**	**No**
	5	**y**	**-0.016**	**0.00**	**0.00**	**No**	**0.00**	**No**
	6	**y**	**-0.011**	**0.00**	**0.00**	**No**	**0.00**	**No**
	7	**y**	**-0.008**	**0.00**	**0.00**	**No**	**0.00**	**No**

8	y	-0.008	0.00	0.00	No	0.00	No
9	y	-0.008	0.00	0.00	No	0.00	No
10	y	-0.016	0.00	0.00	No	0.00	No
11	y	-0.008	0.00	0.00	No	0.00	No
12	y	-0.004	0.00	0.00	No	0.00	No
13	y	-0.004	0.00	0.00	No	0.00	No
14	y	-0.004	0.00	0.00	No	0.00	No
15	y	-0.004	0.00	0.00	No	0.00	No
16	y	-0.003	0.00	0.00	No	0.00	No
17	y	-0.003	0.00	0.00	No	0.00	No
18	y	-0.011	0.00	0.00	No	0.00	No
23	y	-0.005	0.00	0.00	No	0.00	No
37	y	-0.005	0.00	0.00	No	0.00	No
38	y	-0.005	0.00	0.00	No	0.00	No
39	y	-0.005	0.00	0.00	No	0.00	No
40	y	-0.005	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	37	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.073	1.50	No
		y	-0.02	6.50	No
	38	y	-0.035	0.50	No
		y	-0.035	7.50	No
		y	-0.072	1.50	No
	40	y	-0.018	2.00	No
		y	-0.018	6.00	No
Wo	37	z	-0.398	0.50	No
		z	-0.398	7.50	No
	38	z	-0.25	0.50	No
		z	-0.25	7.50	No
		z	-0.01	1.50	No
	40	z	-0.123	2.00	No
		z	-0.123	6.00	No
W30	37	3	-0.344	0.50	No
		3	-0.344	7.50	No
		3	-0.042	1.50	No
		3	-0.037	6.50	No
	38	3	-0.236	0.50	No
		3	-0.236	7.50	No
		3	-0.042	1.50	No
	40	3	-0.109	2.00	No
		3	-0.109	6.00	No
W60	37	3	-0.236	0.50	No
		3	-0.236	7.50	No
		3	-0.057	1.50	No
		3	-0.022	6.50	No

	38	3	-0.208	0.50	No
		3	-0.208	7.50	No
		3	-0.059	1.50	No
	40	3	-0.08	2.00	No
		3	-0.08	6.00	No
W90	37	x	-0.181	0.50	No
		x	-0.181	7.50	No
		x	-0.058	1.50	No
		x	-0.015	6.50	No
	38	x	-0.193	0.50	No
		x	-0.193	7.50	No
		x	-0.06	1.50	No
	40	x	-0.066	2.00	No
		x	-0.066	6.00	No
W120	37	2	-0.236	0.50	No
		2	-0.236	7.50	No
		2	-0.057	1.50	No
		2	-0.022	6.50	No
	38	2	-0.208	0.50	No
		2	-0.208	7.50	No
		2	-0.059	1.50	No
	40	2	-0.08	2.00	No
		2	-0.08	6.00	No
W150	37	2	-0.344	0.50	No
		2	-0.344	7.50	No
		2	-0.042	1.50	No
		2	-0.037	6.50	No
	38	2	-0.236	0.50	No
		2	-0.236	7.50	No
		2	-0.042	1.50	No
	40	2	-0.109	2.00	No
		2	-0.109	6.00	No
Di	37	y	-0.133	0.50	No
		y	-0.133	7.50	No
		y	-0.032	1.50	No
		y	-0.016	6.50	No
	38	y	-0.089	0.50	No
		y	-0.089	7.50	No
		y	-0.032	1.50	No
	40	y	-0.044	2.00	No
		y	-0.044	6.00	No
WI0	37	z	-0.063	0.50	No
		z	-0.063	7.50	No
	38	z	-0.043	0.50	No
		z	-0.043	7.50	No
		z	-0.004	1.50	No
	40	z	-0.022	2.00	No
		z	-0.022	6.00	No
WI30	37	3	-0.054	0.50	No
		3	-0.054	7.50	No
		3	-0.008	1.50	No
		3	-0.008	6.50	No
	38	3	-0.039	0.50	No
		3	-0.039	7.50	No
		3	-0.008	1.50	No
	40	3	-0.019	2.00	No
		3	-0.019	6.00	No
WI60	37	3	-0.039	0.50	No
		3	-0.039	7.50	No
		3	-0.011	1.50	No

		3	-0.005	6.50	No
	38	3	-0.035	0.50	No
		3	-0.035	7.50	No
		3	-0.011	1.50	No
	40	3	-0.015	2.00	No
		3	-0.015	6.00	No
WI90	37	x	-0.032	0.50	No
		x	-0.032	7.50	No
		x	-0.011	1.50	No
		x	-0.004	6.50	No
	38	x	-0.033	0.50	No
		x	-0.033	7.50	No
		x	-0.012	1.50	No
	40	x	-0.013	2.00	No
		x	-0.013	6.00	No
WI120	37	2	-0.039	0.50	No
		2	-0.039	7.50	No
		2	-0.011	1.50	No
		2	-0.005	6.50	No
	38	2	-0.035	0.50	No
		2	-0.035	7.50	No
		2	-0.011	1.50	No
	40	2	-0.015	2.00	No
		2	-0.015	6.00	No
WI150	37	2	-0.054	0.50	No
		2	-0.054	7.50	No
		2	-0.008	1.50	No
		2	-0.008	6.50	No
	38	2	-0.039	0.50	No
		2	-0.039	7.50	No
		2	-0.008	1.50	No
	40	2	-0.019	2.00	No
		2	-0.019	6.00	No
WL0	37	z	-0.02	0.50	No
		z	-0.02	7.50	No
	38	z	-0.013	0.50	No
		z	-0.013	7.50	No
		z	-0.001	1.50	No
	40	z	-0.007	2.00	No
		z	-0.007	6.00	No
WL30	37	3	-0.017	0.50	No
		3	-0.017	7.50	No
		3	-0.002	1.50	No
		3	-0.002	6.50	No
	38	3	-0.012	0.50	No
		3	-0.012	7.50	No
		3	-0.002	1.50	No
	40	3	-0.006	2.00	No
		3	-0.006	6.00	No
WL60	37	3	-0.012	0.50	No
		3	-0.012	7.50	No
		3	-0.003	1.50	No
		3	-0.001	6.50	No
	38	3	-0.011	0.50	No
		3	-0.011	7.50	No
		3	-0.003	1.50	No
	40	3	-0.004	2.00	No
		3	-0.004	6.00	No
WL90	37	x	-0.009	0.50	No
		x	-0.009	7.50	No

		x	-0.003	1.50	No
		x	-0.001	6.50	No
	38	x	-0.01	0.50	No
		x	-0.01	7.50	No
		x	-0.003	1.50	No
	40	x	-0.004	2.00	No
		x	-0.004	6.00	No
WL120	37	2	-0.012	0.50	No
		2	-0.012	7.50	No
		2	-0.003	1.50	No
		2	-0.001	6.50	No
	38	2	-0.011	0.50	No
		2	-0.011	7.50	No
		2	-0.003	1.50	No
	40	2	-0.004	2.00	No
		2	-0.004	6.00	No
WL150	37	2	-0.017	0.50	No
		2	-0.017	7.50	No
		2	-0.002	1.50	No
		2	-0.002	6.50	No
	38	2	-0.012	0.50	No
		2	-0.012	7.50	No
		2	-0.002	1.50	No
	40	2	-0.006	2.00	No
		2	-0.006	6.00	No
LL1	1	y	-0.25	50.00	Yes
LL2	1	y	-0.25	100.00	Yes
LL3	1	y	-0.25	0.00	Yes
LLa1	37	y	-0.25	50.00	Yes
LLa2	38	y	-0.25	50.00	Yes
LLa3	39	y	-0.25	50.00	Yes
LLa4	40	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
LLa4	250 lb Live Load Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

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

Current Date: 8/14/2019 3:43 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2055\LTE 2C-3C-4C\CT2055 (LTE 2C-3C-4C).retx\

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+WI0
LC26=1.2D+Di+WI30
LC27=1.2D+Di+WI60
LC28=1.2D+Di+WI90
LC29=1.2D+Di+WI120
LC30=1.2D+Di+WI150
LC31=1.2D+Di-WI0
LC32=1.2D+Di-WI30
LC33=1.2D+Di-WI60
LC34=1.2D+Di-WI90
LC35=1.2D+Di-WI120
LC36=1.2D+Di-WI150
LC38=1.2D+1.5LL1
LC39=1.2D+1.5LL2
LC40=1.2D+1.5LL3
LC41=1.2D+WL0+1.5LLa1
LC42=1.2D+WL30+1.5LLa1
LC43=1.2D+WL60+1.5LLa1
LC44=1.2D+WL90+1.5LLa1
LC45=1.2D+WL120+1.5LLa1
LC46=1.2D+WL150+1.5LLa1
LC47=1.2D-WL0+1.5LLa1
LC48=1.2D-WL30+1.5LLa1
LC49=1.2D-WL60+1.5LLa1
LC50=1.2D-WL90+1.5LLa1
LC51=1.2D-WL120+1.5LLa1
LC52=1.2D-WL150+1.5LLa1
LC53=1.2D+WL0+1.5LLa2

LC54=1.2D+WL30+1.5LLa2
LC55=1.2D+WL60+1.5LLa2
LC56=1.2D+WL90+1.5LLa2
LC57=1.2D+WL120+1.5LLa2
LC58=1.2D+WL150+1.5LLa2
LC59=1.2D-WL0+1.5LLa2
LC60=1.2D-WL30+1.5LLa2
LC61=1.2D-WL60+1.5LLa2
LC62=1.2D-WL90+1.5LLa2
LC63=1.2D-WL120+1.5LLa2
LC64=1.2D-WL150+1.5LLa2
LC65=1.2D+WL0+1.5LLa3
LC66=1.2D+WL30+1.5LLa3
LC67=1.2D+WL60+1.5LLa3
LC68=1.2D+WL90+1.5LLa3
LC69=1.2D+WL120+1.5LLa3
LC70=1.2D+WL150+1.5LLa3
LC71=1.2D-WL0+1.5LLa3
LC72=1.2D-WL30+1.5LLa3
LC73=1.2D-WL60+1.5LLa3
LC74=1.2D-WL90+1.5LLa3
LC75=1.2D-WL120+1.5LLa3
LC76=1.2D-WL150+1.5LLa3
LC77=1.2D+WL0+1.5LLa4
LC78=1.2D+WL30+1.5LLa4
LC79=1.2D+WL60+1.5LLa4
LC80=1.2D+WL90+1.5LLa4
LC81=1.2D+WL120+1.5LLa4
LC82=1.2D+WL150+1.5LLa4
LC83=1.2D-WL0+1.5LLa4
LC84=1.2D-WL30+1.5LLa4
LC85=1.2D-WL60+1.5LLa4
LC86=1.2D-WL90+1.5LLa4
LC87=1.2D-WL120+1.5LLa4
LC88=1.2D-WL150+1.5LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	C 5.5x4x0.25	**2**	LC5 at 0.00%	**0.25**	**OK**	Eq. H1-1b
		6	LC1 at 0.00%	0.17	OK	Eq. H1-1b
		18	LC5 at 100.00%	0.21	OK	Eq. H1-1b
	L 3X3X1_4	**1**	LC19 at 75.89%	0.79	With warnings	Eq. H2-1
		3	LC5 at 0.00%	0.45	OK	Eq. H2-1
		7	LC36 at 10.94%	0.48	OK	Eq. H2-1
		8	LC7 at 75.89%	**0.88**	**With warnings**	Eq. H2-1
		9	LC11 at 0.00%	0.43	OK	Eq. H2-1
		11	LC30 at 0.00%	0.83	OK	Eq. H3-8
	PIPE 1-1_4x0.140	**12**	LC40 at 100.00%	**0.83**	**OK**	Eq. H1-1b
		13	LC40 at 100.00%	0.83	OK	Eq. H1-1b
		14	LC30 at 0.00%	0.38	OK	Eq. H1-1b
		15	LC25 at 0.00%	0.21	OK	Eq. H1-1b
	PIPE 2-1_2x0.203	**4**	**LC11 at 17.97%**	**0.40**	**OK**	Eq. H1-1b
	PIPE 2x0.154	**23**	**LC40 at 0.00%**	0.24	OK	Eq. H1-1b
		37	**LC1 at 50.00%**	**0.98**	**OK**	Eq. H1-1b
		38	**LC1 at 26.56%**	0.48	OK	Eq. H1-1b
		39	**LC6 at 50.00%**	0.34	OK	Eq. H1-1b
		40	**LC40 at 28.13%**	0.39	OK	Eq. H1-1b
	PL 10x3/8	**5**	LC36 at 100.00%	**0.60**	**OK**	Eq. H1-1b
		10	LC30 at 100.00%	0.59	OK	Eq. H1-1b

RndBar 3_4	**16**	LC40 at 100.00%	0.12	OK	Eq. H1-1b
	17	LC31 at 100.00%	**0.36**	**OK**	Eq. H1-1a

Current Date: 8/14/2019 3:43 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2055\LTE 2C-3C-4C\CT2055 (LTE 2C-3C-4C).retx\

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	-6.25	0.00	0.00	0
2	6.25	0.00	0.00	0
3	-3.9167	-1.8333	0.00	0
4	-3.25	0.00	0.00	0
5	0.00	-1.8333	-3.00	0
6	0.00	0.00	-2.50	0
8	6.25	-1.8333	0.00	0
9	0.00	0.00	-3.00	0
10	3.9167	-1.8333	0.00	0
11	3.25	0.00	0.00	0
12	-6.25	-3.6667	0.00	0
13	6.25	-3.6667	0.00	0
14	-3.25	-3.6667	0.00	0
15	0.00	-3.6667	-2.50	0
16	0.00	-3.6667	-3.00	0
17	3.25	-3.6667	0.00	0
18	-2.8889	0.00	-0.2778	0
25	-0.3611	0.00	-2.2222	0
26	-2.8889	-3.6667	-0.2778	0
27	-0.3611	-3.6667	-2.2222	0
28	2.8889	0.00	-0.2778	0

29	0.3611	0.00	-2.2222	0
30	2.8889	-3.6667	-0.2778	0
31	0.3611	-3.6667	-2.2222	0
32	0.50	-1.8333	-3.00	0
33	-0.50	-1.8333	-3.00	0
36	-6.00	2.1667	0.20	0
37	6.00	2.1667	0.20	0
38	-2.00	2.1667	0.20	0
39	2.00	2.1667	0.20	0
40	-6.00	-5.8333	0.20	0
41	6.00	-5.8333	0.20	0
42	-2.00	-5.8333	0.20	0
43	2.00	-5.8333	0.20	0
44	-5.50	-1.8333	0.00	0
45	-4.00	-1.8333	-5.00	0
71	2.0463	0.00	-0.9259	0
7	-6.25	-1.8333	0.00	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
5	1	1	1	1	1	1
9	1	1	1	1	1	1
16	1	1	1	1	1	1
45	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	1	2		L 3X3X1_4	A36	0.00	0.00	0.00
2	3	33		C 5.5x4x0.25	A36	0.00	0.00	0.00
3	6	4		L 3X3X1_4	A36	0.00	0.00	0.00
4	7	8		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
5	6	9		PL 10x3/8	A36	0.00	0.00	0.00
6	10	32		C 5.5x4x0.25	A36	0.00	0.00	0.00
7	6	11		L 3X3X1_4	A36	0.00	0.00	0.00
8	12	13		L 3X3X1_4	A36	0.00	0.00	0.00
9	15	14		L 3X3X1_4	A36	0.00	0.00	0.00
10	15	16		PL 10x3/8	A36	0.00	0.00	0.00
11	15	17		L 3X3X1_4	A36	0.00	0.00	0.00
12	18	26		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
13	25	27		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
14	29	31		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
15	28	30		PIPE 1-1_4x0.140	A53 GrB	0.00	0.00	0.00
16	27	18		RndBar 3_4	A36	0.00	0.00	0.00
17	29	30		RndBar 3_4	A36	0.00	0.00	0.00
18	32	33		C 5.5x4x0.25	A36	0.00	0.00	0.00
23	44	45		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
37	37	41		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
38	39	43		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

39	38	42		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
40	36	40		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	270.00	0	0.00	0.00	0.00
3	90.00	0	0.00	0.00	0.00
5	90.00	0	0.00	0.00	0.00
6	180.00	0	0.00	0.00	0.00
7	180.00	0	0.00	0.00	0.00
8	180.00	0	0.00	0.00	0.00
10	90.00	0	0.00	0.00	0.00
11	270.00	0	0.00	0.00	0.00
18	180.00	0	0.00	0.00	0.00
37	315.00	0	0.00	0.00	0.00
38	315.00	0	0.00	0.00	0.00
39	315.00	0	0.00	0.00	0.00
40	315.00	0	0.00	0.00	0.00

Hinges

	Node-J				Node-K						
Member	M33	M22	V3	V2	M33	M22	V3	V2	TOR	AXL	Axial rigidity
16	0	0	0	0	0	0	0	0	0	0	Tension only
17	0	0	0	0	0	0	0	0	0	0	Tension only

Property Location: 376 BUTLERTOWN RD | **MAP ID:** 005/ 032/ 003/ / | **Bldg Name:** TONY'S WELL DRLLNG & L LSI | **State Use:** 4022

Vision ID: 199 | **Account #** L9600005 | **Bldg #:** 1 of 1 | **Sec #:** 1 of 1 | **Card** 1 of 1

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
IACONIELLO ANTONIO J	1 Level	7 Electric	1 Paved	Sl Murphy Schl
536 ROUTE 161				F Chesterfield
OAKDALE, CT 06370-1849				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:	005/032-003
Census	695202
Dev Lot	
Subdiv	
Map #	
Zoning Notes	LI
GIS ID:	005/032-003
Callback	
ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
Ind Land	3-1	108,030	75,620
Ind Bldg	3-2	137,680	96,380
Ind Imprv	3-3	186,400	130,480
Util Land	4-1	3,780	2,650
	Total	435,890	305,130

6086
MONTVILLE, CT

VISION

RECORD OF OWNERSHIP

	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
IACONIELLO ANTONIO J	0293/0502	12/03/1996		V	0	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2015	3-1	75,620	2014	3-1	75,620	2013	3-1	75,620
2015	3-2	96,380	2014	3-2	96,380	2013	3-2	96,380
2015	3-3	130,480	2014	3-3	130,480	2013	3-3	130,480
2015	4-1	2,650	2014	4-1	2,650	2013	4-1	2,650
	Total:	305,130		*Total:*	305,130		*Total:*	305,130

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	130,150
Appraised XF (B) Value (Bldg)	7,530
Appraised OB (L) Value (Bldg)	186,400
Appraised Land Value (Bldg)	111,810
Special Land Value	0
Total Appraised Parcel Value	435,890
Valuation Method:	C
Exemptions	0
Adjustment:	0
Net Total Appraised Parcel Value	**435,890**

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
0001/A				

NOTES

CELL TOWER (2) 12X16 CELL SHEDS
TONY'S WELL DRILLING

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
B2014-0063	03/21/2014	79	Misc	40,000	09/09/2014	1		REMOVE 3 ANTENNAS
B2009-0066	03/24/2009	79	Misc	20,000		100		AT&T EQUIPMENT CH
E2001-0191	09/10/2001	00	Electrical	8,000		100		ELECTRICAL & ELECT
B2001-0274	05/29/2001	79	Misc	50,000		100		EQUIP BLDG & TOWEI
B2000-0357	08/14/2000	79	Misc	100,000		100	01/17/2002	CO ISSUED-INSTALL A
B2000-0186	05/10/2000	79	Misc	37,000		100	07/17/2000	CO ISSUED-195' TOWE

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
03/28/2013			BAA	BN	BAA No Change
04/21/2011			JW	00	Interior + Exterior Inspect

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing		S Adj Fact	Adj. Unit Price	Land Value
1	4022	Industrial Bldg	LI				43,560	SF	2.75	0.9000	B	1.0000	1.00		0.00				1.00		108,030
1	4340	Cell Tower	LI				0.84	AC	4,500.00	1.0000	0	1.0000	1.00		0.00	CELL SITE			1.00		3,780

Total Card Land Units: 1.84 AC | **Parcel Total Land Area:** 1.84 AC | **Total Land Value:** 111,810

Property Location: 376 BUTLERTOWN RD | **MAP ID:** 005/ 032/ 003/ / | **Bldg Name:** TONY'S WELL DRLLNG & L LSI | **State Use:** 4022

Vision ID: 199 | **Account #** L9600005 | **Bldg #:** 1 of 1 | **Sec #:** 1 of 1 | **Card** 1 of 1 | **Print Date:** 01/11/2016 13:34

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	95		Garage/Office
Model	96		Industrial
Grade	08		C
Stories	1		
Occupancy	1		
Exterior Wall A	27		Pre-finsh Metl
Exterior Wall B			
Roof Structure	03		Gable
Roof Cover	01		Metal
Interior Wall A	01		Minimum
Interior Wall B	05		Drywall
Interior Floor A	03		Concrete
Interior Floor B	14		Carpet
Heating Fuel	03		Gas
Heating Type	03		Hot Air-No Duc
AC Type	06		Partial
Bldg Use	4022		Industrial Bldg
Heat/AC	01		HEAT/AC PKGS
Frame Type	05		STEEL
Baths/Plumbing	02		AVERAGE
Ceiling/Walls	01		SUSP-CEIL ONLY
Rooms/Prtns	02		AVERAGE
Wall Height	16		
% Comn Wall			

CONSTRUCTION DETAIL (CONTINUED)

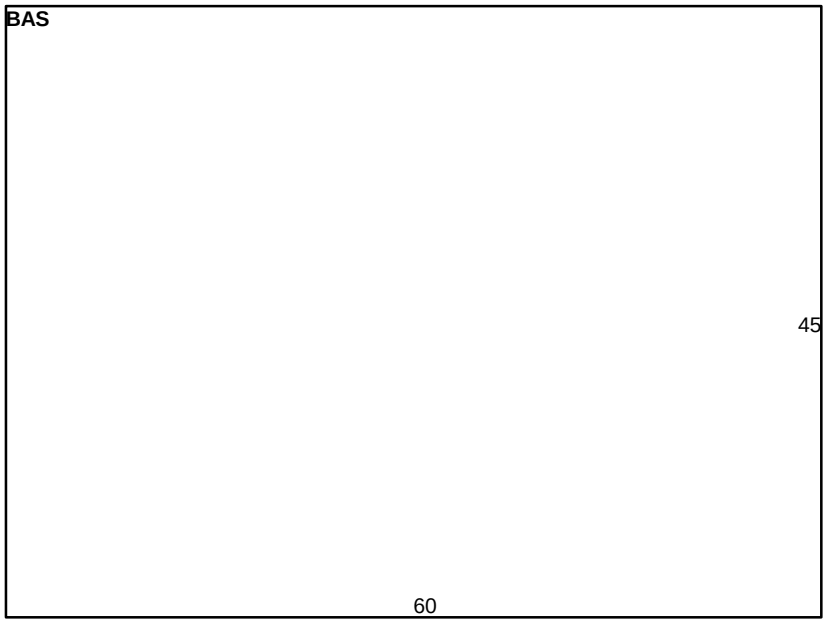
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
4022	Industrial Bldg	100

COST/MARKET VALUATION

Adj. Base Rate:	53.56
AYB	1998
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	10
Functional Obslnc	
External Obslnc	
Cost Trend Factor	
Condition	
% Complete	
Overall % Cond	90
Apprais Val	130,150
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	



OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
PAV1	Paving-Asphalt			L	3,000	2.00	2011	A		AV	50	3,000
CELL	Cell Tower Site			L	1	163,600.00	2009		0		100	163,600
CELS	Cell Shed			L	192	100.00	2009	A		AV	50	9,600
CELS	Cell Shed			L	192	100.00	2009	A		AV	50	9,600
FN3	6' Chain Fence			L	100	12.00	2009	A		AV	50	600
MEZ1	Unfin Mezzanin			B	598	14.00	2001		1		100	7,530

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	2,700	2,700		53.56	144,612
	Ttl. Gross Liv/Lease Area:	2,700	2,700			


Hartford New London Tpke
024-000
028-000
029-000
009-000
027-000
027-001
001-008
027-002
031-000
027-004
027-003
001-007
027-005
Sachatello Industrial Dr
027-010
032-001
027-006
001-006
027-009
032-002
027-008
001-003
032-003
027-007
001-005
032-004
027-012
Flanders Rd
001-004
027-013
001-002
016-000
032-005
027-014
001-001
017-000
004-000
Butlertown Rd
027-015
015-000
003-000
006-000
005-000
002-000
005-00A

Mark Roberts

From: Michelle Giroux <MGiroux@montville-ct.org>
Sent: Wednesday, August 10, 2016 3:25 PM
To: Mark Roberts
Subject: 376 Butlertown Road - Tower Information (Wireless Solutions, Ltd)

Mark:

As requested – the tower at 376 Butlertown Road, Montville, CT as shown on Assessor's Map 5 Lot 32-003; was originally approved on March 28, 2000 as follows:

Wireless Solutions, Ltd: Application for a special permit and site plan review to install a 195' cellular transmission tower on property located at 376 Butlertown Road, Montville, Ct. Shown on Assessor's Map 5, Lot 32-003. **GRANTED with CONDITIONS.**

There were conditions to the approval and they are as follows:

1. One driveway must be permanently closed/blocked off and the area be loamed and seeded.
2. Wetlands violations be corrected.
3. Permit not be issued until the designated driveway gas has been permanently closed/blocked off.

If you have any further questions/require additional information; give me a call.

Sincerely,

Michelle Giroux

Administrative Assistant
Town of Montville
Planning & Zoning
310 Norwich New London Tpke.
Uncasville, CT 06382
(860) 848-6779
MGiroux@montville-ct.org

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

9405 5036 9930 0148 5562 84 0073 5000 0010 6370

usps.com
$7.35
US POSTAGE
Flat Rate Env

10/26/2019 Mailed from 06268 062S0000000309

P

PRIORITY MAIL 1-DAY™

Expected Delivery Date: 10/28/19

MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

0024

Carrier -- Leave if No Response

R021

SHIP TO:
ANTONIO J IACONIELLO
536 FLANDERS RD
OAKDALE CT 06370-1849

USPS TRACKING #

9405 5036 9930 0148 5562 84

Electronic Rate Approved #038555749

Cut on dotted line.

Instructions

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

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0148 5562 84

Trans. #:	475606997
Print Date:	10/25/2019
Ship Date:	10/26/2019
Expected Delivery Date:	10/28/2019

Priority Mail® Postage:	**$7.35**
Total:	**$7.35**

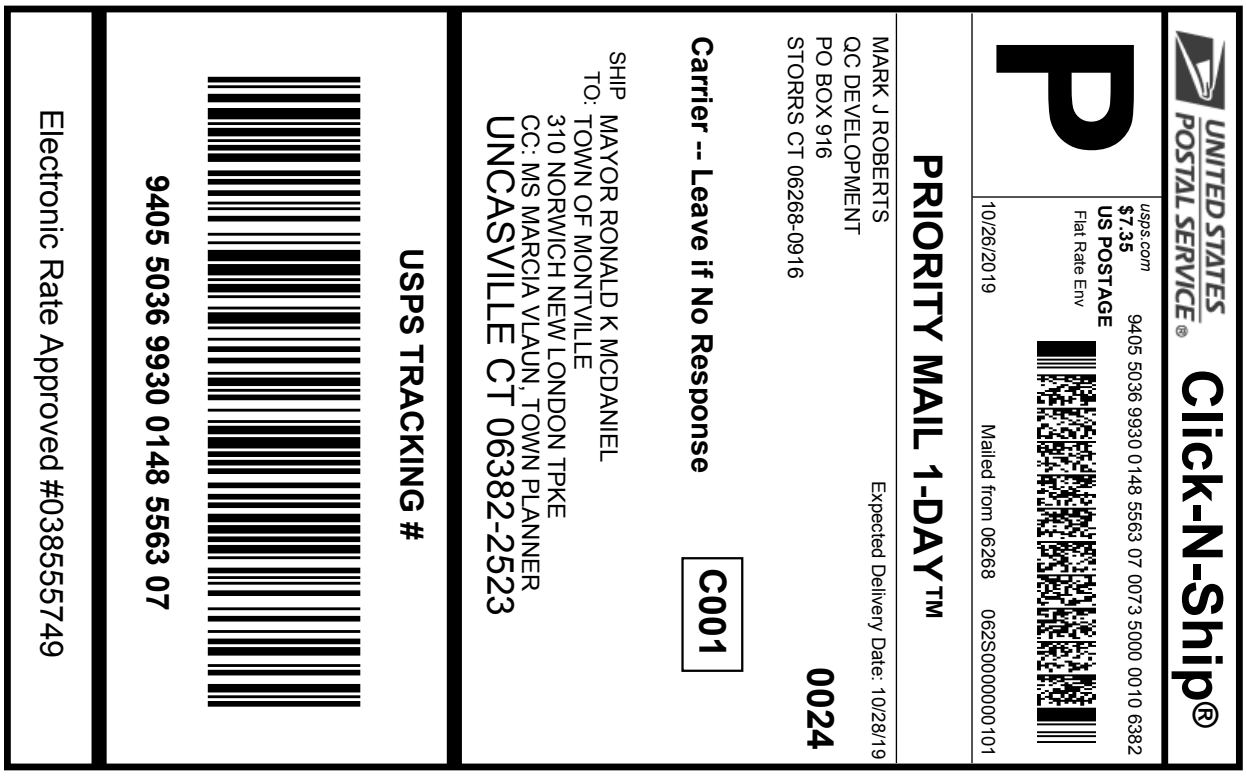
From: MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

To: ANTONIO J IACONIELLO
536 FLANDERS RD
OAKDALE CT 06370-1849

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

UNITED STATES POSTAL SERVICE®

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



Cut on dotted line.

Instructions

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

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0148 5563 07

Trans. #:	475606997
Print Date:	10/25/2019
Ship Date:	10/26/2019
Expected Delivery Date:	10/28/2019

Priority Mail® Postage:	**$7.35**
Total:	**$7.35**

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

To: MAYOR RONALD K MCDANIEL
TOWN OF MONTVILLE
310 NORWICH NEW LONDON TPKE
CC: MS MARCIA VLAUN, TOWN PLANNER
UNCASVILLE CT 06382-2523

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

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