Greg Milano
SAI Group, LLC
12 Industrial Way
Salem, NH 03079
860-707-9001
gmilano@saigrp.com

January 29, 2020

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) CT2235
125 Mile Creek Road, Old Lyme, CT 06371
N 41.305533
W -72.297343

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 138-foot level of the existing 164-foot monopole at 125 Mile Creek Road, Old Lyme, CT. The property and tower is owned by American Tower Corporation. AT&T now intends to remove six (6) KMW antennas and add six (6) DMP65R-BU4DA CCI antennas. These antennas would be installed at the 138-foot level of the tower. AT&T intends to remove three (3) RRUS-11 B12 remote radios and install three (3) Ericsson B14 4478 RRUS, three (3) Ericsson 4449 B5/B12 RRUs and three (3) Ericsson 8843 B2/B66A RRUs at the 138-foot level.

This facility was approved by the Siting Council in docket #202 on September 12, 2001. This approval included the condition that the tower height be limited to 160 ft. The Council approved a 160-foot tower but allowed for the tower and foundation to be built to accommodate extensions up to 190 feet. A T-Mobile extension request of 10 feet was approved in Petition #877 on January 8, 2009. Our modification is limited to a height of 138 ft and no change to the existing tower height is proposed, therefore this modification complies with the aforementioned conditions and approvals.

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 Timothy Griswold, First Selectman, Town of Old Lyme, the Zoning Department as well as the tower and property owner.

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

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

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

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

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

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

6. The existing structure requires modifications to support the proposed loading. See Mount Analysis.

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

Sincerely,

Greg Milano

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Attachments

cc: Timothy Griswold - First Selectman
Kim Barrows – Zoning Department
American Tower Corporation – Property/Tower Owner

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							7.96%
AT&T UMTS	1	500	138	0.0100	880	0.5867	0.17%
AT&T GSM	2	296	138	0.0119	880	0.5867	0.20%
AT&T LTE	2	427	138	0.0171	1900	1.0000	0.17%
AT&T LTE	1	500	138	0.0100	740	0.4933	0.20%
Site Total							8.71%

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

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

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							7.96%
AT&T UMTS	1	500	138	0.0103	850	0.5667	0.18%
AT&T LTE	1	2951	138	0.0609	700	0.4667	1.31%
AT&T LTE AWS	2	3837	138	0.1584	2100	1.0000	1.58%
AT&T LTE	1	1476	138	0.0305	700	0.4667	0.65%
AT&T LTE	2	3664	138	0.1512	1900	1.0000	1.51%
AT&T LTE	1	1000	138	0.0206	850	0.5667	0.36%
AT&T 5G	1	1000	138	0.0206	850	0.5667	0.36%
Site Total							13.92%

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

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

PROJECT INFORMATION

SCOPE OF WORK:	ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE: • NEW AT&T ANTENNAS: DMP65R-BU4DA (TYP. OF 2 PER SECTOR, TOTAL OF 6). • NEW AT&T RRUS: 4449 B5/B12 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T RRUS: 4478 B14 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T RRUS: 8843 B2/B66A (AWS/PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T DC & FIBER SURGE ARRESTOR DC9-48-60-24-8C-EV (TOTAL OF 1) WITH (3) DC POWER & (1) FIBER RUN. • PROPOSED MOUNT MODS (SEE S-1 SHEET), PER MA. ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION: • SWAP BB WITH 6630 WITH ILDe • ADD 2ND RBS 6630 FOR 5G. • INSTALL (1) DC-12. • INSTALL (1) FIBER MANAGEMENT BOX MOUNTED TO ICE BRIDGE POST. ITEMS TO BE REMOVED: • EXISTING AT&T ANTENNAS: AM-X-CD-14-65-00T-RET (TYP. OF 2 PER SECTOR, TOTAL OF 6). • EXISTING AT&T RRUS-11 B12 (TYP. OF 1 PER SECTOR, TOTAL OF 3). ITEMS TO REMAIN: • (3) ANTENNAS, (3) TWIN TMA'S (1) SURGE ARRESTOR, (6) COAX CABLES, (6) COAX CABLES TO BE CAPPED, (2) DC POWER & (1) FIBER.
SITE ADDRESS:	125 MILE CREEK ROAD OLD LYME, CT 06371
LATITUDE:	41.305533° N, 41° 18' 19.92" N
LONGITUDE:	72.297343° W, 72° 17' 50.44" W
TYPE OF SITE:	MONOPOLE / INDOOR
STRUCTURE HEIGHT:	164'-0"±
RAD CENTER:	138'-6"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
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A-2	ANTENNA LAYOUTS & ELEVATION	1
A-3	DETAILS	1
SN-1	STRUCTURAL NOTES	1
S-1	MOUNT MODIFICATION DESIGN	1
G-1	GROUNDING DETAILS	1
RF-1	RF PLUMBING DIAGRAM	1

SITE NUMBER: CT2235

SITE NAME: OLD LYME-MILE CREEK

FA CODE: 10049129

PACE ID: MRCTB043963, MRCTB043934, MRCTB043969, MRCTB043964

PROJECT: LTE 2C_3C_5G 2020 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. 0.4 MI TURN LEFT ONTO CAPITOL BLVD. 0.3 MI TURN LEFT ONTO WEST ST. 0.3 MI MERGE ONTO I-91 S VIA THE RAMP ON THE LEFT TOWARD NEW HAVEN. 1.4 MI MERGE ONTO CT-9 S VIA EXIT 22S ON THE LEFT TOWARD MIDDLETOWN/OLD SAYBROOK. 29.3 MI MERGE ONTO I-95 N/US-1 N/GOVERNOR JOHN DAVIS LODGE TURNPIKE VIA THE EXIT ON THE LEFT TOWARD NEW LONDON/PROVIDENCE. 1.1 MI TAKE THE CT-156 E EXIT, EXIT 70. 0.2 MI TURN SLIGHT RIGHT ONTO NECK RD/CT-156. CONTINUE TO FOLLOW CT-156. 1.8 MI TURN LEFT ONTO MILE CREEK RD. 0.8 MI TURN RIGHT TO STAY ON MILE CREEK RD. 0.7 MI 125 MILE CREEK RD IS ON THE RIGHT.

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

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SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: KC

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

AT&T

TITLE SHEET
LTE 2C_3C_5G UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2235	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-H, STRUCTURAL STANDARDS FOR STEEL

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

ABBREVIATIONS

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

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

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SALEM, NH 03079

500 ENTERPRISE DRIVE, SUITE 3A
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125 MILE CREEK ROAD
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SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: KC

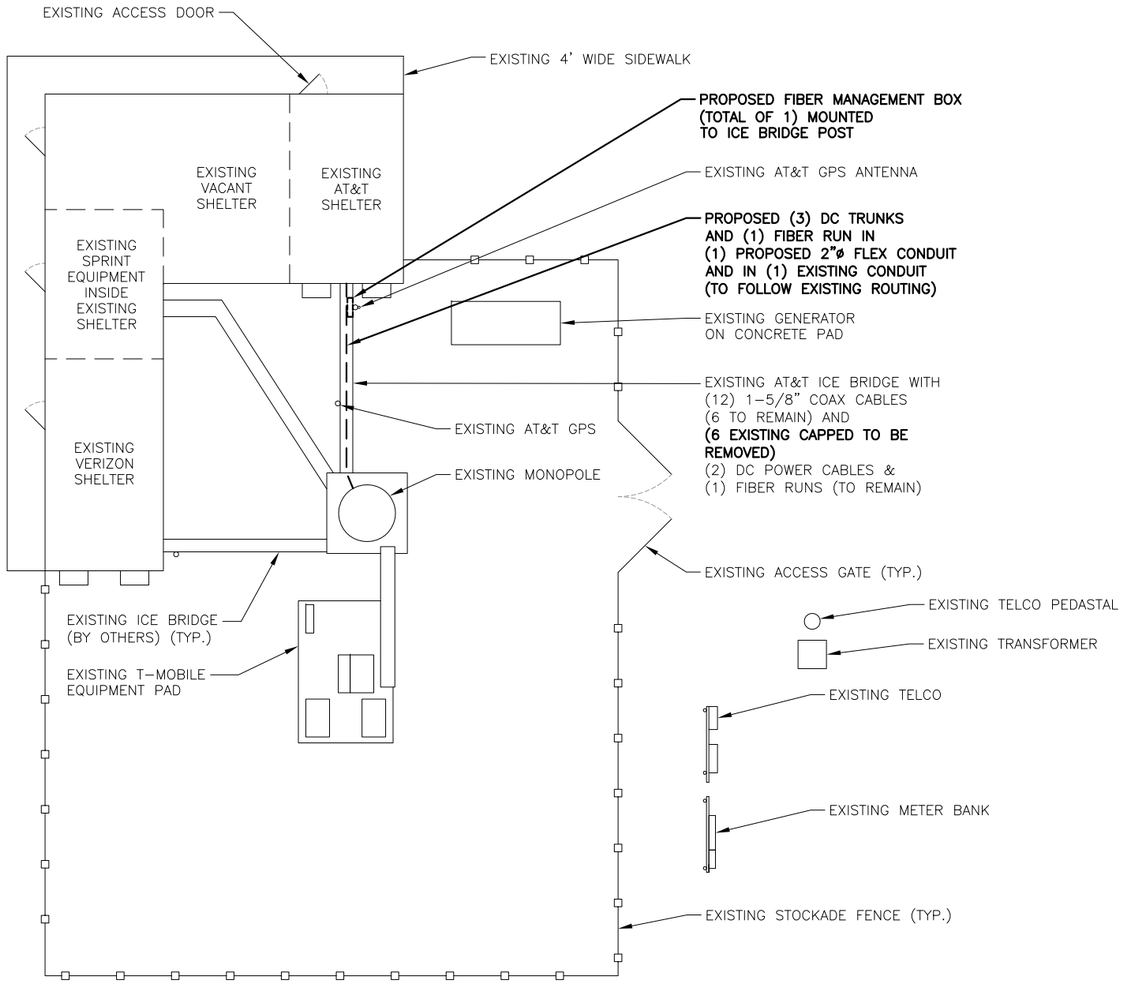
STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

Daniel P. Hamm

AT&T

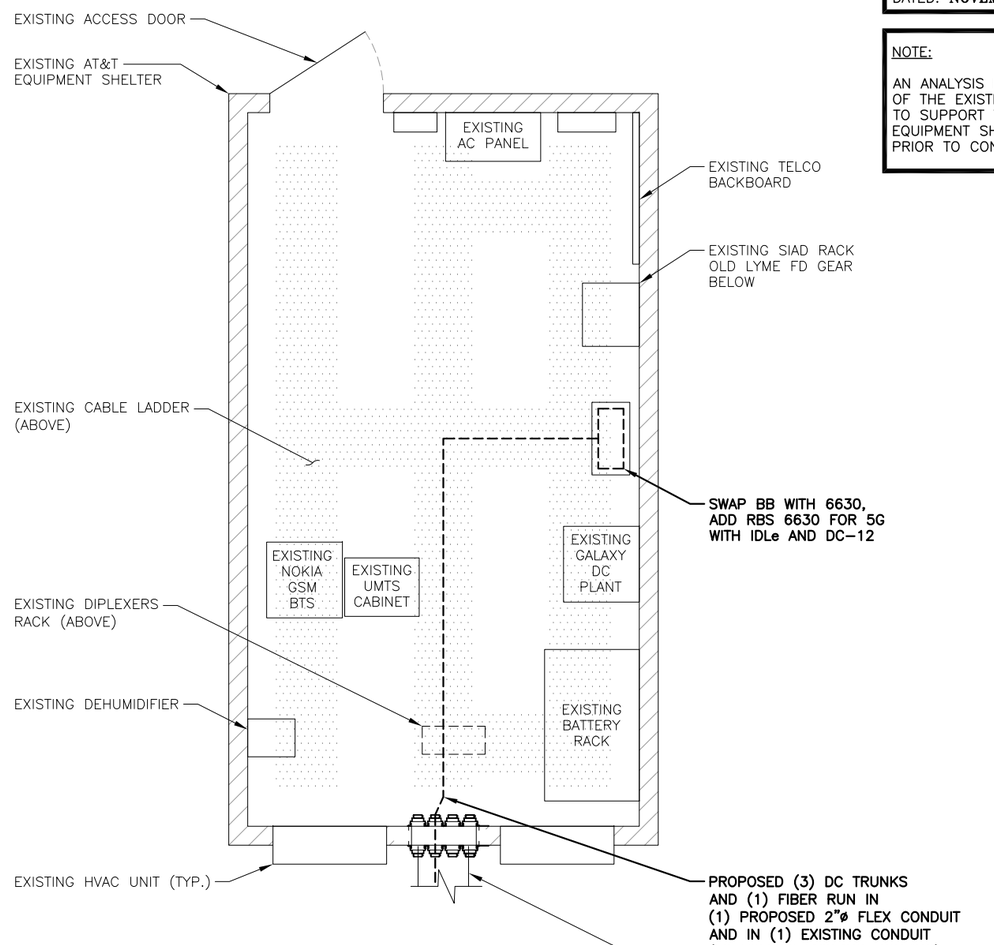
GENERAL NOTES
LTE 2C_3C_5G UPGRADE

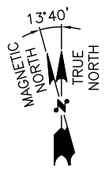
SITE NUMBER	DRAWING NUMBER	REV
CT2235	GN-1	1



COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

0 4'-0" 8'-0" 16'-0" 24'-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"

NOTE:

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

NOTE:

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

NOTE:

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

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

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AT&T

COMPOUND & EQUIPMENT PLANS
LTE 2C_3C_5G UPGRADE

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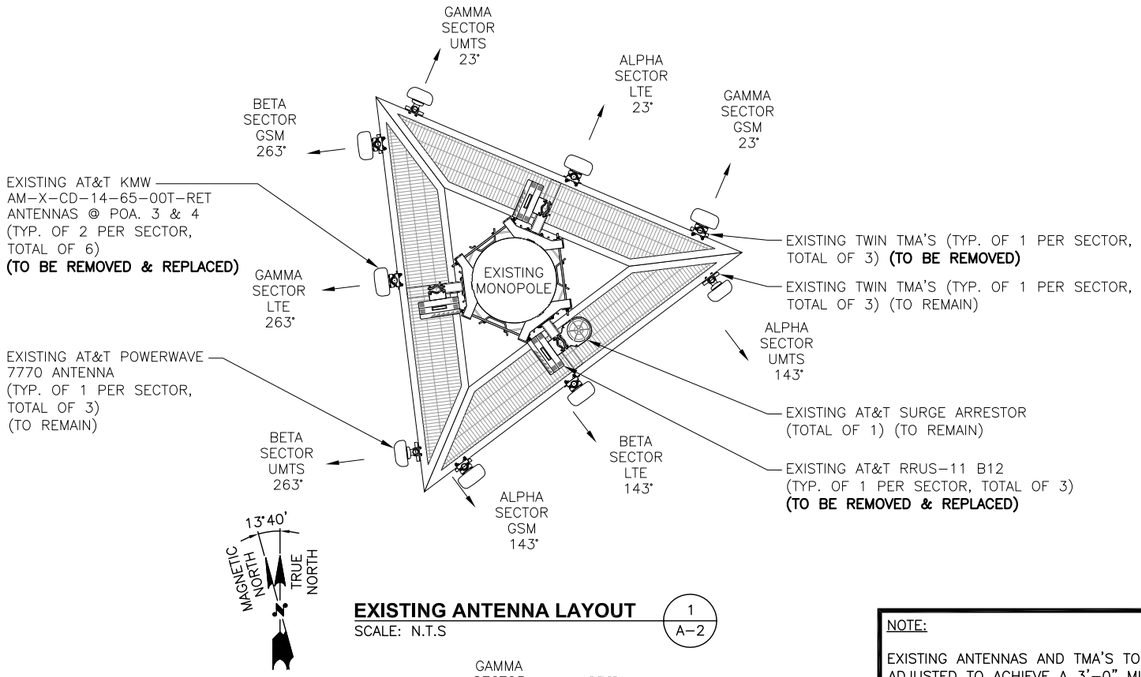


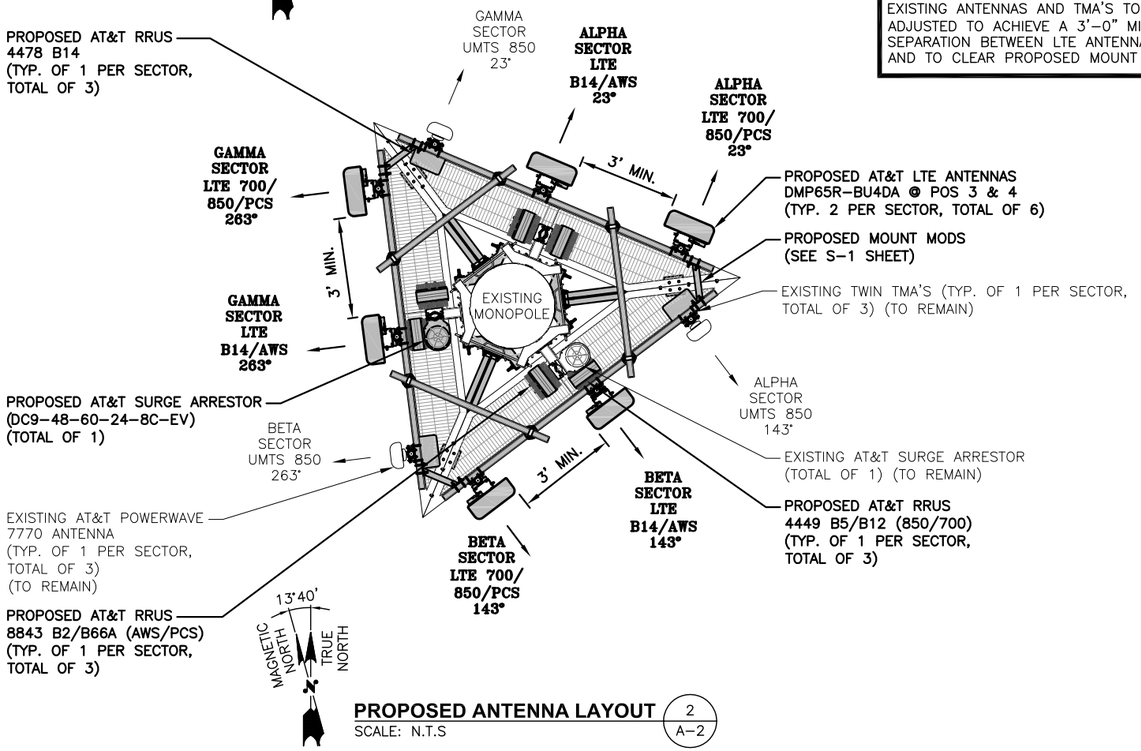
EXISTING ANTENNA LAYOUT

1 / A-2

SCALE: N.T.S

NOTE:

EXISTING ANTENNAS AND TMA'S TO BE ADJUSTED TO ACHIEVE A 3'-0" MINIMUM SEPARATION BETWEEN LTE ANTENNAS AND TO CLEAR PROPOSED MOUNT MODS.



PROPOSED ANTENNA LAYOUT

2 / A-2

SCALE: N.T.S

NOTE:

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

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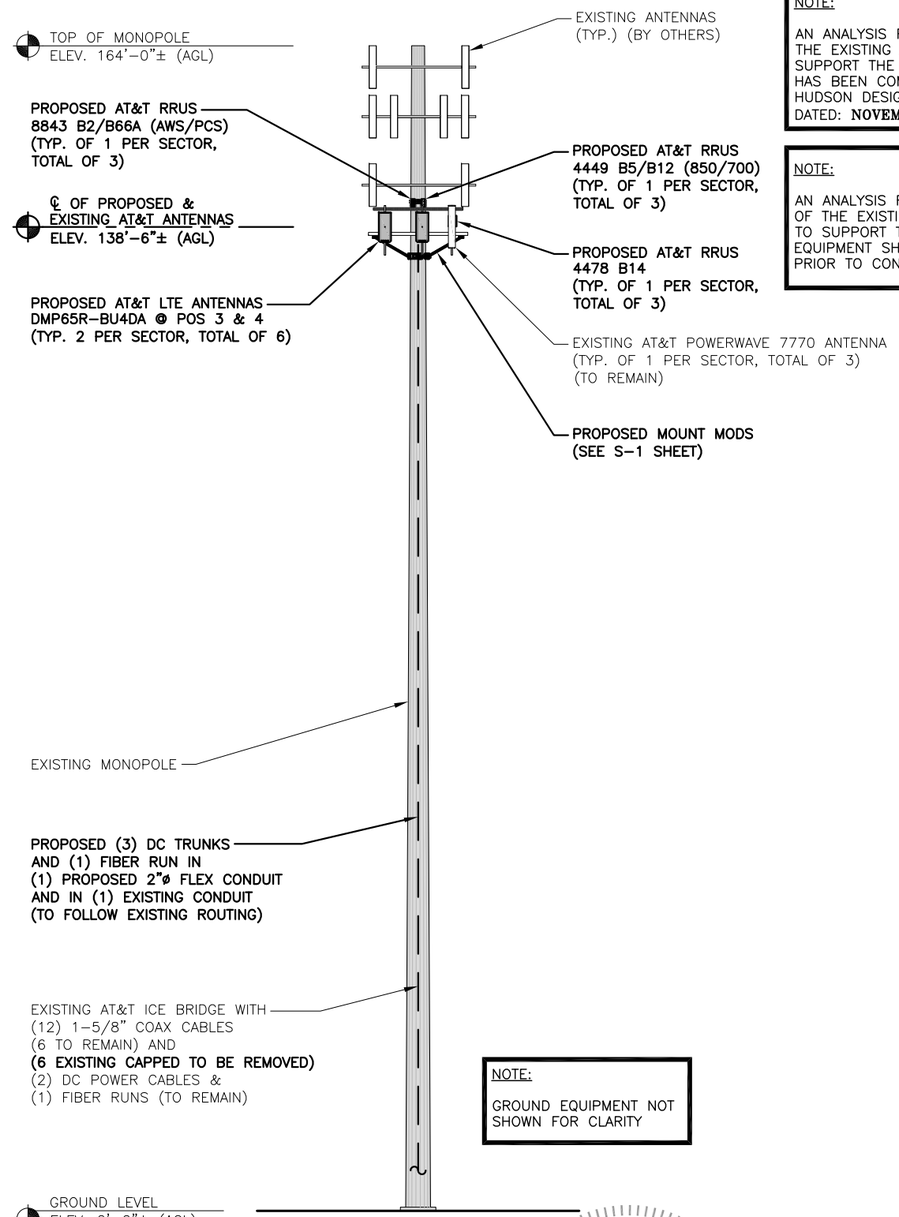
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: **NOVEMBER 1, 2019 (REV.1)**

NOTE:

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



NOTE:

GROUND EQUIPMENT NOT SHOWN FOR CLARITY

ELEVATION

3 / A-2

22x34 SCALE: 3/32"=1'-0"
11x17 SCALE: 3/64"=1'-0"

0 5'-4" 10'-8" 21'-4" 32'-0"

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

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

SITE NUMBER: CT2235
SITE NAME: OLD LYME-MILE CREEK

125 MILE CREEK ROAD
OLD LYME, CT 06371
NEW LONDON COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	12/30/19	ISSUED FOR CONSTRUCTION	ET	HC	DPH
A	11/05/19	ISSUED FOR REVIEW	ET/KC	HC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: KC

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

AT&T

ANTENNA LAYOUTS & ELEVATION
LTE 2C_3C_5G UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2235	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	EXISTING	UMTS 850	7770	55x11x5	138'-6"±	143°	(1)(E) TT10-08BP111-001	–	–	(2)1-5/8 COAX	(E) (1) RAYCAP DC6-48-60-18-8F
A2	–	–	–	–	–	–	–	–	–	–	
A3	**PROPOSED**	**LTE B14/AWS**	**DMP65R-BU4DA**	**48x20.7x7.7**	**138'-6"±**	**23°**	–	**(P)(1) 4478 B14 (700)**	**18.1"x13.4"x8.3"**	–	
A4	**PROPOSED**	**LTE 700/ 850/PCS**	**DMP65R-BU4DA**	**48x20.7x7.7**	**138'-6"±**	**23°**	–	**(P)(1) 4449 B5/B12 (850/700) (P)(1) 8843 B2/B66A (AWS/PCS)**	**14.9"x13.2"x10.4" 14.9"x13.2"x10.9"**	–	
B1	EXISTING	UMTS 850	7770	55x11x5	138'-6"±	263°	(1)(E) TT10-08BP111-001	–	–	(2)1-5/8 COAX	(P) (1) RAYCAP DC9-48-60-24-8C-EV
B2	–	–	–	–	–	–	–	–	–	–	
B3	**PROPOSED**	**LTE B14/AWS**	**DMP65R-BU4DA**	**48x20.7x7.7**	**138'-6"±**	**143°**	–	**(P)(1) 4478 B14 (700)**	**18.1"x13.4"x8.3"**	–	
B4	**PROPOSED**	**LTE 700/ 850/PCS**	**DMP65R-BU4DA**	**48x20.7x7.7**	**138'-6"±**	**143°**	–	**(P)(1) 4449 B5/B12 (850/700) (P)(1) 8843 B2/B66A (AWS/PCS)**	**14.9"x13.2"x10.4" 14.9"x13.2"x10.9"**	–	
C1	EXISTING	UMTS 850	7770	55x11x5	138'-6"±	23°	(1)(E) TT10-08BP111-001	–	–	(2)1-5/8 COAX	
C2	–	–	–	–	–	–	–	–	–	–	
C3	**PROPOSED**	**LTE B14/AWS**	**DMP65R-BU4DA**	**48x20.7x7.7**	**138'-6"±**	**263°**	–	**(P)(1) 4478 B14 (700)**	**18.1"x13.4"x8.3"**	–	
C4	**PROPOSED**	**LTE 700/ 850/PCS**	**DMP65R-BU4DA**	**48x20.7x7.7**	**138'-6"±**	**263°**	–	**(P)(1) 4449 B5/B12 (850/700) (P)(1) 8843 B2/B66A (AWS/PCS)**	**14.9"x13.2"x10.4" 14.9"x13.2"x10.9"**	–	

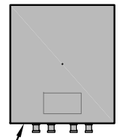
FINAL ANTENNA SCHEDULE (1 / A-3)
SCALE: N.T.S

RRU CHART

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

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



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

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

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

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

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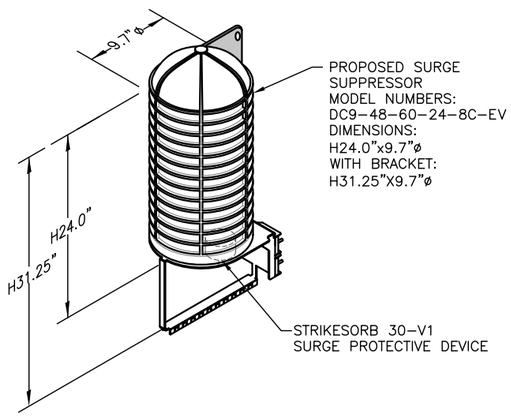
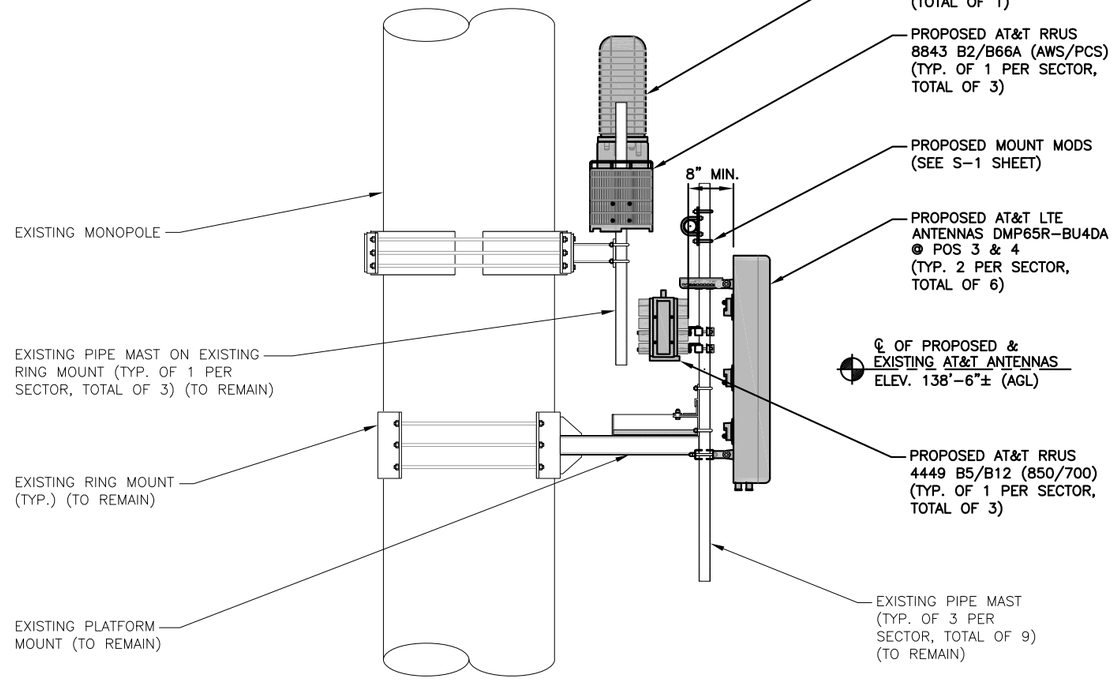
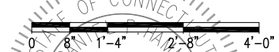


NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

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



PROPOSED LTE ANTENNA MOUNTING DETAIL (4 / A-3)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"



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

AT&T

DETAILS
LTE 2C_3C_5G UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2235	A-3	1

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

SPECIAL INSPECTION CHECKLIST

BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

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STRUCTURAL NOTES
LTE 2C_3C_5G UPGRADE

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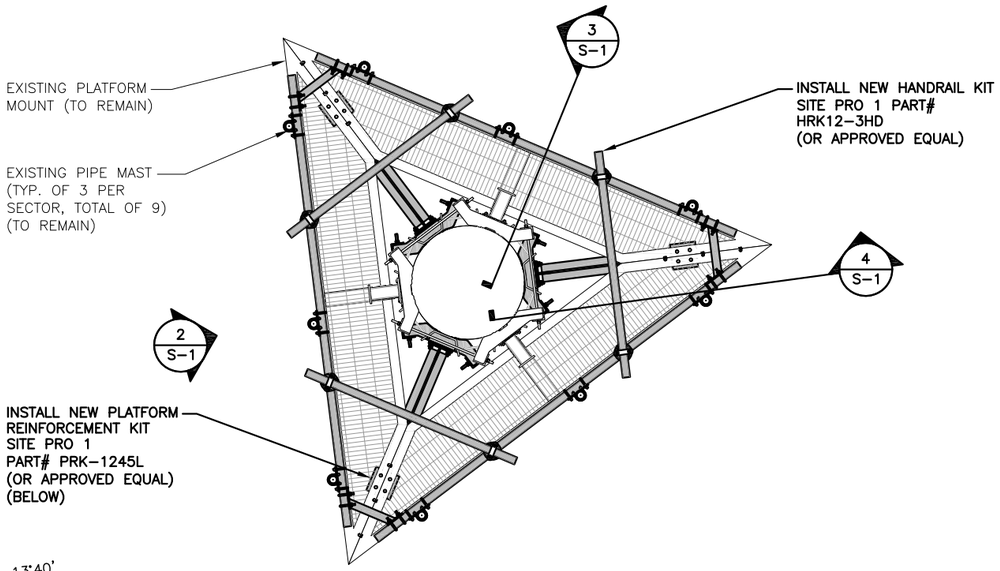
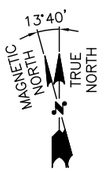
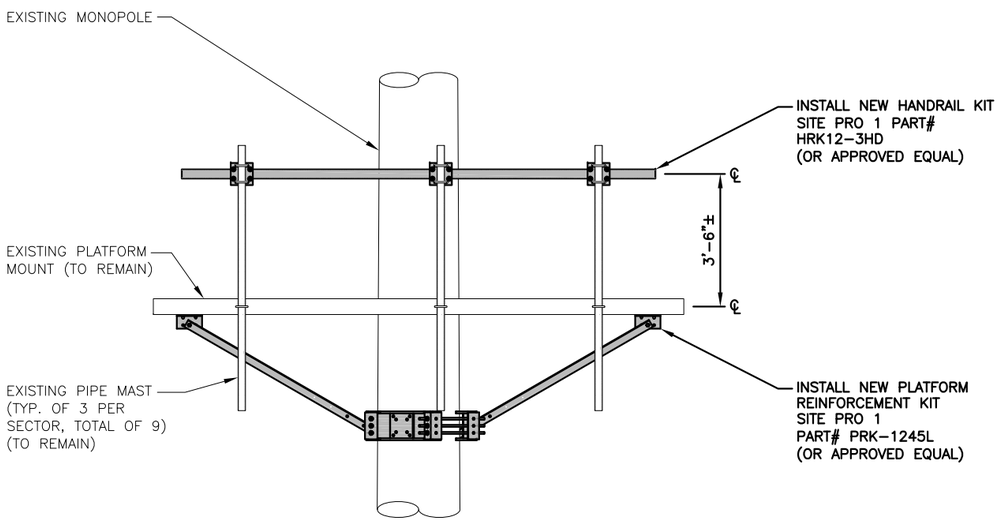




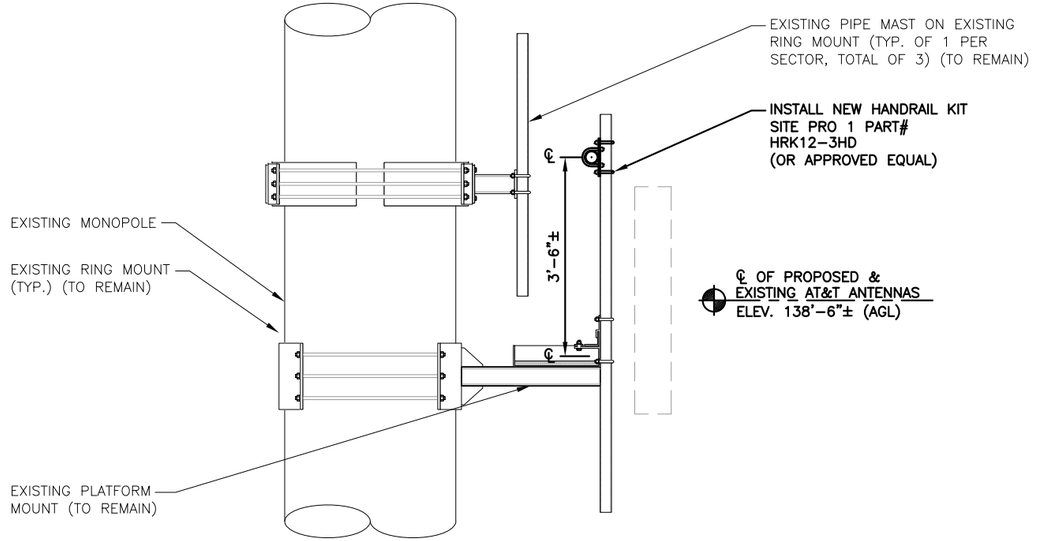
PROPOSED MOUNT MODIFICATION PLAN (1 S-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

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



PROPOSED MOUNT MODIFICATION ELEVATION (2 S-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

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



PROPOSED MOUNT MODIFICATION DETAIL (3 S-1)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

0 8" 1'-4" 2'-8" 4'-0"

NOTE:
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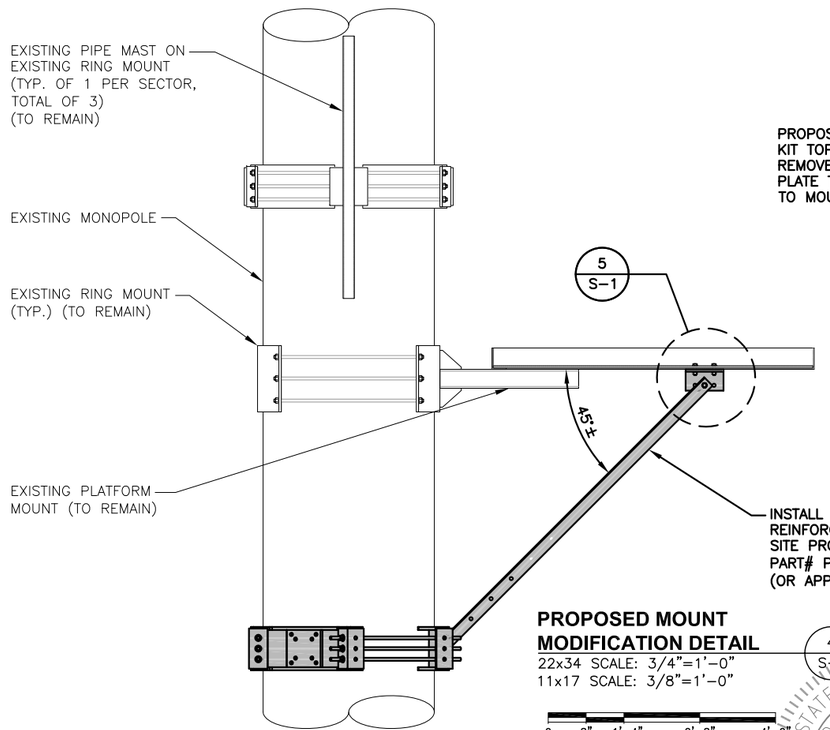
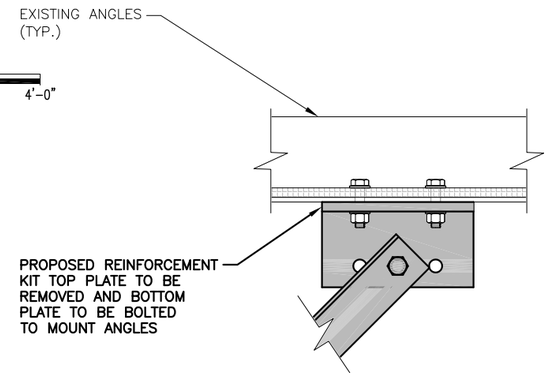


PROPOSED MOUNT MODIFICATION DETAIL (4 S-1)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

0 8" 1'-4" 2'-8" 4'-0"



CONNECTION DETAIL (5 S-1)
22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"

0 0'-2" 0'-4" 0'-8" 1'-0"

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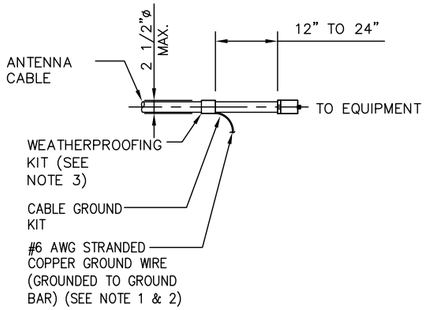
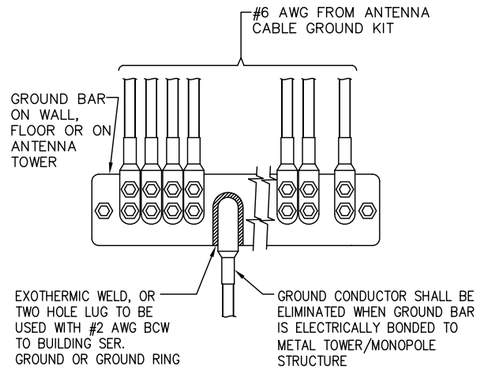


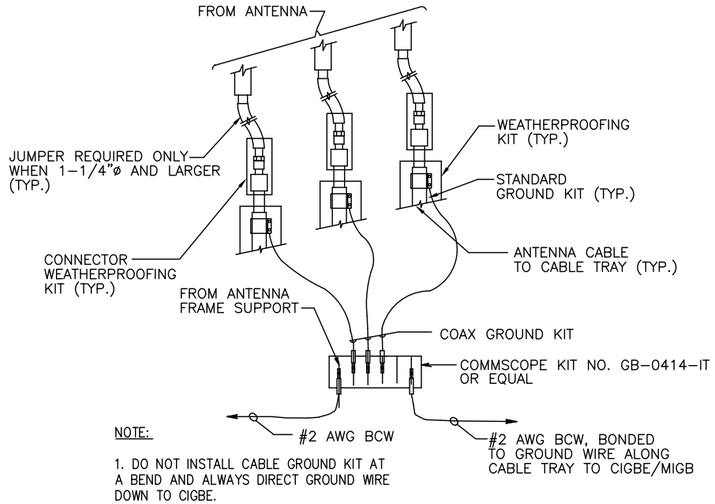
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE SUPPLIED WITH KIT. COLD SHRINK SHALL NOT BE USED.

CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE (1 / G-1)
SCALE: N.T.S



INSTALLATION OF GROUND WIRE TO GROUND BAR (2 / G-1)
SCALE: N.T.S



NOTE:

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

INSTALLATION OF GROUND WIRE TO GROUNDING BAR TOWER (3 / G-1)
SCALE: N.T.S

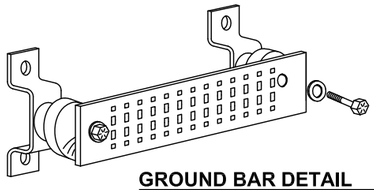
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

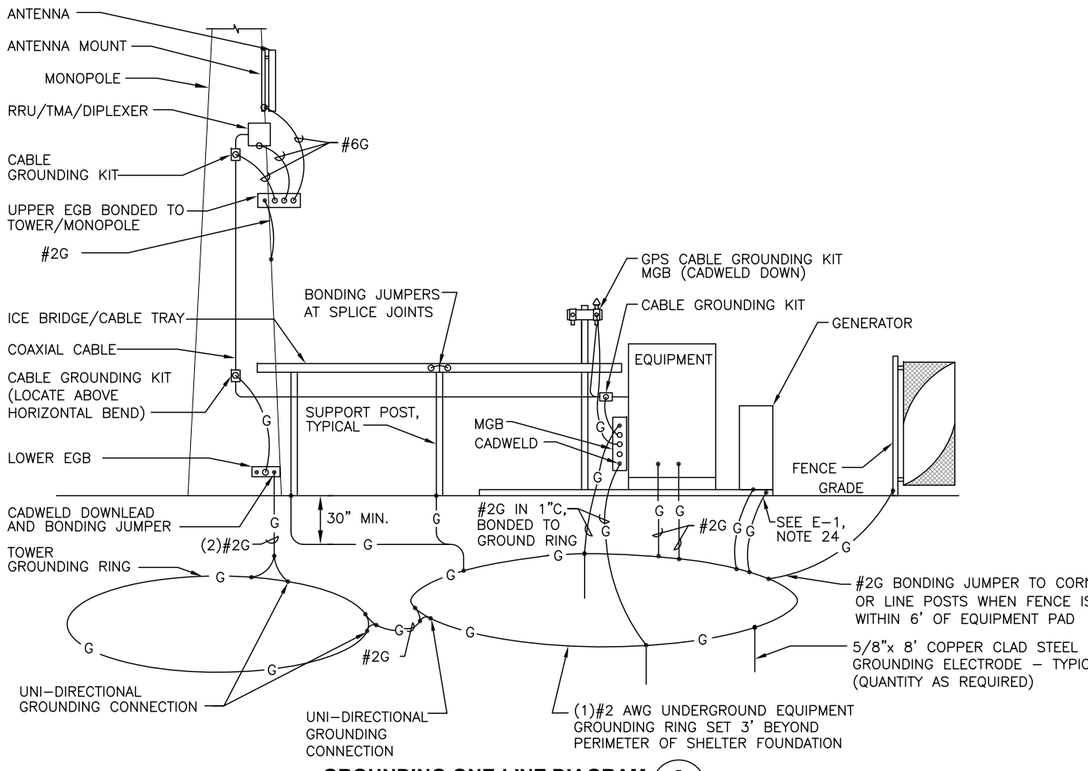
CABLE ENTRY PORTS (HATCH PLATES) (#2 AWG)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2 AWG)
+24V POWER SUPPLY RETURN BAR (#2 AWG)
−48V POWER SUPPLY RETURN BAR (#2 AWG)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

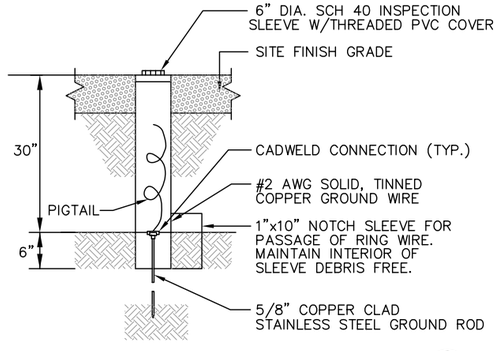
INTERIOR GROUND RING (#2 AWG)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2 AWG)
BUILDING STEEL (IF AVAILABLE) (#2 AWG)



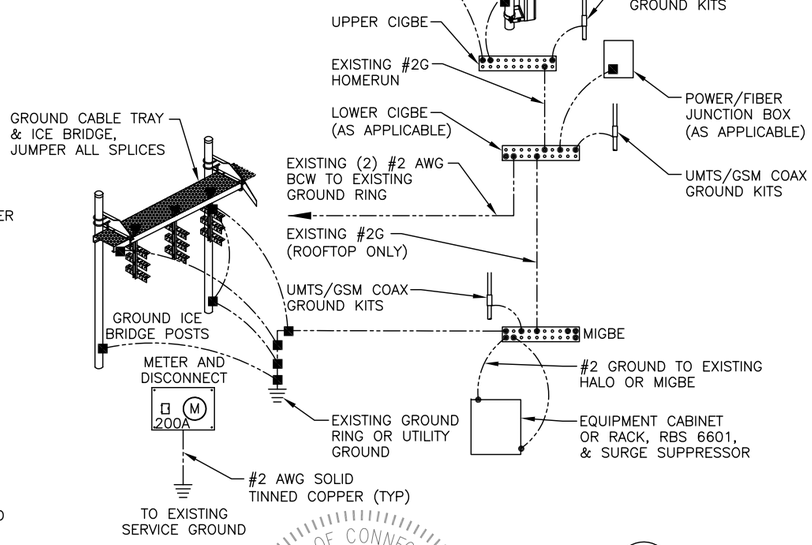
GROUND BAR DETAIL (4 / G-1)
SCALE: N.T.S



GROUNDING ONE-LINE DIAGRAM (5 / G-1)
SCALE: N.T.S



GROUND ROD TEST WELL DETAIL (6 / G-1)
SCALE: N.T.S



GROUNDING RISER DIAGRAM (7 / G-1)
SCALE: N.T.S

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: CT2235
SITE NAME: OLD LYME-MILE CREEK

125 MILE CREEK ROAD
OLD LYME, CT 06371
NEW LONDON COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	12/30/19	ISSUED FOR CONSTRUCTION	ET	HC	DPH
A	11/05/19	ISSUED FOR REVIEW	ET/KC	HC	DPH

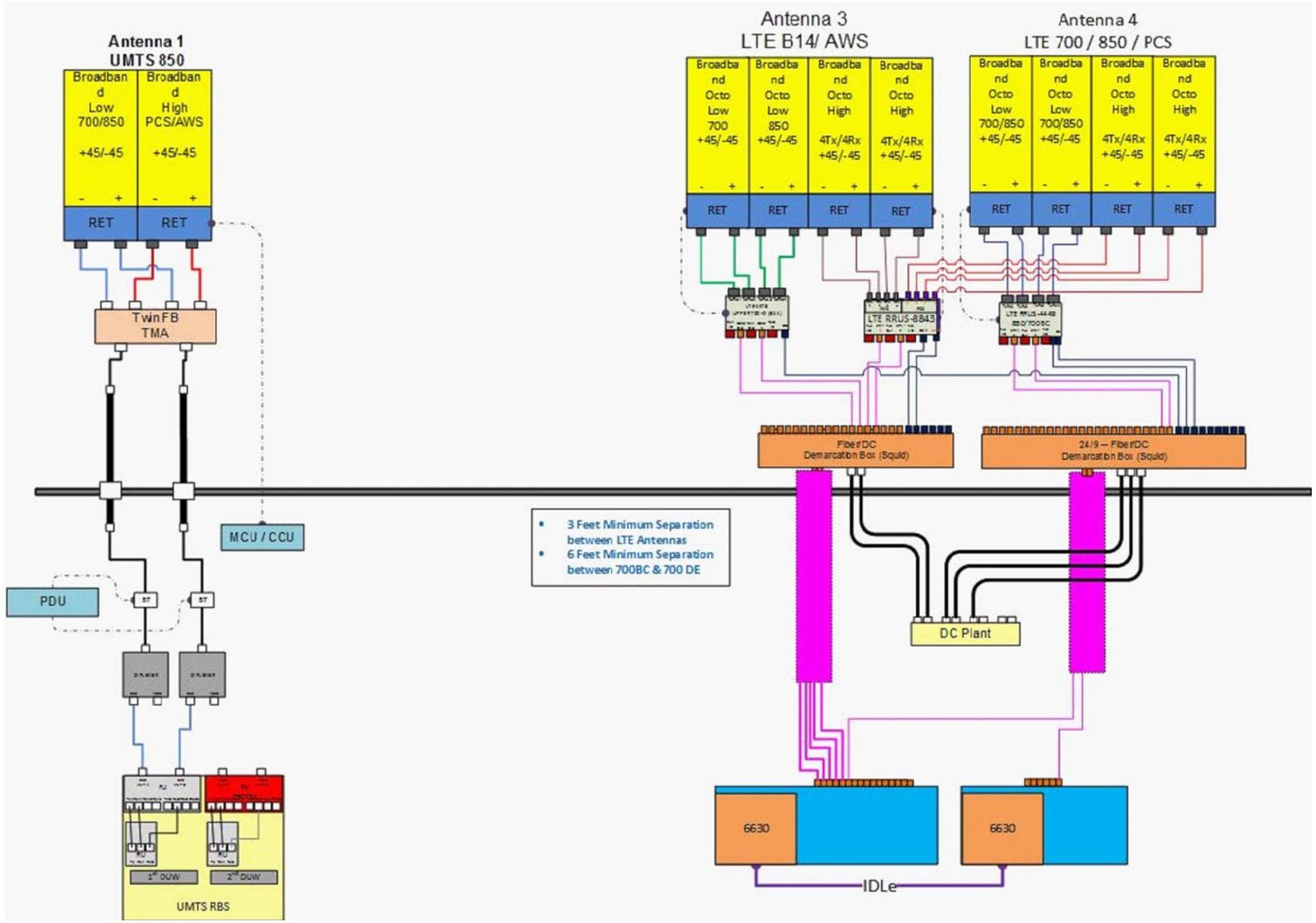
SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: KC

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

AT&T

GROUNDING DETAILS
LTE 2C_3C_5G UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2235	G-1	1



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

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

NOTE:

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

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2235
SITE NAME: OLD LYME-MILE CREEK

125 MILE CREEK ROAD
OLD LYME, CT 06371
NEW LONDON COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	12/30/19	ISSUED FOR CONSTRUCTION	ET	HC	DPH
A	11/05/19	ISSUED FOR REVIEW	ET/KC	HC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: KC

AT&T

RF PLUMBING DIAGRAM
LTE 2C_3C_5G UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2235	RF–1	1

October 28, 2019
November 1, 2019 (Rev. 1)

SAI Communications
12 Industrial Way
Salem NH, 03079

RE:		
	Site Number:	CT2235 (LTE 2C/3C/5G)
	FA Number:	10049129
	PACE Number:	MRCTB043934
	PT Number:	2051A0RWDM
	Site Name:	OLD LYME – MILE CREEK
	Site Address:	125 Mile Creek Road Old Lyme, CT 06371

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 mount to determine their capability of supporting the following additional loading:

- (3) 7770 Antennas (55.0"x11.0"x5.0" - Wt. = 35 lbs. /each)
- (3) TT19-08BP111-001 TMA's (9.9"x6.7"x5.4" - Wt. = 16 lbs. /each)
- (6) LGP 21901 Diplexers (6.3"x4.4"x3.0" – Wt. = 6 lbs. /each) (Ground)
- (1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each) (Tower Mount)
- **(6) DMP65R-BU4DA Antennas (48.0"x20.7"x7.7" – Wt. = 68 lbs. /each)**
- **(3) B14 4478 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)**
- **(3) B5/B12 4449 RRH's (14.9"x13.2"x10.4" – Wt. = 73 lbs. /each)**
- **(3) B2/B66A 8843 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)**

**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 September 17, 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 1.15 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 1.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing monopole with ring mount. The connection is considered OK by visual inspection.

Based on our evaluation, we have determined that the existing mount **IS NOT CAPABLE** of supporting the proposed installation. HDG recommends the following modifications:

- **Install new handrail kit, SitePro1 P/N HRK14-3HD (or approved equal).**
- **Install new platform reinforcement kit, SitePro1 P/N PRK-1245L (or approved equal).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (LTE 2C/3C/4C) Mount Rating	4	LC16	111%	**FAIL**
Modified (LTE 2C/3C/4C) Mount Rating	3	LC1	51%	**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

Daniel P. Hamm, PE
Principal

FIELD PHOTOS:

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

HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 10/28/2019
Project Name: OLD LYME - MILE CREEK
Project No.: CT2235
Designed By: LBW **Checked By:** MSC

HUDSON Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

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

		z=	139 (ft)
		z_g=	1200 (ft)
K_z=	**1.086**	α=	7.0

Kzmin ≤ Kz ≤ 2.01

Table 2-4

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

2.6.6.2 Topographic Factor:

Table 2-5

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

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

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

K_{zt}=	**#DIV/0!**	K_h=	#DIV/0!
		K_c=	0.9 (from Table 2-4)
(If Category 1 then K_{zt} =1.0)		K_t=	0 (from Table 2-5)
		f=	0 (from Table 2-5)
Category=	1	z=	139
		z_s=	50 (Mean elevation of base of structure above sea level)
		H=	0 (Ht. of the crest above surrounding terrain)
		K_{zt}=	1.00 (from 2.6.6.2.1)
		K_e=	1.00 (from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness =		t_i =	1.00 in
Importance Factor =		I=	1.0 (from Table 2-3)
		K_{iz} =	1.15 (from Sec. 2.6.10)

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

t_{iz} = 1.15 in

Date: 10/28/2019
Project Name: OLD LYME - MILE CREEK
Project No.: CT2235
Designed By: LBW 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=	164	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=	1.086	(from 2.6.5.2)
		K_{zt}=	1.0	(from 2.6.6.2.1)
		K_s=	1.0	(from 2.6.7)
q_z=	**48.04**	K_e=	1.00	(from 2.6.8)
$q_{z\ (ice)}$=	**6.59**	K_d=	0.95	(from Table 2-2)
$q_{z\ (30)}$=	**2.37**	V_{max}=	135	mph (Ultimate Wind Speed)
		$V_{max\ (ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

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

Date: 10/28/2019
Project Name: OLD LYME - MILE CREEK
Project No.: CT2235
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

Determine Ca:

Table 2-9

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

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
(Aspect ratio is independent of the spacing between support points of a linear appurtenance,

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **1.15 in** **Angle = 0 (deg)** **Equivalent Angle = 180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	**265**	**46**	**13**
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.32	1.20	**398**	**64**	**20**
B14 4478 RRH	18.1	13.4	8.3	1.68	1.35	1.20	**97**	**18**	**5**
B14 4478 RRH (Side)	18.1	8.3	13.4	1.04	2.18	1.20	**60**	**12**	**3**
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.13	1.20	**79**	**15**	**4**
B5/B12 4449 RRH (Side)	14.9	10.4	13.2	1.08	1.43	1.20	**62**	**12**	**3**
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.20	**79**	**15**	**4**
B2/B66A 8843 RRH (Shielded)	14.9	0.0	10.9	0.00	0.00	1.20	**0**	**2**	**0**
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	1.83	1.20	**21**	**5**	**1**
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	**54**	**10**	**3**
2" Pipe	2.4	12.0		0.20	0.20	1.20	**11**	**4**	**1**
3x3 Angle	3.0	12.0		0.25	0.25	2.00	**24**	**7**	**1**
4-1/2x4-1/2 HSS	4.5	12.0		0.38	0.38	1.25	**23**	**6**	**1**

Date: 10/28/2019
Project Name: OLD LYME - MILE CREEK
Project No.: CT2235
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	30	(deg)	Ice Thickness =	1.15	in.	Equivalent Angle =	210	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	265	141	234
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	398	168	340
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	97	60	88
B14 4478 RRH (Side)	18.1	6.7	13.4	0.84	1.68	2.70	1.35	1.21	1.20	49	97	61
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	79	62	75
B5/B12 4449 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	39	79	49
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	79	65	75
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	39	65	46
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	21	27	23

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.30	2.91	4.31	7.84	1.28	1.43	45	27	40
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.04	3.50	2.19	5.03	1.20	1.31	64	30	55
B14 4478 RRH	20.4	15.7	10.6	2.23	1.50	1.30	1.92	1.20	1.20	18	12	16
B14 4478 RRH (Side)	20.4	7.9	15.7	1.11	2.23	2.60	1.30	1.20	1.20	9	18	11
B5/B12 4449 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	15	12	14
B5/B12 4449 RRH (Side)	17.2	7.8	15.5	0.93	1.85	2.22	1.11	1.20	1.20	7	15	9
B2/B66A 8843 RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	15	12	14
B2/B66A 8843 RRH (Shielded)	17.2	7.8	13.2	0.93	1.58	2.22	1.30	1.20	1.20	7	12	9
TT19-08BP111-001 TMA	12.2	7.7	9.0	0.65	0.76	1.58	1.36	1.20	1.20	5	6	5

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	12
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	20	8	17
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
B14 4478 RRH (Side)	18.1	6.7	13.4	0.84	1.68	2.70	1.35	1.21	1.20	2	5	3
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	4
B5/B12 4449 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	2	4	2
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	4
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	2	3	2
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	1	1	1

Date: 10/28/2019
Project Name: OLD LYME - MILE CREEK
Project No.: CT2235
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	1.15	in.	Equivalent Angle =	240	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	265	141	172
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	398	168	226
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	97	60	69
B14 4478 RRH (Side)	18.1	10.1	13.4	1.26	1.68	1.80	1.35	1.20	1.20	73	97	91
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	79	62	66
B5/B12 4449 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	59	79	74
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	79	65	68
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	59	65	64
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	21	27	25

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.30	2.91	4.31	7.84	1.28	1.43	45	27	32
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.04	3.50	2.19	5.03	1.20	1.31	64	30	39
B14 4478 RRH	20.4	15.7	10.6	2.23	1.50	1.30	1.92	1.20	1.20	18	12	13
B14 4478 RRH (Side)	20.4	11.8	15.7	1.67	2.23	1.73	1.30	1.20	1.20	13	18	17
B5/B12 4449 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	15	12	13
B5/B12 4449 RRH (Side)	17.2	11.6	15.5	1.39	1.85	1.48	1.11	1.20	1.20	11	15	14
B2/B66A 8843 RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	15	12	13
B2/B66A 8843 RRH (Shielded)	17.2	11.6	13.2	1.39	1.58	1.48	1.30	1.20	1.20	11	12	12
TT19-08BP111-001 TMA	12.2	7.7	9.0	0.65	0.76	1.58	1.36	1.20	1.20	5	6	6

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	8
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	20	8	11
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
B14 4478 RRH (Side)	18.1	10.1	13.4	1.26	1.68	1.80	1.35	1.20	1.20	4	5	4
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	3
B5/B12 4449 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	3	4	4
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	3	3	3
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	1	1	1

Date: 10/28/2019
Project Name: OLD LYME - MILE CREEK
Project No.: CT2235
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	90	(deg)	Ice Thickness =	1.15	in.	Equivalent Angle =	270	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	265	141	141
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	398	168	168
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	97	60	60
B14 4478 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	60	97	97
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	79	62	62
B5/B12 4449 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	62	79	79
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	79	65	65
B2/B66A 8843 RRH (Shielded)	14.9	0.0	10.9	0.00	1.13	0.00	1.37	1.20	1.20	0	65	65
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	21	27	27

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.30	2.91	4.31	7.84	1.28	1.43	45	27	27
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.04	3.50	2.19	5.03	1.20	1.31	64	30	30
B14 4478 RRH	20.4	15.7	10.6	2.23	1.50	1.30	1.92	1.20	1.20	18	12	12
B14 4478 RRH (Side)	20.4	10.6	15.7	1.50	2.23	1.92	1.30	1.20	1.20	12	18	18
B5/B12 4449 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	15	12	12
B5/B12 4449 RRH (Side)	17.2	12.7	15.5	1.52	1.85	1.35	1.11	1.20	1.20	12	15	15
B2/B66A 8843 RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	15	12	12
B2/B66A 8843 RRH (Shielded)	17.2	2.3	13.2	0.28	1.58	7.45	1.30	1.42	1.20	3	12	12
TT19-08BP111-001 TMA	12.2	7.7	9.0	0.65	0.76	1.58	1.36	1.20	1.20	5	6	6

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	7
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	20	8	8
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
B14 4478 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	5
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	3
B5/B12 4449 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	3	4	4
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
B2/B66A 8843 RRH (Shielded)	14.9	0.0	10.9	0.00	1.13	0.00	1.37	1.20	1.20	0	3	3
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	1	1	1

Date: 10/28/2019
Project Name: OLD LYME - MILE CREEK
Project No.: CT2235
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	120	(deg)	Ice Thickness =	1.15	in.	Equivalent Angle =	300	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	265	141	172
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	398	168	226
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	97	60	69
B14 4478 RRH (Side)	18.1	10.1	13.4	1.26	1.68	1.80	1.35	1.20	1.20	73	97	91
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	79	62	66
B5/B12 4449 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	59	79	74
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	79	65	68
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	59	65	64
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	21	27	25

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.30	2.91	4.31	7.84	1.28	1.43	45	27	32
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.04	3.50	2.19	5.03	1.20	1.31	64	30	39
B14 4478 RRH	20.4	15.7	10.6	2.23	1.50	1.30	1.92	1.20	1.20	18	12	13
B14 4478 RRH (Side)	20.4	11.8	15.7	1.67	2.23	1.73	1.30	1.20	1.20	13	18	17
B5/B12 4449 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	15	12	13
B5/B12 4449 RRH (Side)	17.2	11.6	15.5	1.39	1.85	1.48	1.11	1.20	1.20	11	15	14
B2/B66A 8843 RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	15	12	13
B2/B66A 8843 RRH (Shielded)	17.2	11.6	13.2	1.39	1.58	1.48	1.30	1.20	1.20	11	12	12
TT19-08BP111-001 TMA	12.2	7.7	9.0	0.65	0.76	1.58	1.36	1.20	1.20	5	6	6

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	8
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	20	8	11
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
B14 4478 RRH (Side)	18.1	10.1	13.4	1.26	1.68	1.80	1.35	1.20	1.20	4	5	4
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	3
B5/B12 4449 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	3	4	4
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	3	3	3
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	1	1	1

Date: 10/28/2019
Project Name: OLD LYME - MILE CREEK
Project No.: CT2235
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	150	(deg)	Ice Thickness =	1.15	in.	Equivalent Angle =	330	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	265	141	234
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	398	168	340
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	97	60	88
B14 4478 RRH (Side)	18.1	6.7	13.4	0.84	1.68	2.70	1.35	1.21	1.20	49	97	61
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	79	62	75
B5/B12 4449 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	39	79	49
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	79	65	75
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	39	65	46
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	21	27	23

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.30	2.91	4.31	7.84	1.28	1.43	45	27	40
DMP65R-BU4DA Antenna	50.3	23.0	10.0	8.04	3.50	2.19	5.03	1.20	1.31	64	30	55
B14 4478 RRH	20.4	15.7	10.6	2.23	1.50	1.30	1.92	1.20	1.20	18	12	16
B14 4478 RRH (Side)	20.4	7.9	15.7	1.11	2.23	2.60	1.30	1.20	1.20	9	18	11
B5/B12 4449 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	15	12	14
B5/B12 4449 RRH (Side)	17.2	7.8	15.5	0.93	1.85	2.22	1.11	1.20	1.20	7	15	9
B2/B66A 8843 RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	15	12	14
B2/B66A 8843 RRH (Shielded)	17.2	7.8	13.2	0.93	1.58	2.22	1.30	1.20	1.20	7	12	9
TT19-08BP111-001 TMA	12.2	7.7	9.0	0.65	0.76	1.58	1.36	1.20	1.20	5	6	5

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	12
DMP65R-BU4DA Antenna	48.0	20.7	7.7	6.90	2.57	2.32	6.23	1.20	1.37	20	8	17
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
B14 4478 RRH (Side)	18.1	6.7	13.4	0.84	1.68	2.70	1.35	1.21	1.20	2	5	3
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	4
B5/B12 4449 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	2	4	2
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	4
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	2	3	2
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	1	1	1

Date: 10/28/2019
Project Name: OLD LYME - MILE CREEK
Project No.: CT2235
Designed By: LBW **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

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

7770 Antenna

Weight of ice based on total radial SF area:

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

DMP65R-BU4DA Antenna

Weight of ice based on total radial SF area:

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

B14 4478 RRH

Weight of ice based on total radial SF area:

Height (in):	18.1	
Width (in):	13.4	
Depth (in):	8.3	
Total weight of ice on object:		36 lbs
Weight of object:	60.0 lbs	
Combined weight of ice and object:		96 lbs

B5/B12 4449 RRH

Weight of ice based on total radial SF area:

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

B2/B66A 8843 RRH

Weight of ice based on total radial SF area:

Height (in):	14.9	
Width (in):	13.2	
Depth (in):	10.9	
Total weight of ice on object:		32 lbs
Weight of object:	72.0 lbs	
Combined weight of ice and object:		104 lbs

TT19-08BP111-001 TMA

Weight of ice based on total radial SF area:

Height (in):	9.9	
Width (in):	5.4	
Depth (in):	6.7	
Total weight of ice on object:		11 lbs
Weight of object:	16.0 lbs	
Combined weight of ice and object:		27 lbs

Squid Surge Arrestor

Weight of ice based on total radial SF area:

Depth (in):	24.0	
Diameter(in):	9.7	
Total weight of ice on object:		30 lbs
Weight of object:	33 lbs	
Combined weight of ice and object:		63 lbs

2" pipe

Per foot weight of ice:

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

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

HSS 4-1/2x4-1/2

Weight of ice based on total radial SF area:

Height (in):	4.5	
Width (in):	4.5	
Per foot weight of ice on object:		11 plf

HUDSON
Design Group LLC

Mount Calculations
(Existing Conditions)


Y
X
Z

Bentley

Current Date: 10/28/2019 9:50 AM
Units system: English
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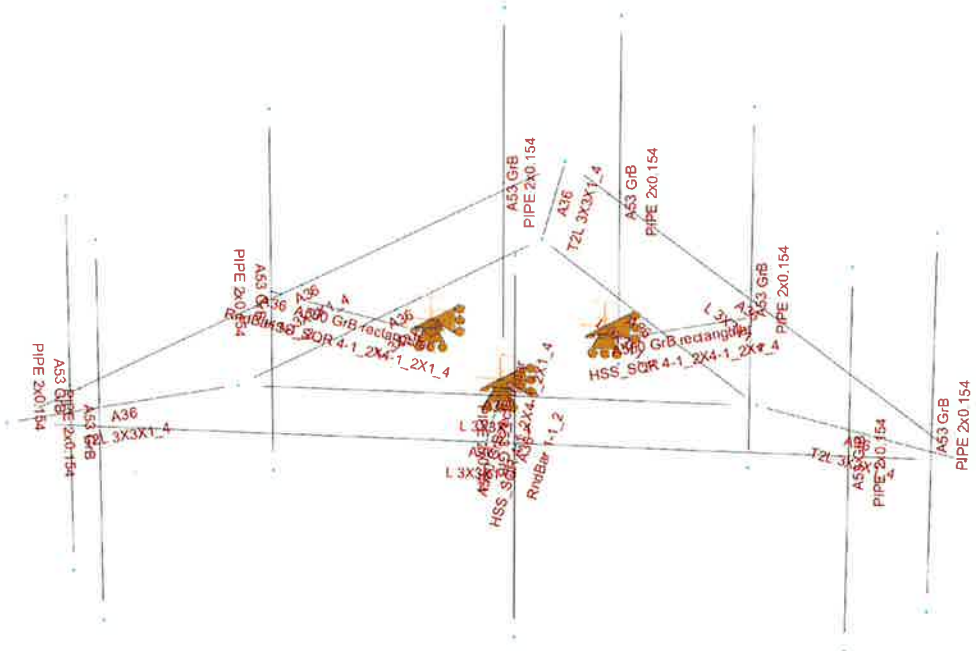
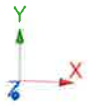
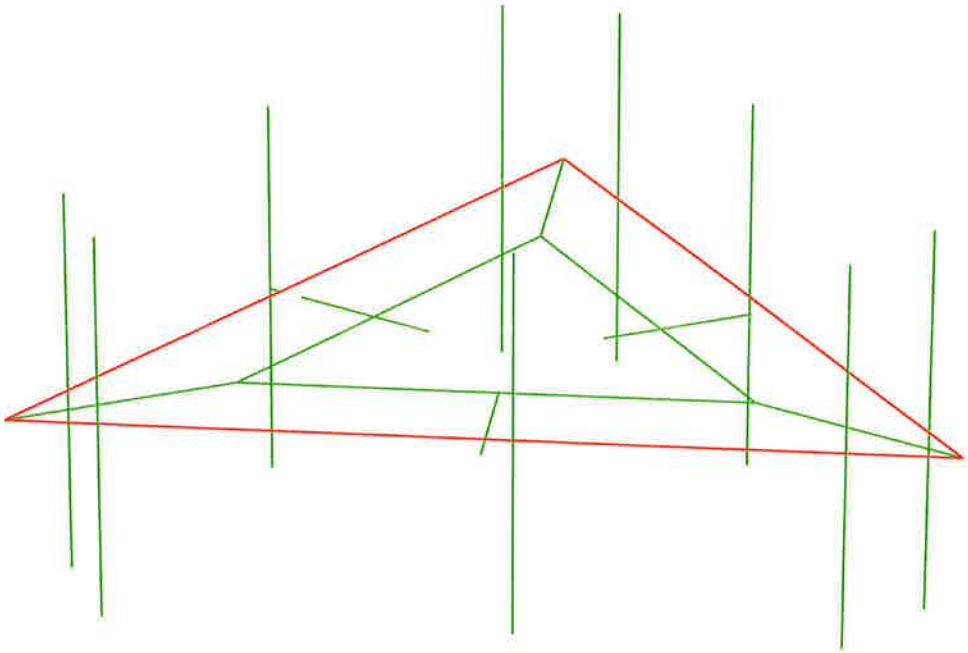
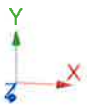




Not designed
Error on design
Design O.K.
With warnings





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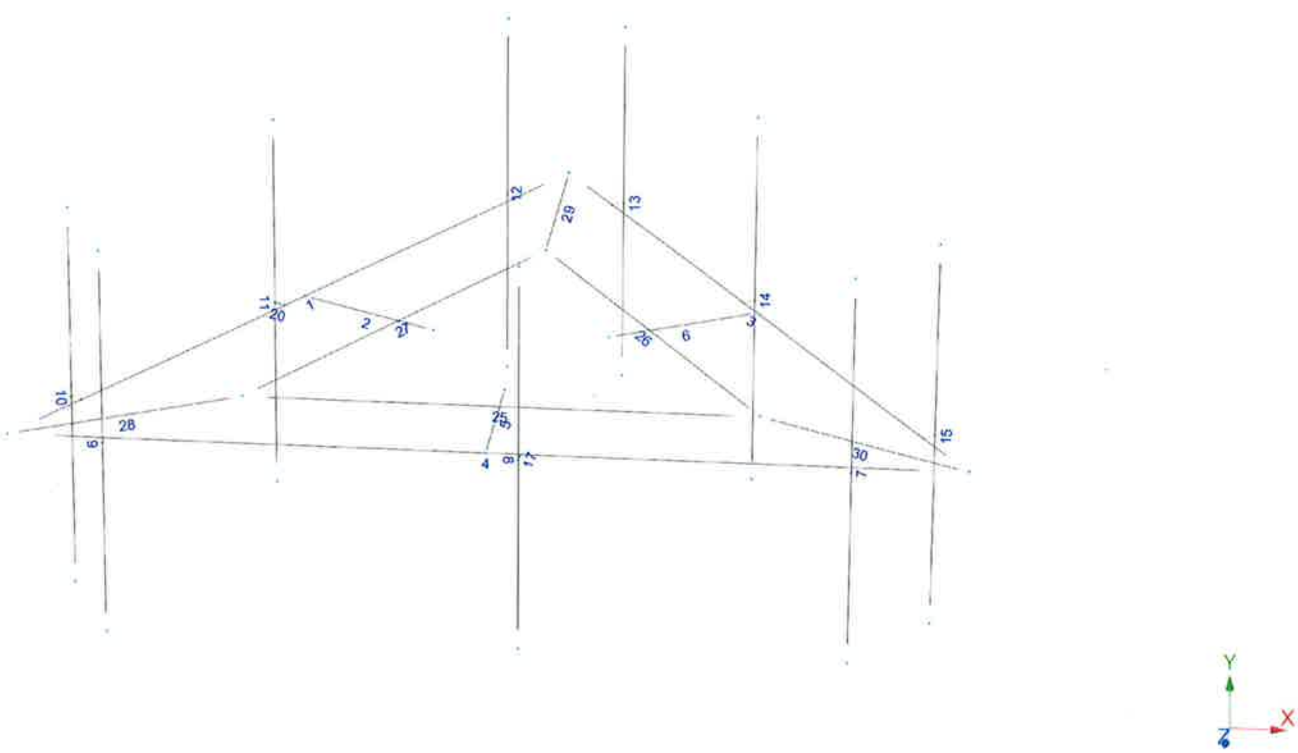

Bentley

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Load data

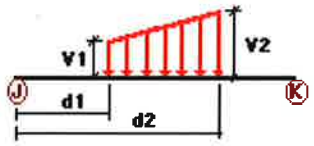
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	250 lb Live Load Antenna 1	No	LL
LLa2	250 lb Live Load Antenna 2	No	LL
LLa3	250 lb Live Load Antenna 3	No	LL

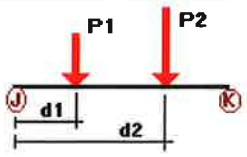
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	1	y	-0.01	0.00	0.00	No	0.00	No
	3	y	-0.01	0.00	0.00	No	0.00	No
	4	y	-0.01	0.00	0.00	No	0.00	No
	6	y	-0.01	0.00	0.00	No	0.00	No
	25	y	-0.01	0.00	0.00	No	0.00	No
	27	y	-0.01	0.00	0.00	No	0.00	No
	28	y	-0.01	0.00	0.00	No	0.00	No
	29	y	-0.01	0.00	0.00	No	0.00	No
	30	y	-0.01	0.00	0.00	No	0.00	No
W0	1	z	-0.024	0.00	0.00	No	0.00	No
	2	z	-0.023	0.00	0.00	No	0.00	No
	3	z	-0.024	0.00	0.00	No	0.00	No
	4	z	-0.024	0.00	0.00	No	0.00	No
	5	z	-0.023	0.00	0.00	No	0.00	No
	6	z	-0.023	0.00	0.00	No	0.00	No

	10	z	-0.011	0.00	0.00	No	0.00	No
	11	z	-0.011	0.00	0.00	No	0.00	No
	12	z	-0.011	0.00	0.00	No	0.00	No
	13	z	-0.011	0.00	0.00	No	0.00	No
	14	z	-0.011	0.00	0.00	No	0.00	No
	15	z	-0.011	0.00	0.00	No	0.00	No
	25	z	-0.024	0.00	0.00	No	0.00	No
	26	z	-0.024	0.00	0.00	No	0.00	No
	27	z	-0.024	0.00	0.00	No	0.00	No
	28	z	-0.024	0.00	0.00	No	0.00	No
	29	z	-0.024	0.00	0.00	No	0.00	No
	30	z	-0.024	0.00	0.00	No	0.00	No
W30	1	x	-0.024	0.00	0.00	No	0.00	No
	2	x	-0.023	0.00	0.00	No	0.00	No
	3	x	-0.024	0.00	0.00	No	0.00	No
	4	x	-0.024	0.00	0.00	No	0.00	No
	5	x	-0.023	0.00	0.00	No	0.00	No
	6	x	-0.023	0.00	0.00	No	0.00	No
	7	x	-0.011	0.00	0.00	No	0.00	No
	8	x	-0.011	0.00	0.00	No	0.00	No
	9	x	-0.011	0.00	0.00	No	0.00	No
	10	x	-0.011	0.00	0.00	No	0.00	No
	11	x	-0.011	0.00	0.00	No	0.00	No
	12	x	-0.011	0.00	0.00	No	0.00	No
	25	x	-0.024	0.00	0.00	No	0.00	No
	26	x	-0.024	0.00	0.00	No	0.00	No
	27	x	-0.024	0.00	0.00	No	0.00	No
	28	x	-0.024	0.00	0.00	No	0.00	No
	29	x	-0.024	0.00	0.00	No	0.00	No
	30	x	-0.024	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	-0.008	0.00	0.00	No	0.00	No
	5	y	-0.011	0.00	0.00	No	0.00	No
	6	y	-0.011	0.00	0.00	No	0.00	No
	7	y	-0.005	0.00	0.00	No	0.00	No
	8	y	-0.005	0.00	0.00	No	0.00	No
	9	y	-0.005	0.00	0.00	No	0.00	No
	10	y	-0.005	0.00	0.00	No	0.00	No
	11	y	-0.005	0.00	0.00	No	0.00	No
	12	y	-0.005	0.00	0.00	No	0.00	No
	13	y	-0.005	0.00	0.00	No	0.00	No
	14	y	-0.005	0.00	0.00	No	0.00	No
	15	y	-0.005	0.00	0.00	No	0.00	No
	25	y	-0.008	0.00	0.00	No	0.00	No
	26	y	-0.008	0.00	0.00	No	0.00	No
	27	y	-0.008	0.00	0.00	No	0.00	No
	28	y	-0.008	0.00	0.00	No	0.00	No
	29	y	-0.008	0.00	0.00	No	0.00	No
	30	y	-0.008	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	7	y	-0.018	0.50	No
		y	-0.018	4.00	No
		y	-0.016	2.00	No
	8	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.133	0.50	No
	9	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.072	0.50	No
		y	-0.033	5.50	No
	10	y	-0.018	0.50	No
		y	-0.018	4.00	No
		y	-0.016	2.00	No
	11	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.133	0.50	No
	12	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.072	0.50	No
	13	y	-0.018	0.50	No
		y	-0.018	4.00	No
		y	-0.016	2.00	No
	14	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.133	0.50	No
	15	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.072	0.50	No
W0	7	z	-0.133	0.50	No
		z	-0.133	4.00	No
		z	-0.021	2.00	No
	8	z	-0.199	1.50	No
		z	-0.199	4.50	No
		z	-0.122	0.50	No
	9	z	-0.199	1.50	No
		z	-0.199	4.50	No
		z	-0.054	5.50	No
	10	z	-0.086	0.50	No
		z	-0.086	4.00	No
		z	-0.025	2.00	No
	11	z	-0.113	1.50	No
		z	-0.113	4.50	No
		z	-0.091	0.50	No
	12	z	-0.113	1.50	No
		z	-0.113	4.50	No
		z	-0.064	0.50	No
	13	z	-0.086	0.50	No
		z	-0.086	4.00	No
		z	-0.025	2.00	No
	14	z	-0.113	1.50	No
		z	-0.113	4.50	No
		z	-0.091	0.50	No
	15	z	-0.113	1.50	No
		z	-0.113	4.50	No

		z	-0.064	0.50	No
W30	7	x	-0.071	0.50	No
		x	-0.071	4.00	No
		x	-0.027	2.00	No
	8	x	-0.085	1.50	No
		x	-0.085	4.50	No
		x	-0.097	0.50	No
	9	x	-0.085	1.50	No
		x	-0.085	4.50	No
		x	-0.065	0.50	No
		x	-0.054	5.50	No
	10	x	-0.117	0.50	No
		x	-0.117	4.00	No
		x	-0.023	2.00	No
	11	x	-0.171	1.50	No
		x	-0.171	4.50	No
		x	-0.061	0.50	No
	12	x	-0.171	1.50	No
		x	-0.171	4.50	No
		x	-0.046	0.50	No
	13	x	-0.117	0.50	No
		x	-0.117	4.00	No
		x	-0.023	2.00	No
	14	x	-0.171	1.50	No
		x	-0.171	4.50	No
		x	-0.061	0.50	No
	15	x	-0.171	1.50	No
		x	-0.171	4.50	No
		x	-0.046	0.50	No
Di	7	y	-0.043	0.50	No
		y	-0.043	4.00	No
		y	-0.011	2.00	No
	8	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.067	0.50	No
	9	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.032	0.50	No
		y	-0.03	5.50	No
	10	y	-0.043	0.50	No
		y	-0.043	4.00	No
		y	-0.011	2.00	No
	11	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.067	0.50	No
	12	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.032	0.50	No
	13	y	-0.043	0.50	No
		y	-0.043	4.00	No
		y	-0.011	2.00	No
	14	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.067	0.50	No
	15	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.032	0.50	No
Wi0	7	z	-0.023	0.50	No
		z	-0.023	4.00	No
		z	-0.005	2.00	No

	8	z	-0.032	1.50	No
		z	-0.032	4.50	No
		z	-0.024	0.50	No
	9	z	-0.032	1.50	No
		z	-0.032	4.50	No
		z	-0.002	0.50	No
		z	-0.01	5.50	No
	10	z	-0.016	0.50	No
		z	-0.016	4.00	No
		z	-0.006	2.00	No
	11	z	-0.02	1.50	No
		z	-0.02	4.50	No
		z	-0.017	0.50	No
	12	z	-0.02	1.50	No
		z	-0.02	4.50	No
		z	-0.012	0.50	No
	13	z	-0.016	0.50	No
		z	-0.016	4.00	No
		z	-0.006	2.00	No
	14	z	-0.02	1.50	No
		z	-0.02	4.50	No
		z	-0.017	0.50	No
	15	z	-0.02	1.50	No
		z	-0.02	4.50	No
		z	-0.012	0.50	No
Wi30	7	x	-0.014	0.50	No
		x	-0.014	4.00	No
		x	-0.006	2.00	No
	8	x	-0.016	1.50	No
		x	-0.016	4.50	No
		x	-0.018	0.50	No
	9	x	-0.016	1.50	No
		x	-0.016	4.50	No
		x	-0.012	0.50	No
		x	-0.01	5.50	No
	10	x	-0.021	0.50	No
		x	-0.021	4.00	No
		x	-0.005	2.00	No
	11	x	-0.028	1.50	No
		x	-0.028	4.50	No
		x	-0.011	0.50	No
	12	x	-0.028	1.50	No
		x	-0.028	4.50	No
		x	-0.009	0.50	No
	13	x	-0.021	0.50	No
		x	-0.021	4.00	No
		x	-0.005	2.00	No
	14	x	-0.028	1.50	No
		x	-0.028	4.50	No
		x	-0.011	0.50	No
	15	x	-0.028	1.50	No
		x	-0.028	4.50	No
		x	-0.009	0.50	No
WL0	7	z	-0.007	0.50	No
		z	-0.007	4.00	No
		z	-0.001	2.00	No
	8	z	-0.01	1.50	No
		z	-0.01	4.50	No
		z	-0.006	0.50	No
	9	z	-0.01	1.50	No

		z	-0.01	4.50	No
		z	-0.003	5.50	No
	10	z	-0.005	0.50	No
		z	-0.005	4.00	No
		z	-0.001	2.00	No
	11	z	-0.006	1.50	No
		z	-0.006	4.50	No
		z	-0.004	0.50	No
	12	z	-0.006	1.50	No
		z	-0.006	4.50	No
		z	-0.003	0.50	No
	13	z	-0.005	0.50	No
		z	-0.005	4.00	No
		z	-0.001	2.00	No
	14	z	-0.006	1.50	No
		z	-0.006	4.50	No
		z	-0.004	0.50	No
	15	z	-0.006	1.50	No
		z	-0.006	4.50	No
		z	-0.003	0.50	No
WL30	7	x	-0.004	0.50	No
		x	-0.004	4.00	No
		x	-0.001	2.00	No
	8	x	-0.005	1.50	No
		x	-0.005	4.50	No
		x	-0.005	0.50	No
	9	x	-0.005	1.50	No
		x	-0.005	4.50	No
		x	-0.003	0.50	No
		x	-0.003	5.50	No
	10	x	-0.006	0.50	No
		x	-0.006	4.00	No
		x	-0.001	2.00	No
	11	x	-0.009	1.50	No
		x	-0.009	4.50	No
		x	-0.003	0.50	No
	12	x	-0.009	1.50	No
		x	-0.009	4.50	No
		x	-0.002	0.50	No
	13	x	-0.006	0.50	No
		x	-0.006	4.00	No
		x	-0.001	2.00	No
	14	x	-0.009	1.50	No
		x	-0.009	4.50	No
		x	-0.003	0.50	No
	15	x	-0.009	1.50	No
		x	-0.009	4.50	No
		x	-0.002	0.50	No
LL1	4	y	-0.25	7.00	No
LL2	4	y	-0.25	0.00	No
LLa1	7	y	-0.25	3.00	No
LLa2	8	y	-0.25	3.00	No
LLa3	9	y	-0.25	3.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	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 End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	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
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	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

Bentley

Current Date: 10/28/2019 9:51 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2235\LTE 2C-3C-4C\CT2235 (LTE 2C-3C-4C).retx\

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2DL+W0
LC2=1.2DL+W30
LC3=1.2DL-W0
LC4=1.2DL-W30
LC5=0.9DL+W0
LC6=0.9DL+W30
LC7=0.9DL-W0
LC8=0.9DL-W30
LC9=1.2DL+Di+Wi0
LC10=1.2DL+Di+Wi30
LC11=1.2DL+Di-Wi0
LC12=1.2DL+Di-Wi30
LC13=1.2DL
LC15=1.2DL+1.5LL1
LC16=1.2DL+1.5LL2
LC17=1.2DL+WL0+1.5LLa1
LC18=1.2DL+WL30+1.5LLa1
LC19=1.2DL-WL0+1.5LLa1
LC20=1.2DL-WL30+1.5LLa1
LC21=1.2DL+WL0+1.5LLa2
LC22=1.2DL+WL30+1.5LLa2
LC23=1.2DL-WL0+1.5LLa2
LC24=1.2DL-WL30+1.5LLa2
LC25=1.2DL+WL0+1.5LLa3
LC26=1.2DL+WL30+1.5LLa3
LC27=1.2DL-WL0+1.5LLa3
LC28=1.2DL-WL30+1.5LLa3

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4-1_2X4-1_2X1_4	**2**	LC9 at 0.00%	**0.18**	**OK**	
		5	LC11 at 100.00%	0.18	OK	
		6	LC12 at 100.00%	0.18	OK	
	L 3X3X1_4	**1**	LC10 at 48.75%	1.05	N.G.	
		3	LC16 at 50.00%	1.06	N.G.	
		4	LC16 at 50.00%	**1.11**	**N.G.**	
		25	LC16 at 50.00%	0.68	OK	
		26	LC16 at 46.88%	0.65	OK	
		27	LC10 at 50.00%	0.68	OK	
	PIPE 2x0.154	**7**	LC1 at 46.88%	0.17	OK	
		8	LC1 at 46.88%	**0.30**	**OK**	
		9	LC1 at 50.00%	0.23	OK	
		10	LC2 at 46.88%	0.18	OK	
		11	LC2 at 46.88%	0.22	OK	
		12	LC2 at 46.88%	0.20	OK	
		13	LC2 at 46.88%	0.16	OK	
		14	LC1 at 46.88%	0.22	OK	
		15	LC1 at 46.88%	0.18	OK	

RndBar 1-1_2	**17**	LC3 at 0.00%	**0.26**	**OK**
	20	LC2 at 0.00%	0.17	OK
T2L 3X3X1_4	**28**	LC27 at 0.00%	0.20	OK
	29	LC9 at 0.00%	0.18	OK
	30	LC16 at 0.00%	**0.23**	**OK**

Bentley

Current Date: 10/28/2019 9:51 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2235\LTE 2C-3C-4C\CT2235 (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
2	-3.5074	0.00	-2.025	0
4	0.0037	0.00	-8.0936	0
6	-3.7574	0.00	-1.592	0
11	-6.3456	-3.00	2.4909	0
12	-3.9306	-3.00	-1.692	0
13	-0.8891	-3.00	-6.96	0
14	-6.3456	3.00	2.4909	0
15	-3.9306	3.00	-1.692	0
16	-0.8891	3.00	-6.96	0
17	-1.3423	0.00	-0.775	0
18	3.5074	0.00	-2.025	0
20	7.013	0.00	4.0468	0
27	1.0156	-3.00	-6.7409	0
28	3.4306	-3.00	-2.558	0
29	6.4721	-3.00	2.71	0
30	1.0156	3.00	-6.7409	0
31	3.4306	3.00	-2.558	0
32	6.4721	3.00	2.71	0
33	1.3423	0.00	-0.775	0
34	0.00	0.00	4.05	0
36	-7.0111	0.00	4.0436	0

38	0.50	0.00	4.05	0
40	0.50	0.00	4.25	0
43	5.33	-3.00	4.25	0
44	0.50	-3.00	4.25	0
45	-5.583	-3.00	4.25	0
46	5.33	3.00	4.25	0
47	0.50	3.00	4.25	0
48	-5.583	3.00	4.25	0
49	0.00	0.00	1.55	0
50	0.00	0.00	2.225	0
55	0.00	0.00	-4.45	0
56	3.8538	0.00	2.225	0
57	-3.8538	0.00	2.225	0
58	-1.9269	0.00	-1.1125	0
59	1.9269	0.00	-1.1125	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
17	1	1	1	1	1	1
33	1	1	1	1	1	1
49	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	36	4		L 3X3X1_4	A36	0.00	0.00	0.00
2	17	2		HSS_SQR 4-1_2X4-1_2...	A500 GrB rectangular	0.00	0.00	0.00
3	4	20		L 3X3X1_4	A36	0.00	0.00	0.00
4	20	36		L 3X3X1_4	A36	0.00	0.00	0.00
5	34	49		HSS_SQR 4-1_2X4-1_2...	A500 GrB rectangular	0.00	0.00	0.00
6	18	33		HSS_SQR 4-1_2X4-1_2...	A500 GrB rectangular	0.00	0.00	0.00
7	46	43		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
8	47	44		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
9	48	45		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
10	14	11		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
11	15	12		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
12	16	13		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
13	30	27		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
14	31	28		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
15	32	29		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
17	38	40		RndBar 1-1_2	A36	0.00	0.00	0.00
20	6	8		RndBar 1-1_2	A36	0.00	0.00	0.00
25	57	56		L 3X3X1_4	A36	0.00	0.00	0.00
26	56	55		L 3X3X1_4	A36	0.00	0.00	0.00
27	55	57		L 3X3X1_4	A36	0.00	0.00	0.00
28	57	36		T2L 3X3X1_4	A36	0.00	0.00	0.00
29	55	4		T2L 3X3X1_4	A36	0.00	0.00	0.00
30	56	20		T2L 3X3X1_4	A36	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
7	0.00	2	1.00	0.00	0.00
8	0.00	2	1.00	0.00	0.00
9	0.00	2	1.00	0.00	0.00
10	0.00	2	1.00	0.00	0.00
11	0.00	2	1.00	0.00	0.00
12	0.00	2	1.00	0.00	0.00
13	0.00	2	1.00	0.00	0.00
14	0.00	2	1.00	0.00	0.00
15	0.00	2	1.00	0.00	0.00
28	180.00	0	0.00	0.00	0.00
29	180.00	0	0.00	0.00	0.00
30	180.00	0	0.00	0.00	0.00

Rigid end offsets

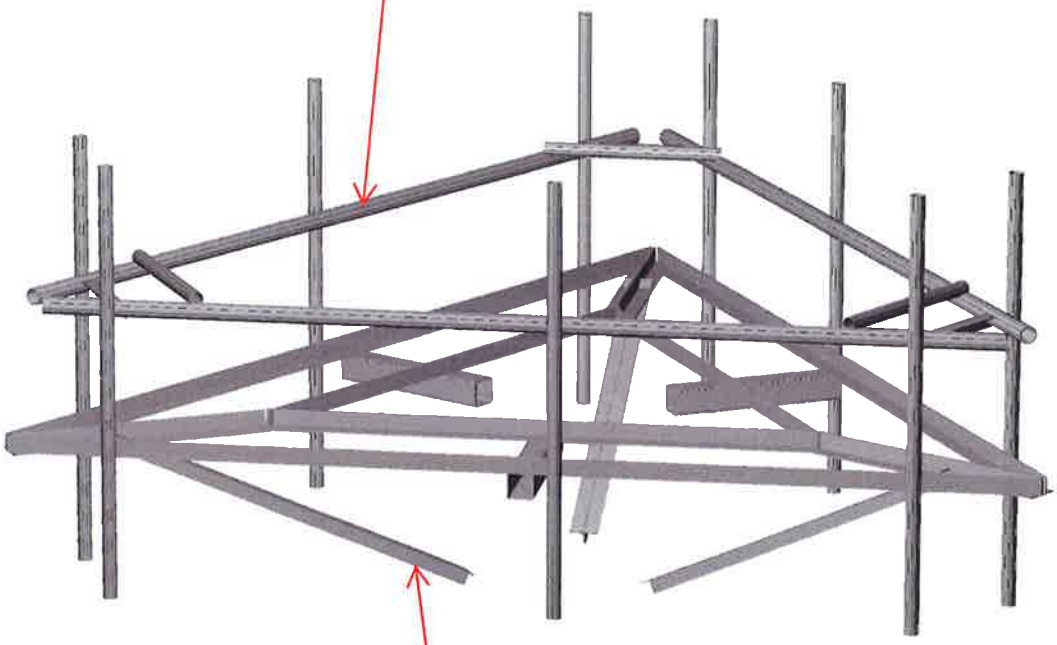
Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
2	0.00	-3.00	0.00	0.00	-3.00	0.00
5	0.00	-3.00	0.00	0.00	-3.00	0.00
6	0.00	-3.00	0.00	0.00	-3.00	0.00

HUDSON
Design Group LLC

Mount Calculations
(Modified Conditions)

Bentley

Current Date: 10/28/2019 11:12 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2235\LTE 2C-3C-4C\CT2235 (LTE 2C-3C-4C)(MODS



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Units system: English
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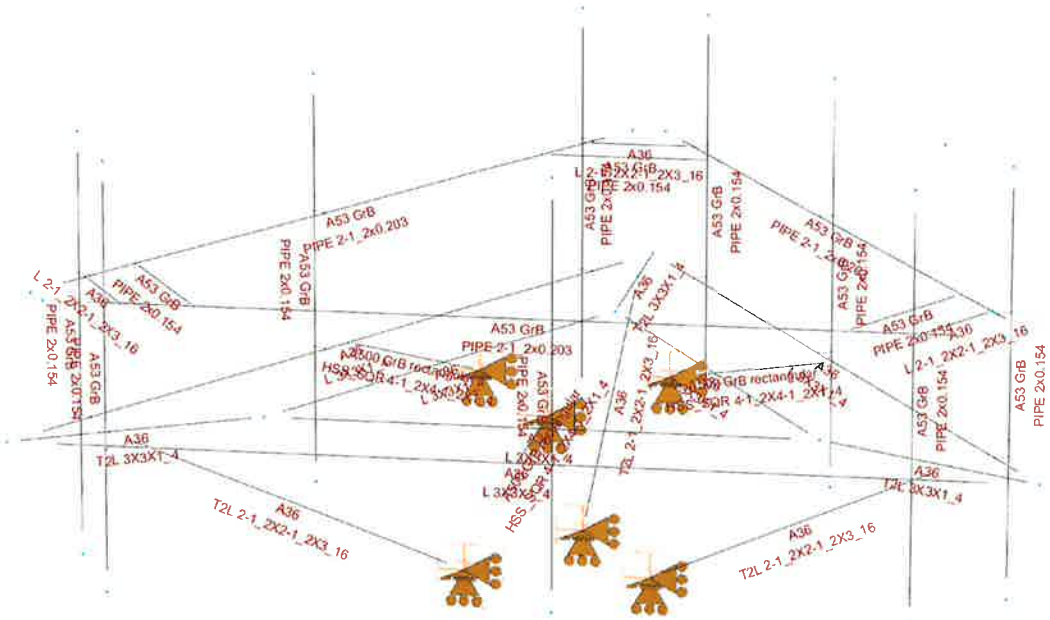
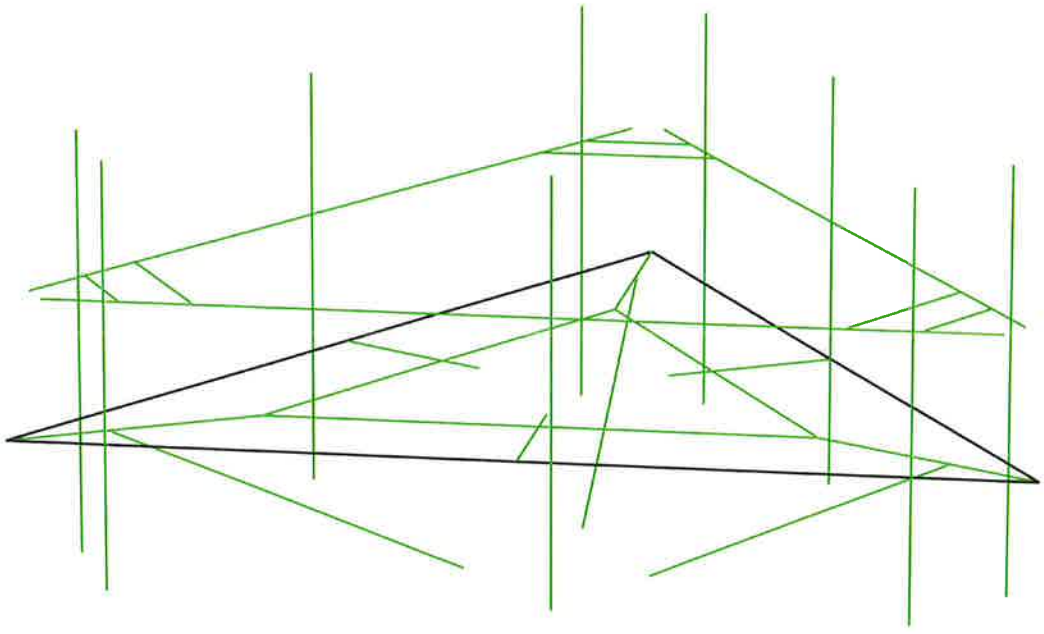


Not designed
Error on design
Design O.K.
With warnings



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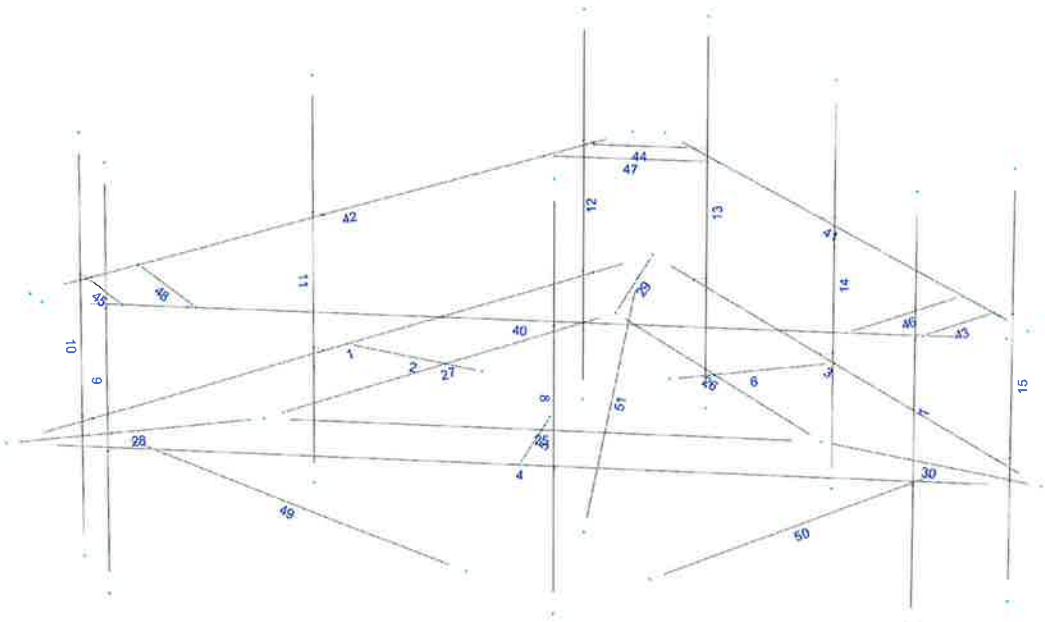

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Load data

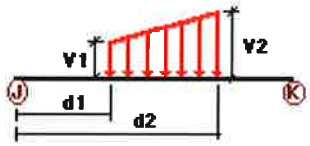
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	250 lb Live Load Antenna 1	No	LL
LLa2	250 lb Live Load Antenna 2	No	LL
LLa3	250 lb Live Load Antenna 3	No	LL

Distributed force on members

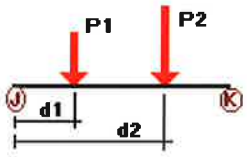


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	1	y	-0.01	0.00	0.00	No	0.00	No
	3	y	-0.01	0.00	0.00	No	0.00	No
	4	y	-0.01	0.00	0.00	No	0.00	No
	6	y	-0.01	0.00	0.00	No	0.00	No
	25	y	-0.01	0.00	0.00	No	0.00	No
	27	y	-0.01	0.00	0.00	No	0.00	No
	28	y	-0.01	0.00	0.00	No	0.00	No
	29	y	-0.01	0.00	0.00	No	0.00	No
	30	y	-0.01	0.00	0.00	No	0.00	No
W0	1	z	-0.024	0.00	0.00	No	0.00	No
	2	z	-0.023	0.00	0.00	No	0.00	No
	3	z	-0.024	0.00	0.00	No	0.00	No
	4	z	-0.024	0.00	0.00	No	0.00	No
	5	z	-0.023	0.00	0.00	No	0.00	No
	6	z	-0.023	0.00	0.00	No	0.00	No

	10	z	-0.011	0.00	0.00	No	0.00	No
	11	z	-0.011	0.00	0.00	No	0.00	No
	12	z	-0.011	0.00	0.00	No	0.00	No
	13	z	-0.011	0.00	0.00	No	0.00	No
	14	z	-0.011	0.00	0.00	No	0.00	No
	15	z	-0.011	0.00	0.00	No	0.00	No
	25	z	-0.024	0.00	0.00	No	0.00	No
	26	z	-0.024	0.00	0.00	No	0.00	No
	27	z	-0.024	0.00	0.00	No	0.00	No
	28	z	-0.024	0.00	0.00	No	0.00	No
	29	z	-0.024	0.00	0.00	No	0.00	No
	30	z	-0.024	0.00	0.00	No	0.00	No
	40	z	-0.011	0.00	0.00	No	0.00	No
	41	z	-0.011	0.00	0.00	No	0.00	No
	42	z	-0.011	0.00	0.00	No	0.00	No
	43	z	-0.02	0.00	0.00	No	0.00	No
	44	z	-0.02	0.00	0.00	No	0.00	No
	45	z	-0.02	0.00	0.00	No	0.00	No
	46	z	-0.011	0.00	0.00	No	0.00	No
	47	z	-0.011	0.00	0.00	No	0.00	No
	48	z	-0.011	0.00	0.00	No	0.00	No
	49	z	-0.02	0.00	0.00	No	0.00	No
	50	z	-0.02	0.00	0.00	No	0.00	No
	51	z	-0.02	0.00	0.00	No	0.00	No
W30	1	x	-0.024	0.00	0.00	No	0.00	No
	2	x	-0.023	0.00	0.00	No	0.00	No
	3	x	-0.024	0.00	0.00	No	0.00	No
	4	x	-0.024	0.00	0.00	No	0.00	No
	5	x	-0.023	0.00	0.00	No	0.00	No
	6	x	-0.023	0.00	0.00	No	0.00	No
	7	x	-0.011	0.00	0.00	No	0.00	No
	8	x	-0.011	0.00	0.00	No	0.00	No
	9	x	-0.011	0.00	0.00	No	0.00	No
	10	x	-0.011	0.00	0.00	No	0.00	No
	11	x	-0.011	0.00	0.00	No	0.00	No
	12	x	-0.011	0.00	0.00	No	0.00	No
	25	x	-0.024	0.00	0.00	No	0.00	No
	26	x	-0.024	0.00	0.00	No	0.00	No
	27	x	-0.024	0.00	0.00	No	0.00	No
	28	x	-0.024	0.00	0.00	No	0.00	No
	29	x	-0.024	0.00	0.00	No	0.00	No
	30	x	-0.024	0.00	0.00	No	0.00	No
	41	x	-0.011	0.00	0.00	No	0.00	No
	42	x	-0.011	0.00	0.00	No	0.00	No
	43	x	-0.02	0.00	0.00	No	0.00	No
	44	x	-0.02	0.00	0.00	No	0.00	No
	45	x	-0.02	0.00	0.00	No	0.00	No
	46	x	-0.011	0.00	0.00	No	0.00	No
	47	x	-0.011	0.00	0.00	No	0.00	No
	48	x	-0.011	0.00	0.00	No	0.00	No
	49	x	-0.02	0.00	0.00	No	0.00	No
	50	x	-0.02	0.00	0.00	No	0.00	No
	51	x	-0.02	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	-0.008	0.00	0.00	No	0.00	No
	5	y	-0.011	0.00	0.00	No	0.00	No
	6	y	-0.011	0.00	0.00	No	0.00	No
	7	y	-0.005	0.00	0.00	No	0.00	No

8	y	-0.005	0.00	0.00	No	0.00	No
9	y	-0.005	0.00	0.00	No	0.00	No
10	y	-0.005	0.00	0.00	No	0.00	No
11	y	-0.005	0.00	0.00	No	0.00	No
12	y	-0.005	0.00	0.00	No	0.00	No
13	y	-0.005	0.00	0.00	No	0.00	No
14	y	-0.005	0.00	0.00	No	0.00	No
15	y	-0.005	0.00	0.00	No	0.00	No
25	y	-0.008	0.00	0.00	No	0.00	No
26	y	-0.008	0.00	0.00	No	0.00	No
27	y	-0.008	0.00	0.00	No	0.00	No
28	y	-0.008	0.00	0.00	No	0.00	No
29	y	-0.008	0.00	0.00	No	0.00	No
30	y	-0.008	0.00	0.00	No	0.00	No
40	y	-0.005	0.00	0.00	No	0.00	No
41	y	-0.005	0.00	0.00	No	0.00	No
42	y	-0.005	0.00	0.00	No	0.00	No
43	y	-0.007	0.00	0.00	No	0.00	No
44	y	-0.007	0.00	0.00	No	0.00	No
45	y	-0.007	0.00	0.00	No	0.00	No
46	y	-0.005	0.00	0.00	No	0.00	No
47	y	-0.005	0.00	0.00	No	0.00	No
48	y	-0.005	0.00	0.00	No	0.00	No
49	y	-0.007	0.00	0.00	No	0.00	No
50	y	-0.007	0.00	0.00	No	0.00	No
51	y	-0.007	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	7	y	-0.018	1.00	No
		y	-0.018	4.50	No
		y	-0.016	2.50	No
	8	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.133	0.50	No
	9	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.072	0.50	No
		y	-0.033	5.50	No
	10	y	-0.018	1.00	No
		y	-0.018	4.50	No
		y	-0.016	2.50	No
	11	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.133	0.50	No
	12	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.072	0.50	No

	13	y	-0.018	1.00	No
		y	-0.018	4.50	No
		y	-0.016	2.50	No
	14	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.133	0.50	No
	15	y	-0.034	1.50	No
		y	-0.034	4.50	No
		y	-0.072	0.50	No
W0	7	z	-0.133	1.00	No
		z	-0.133	4.50	No
		z	-0.021	2.50	No
	8	z	-0.199	1.50	No
		z	-0.199	4.50	No
		z	-0.122	0.50	No
	9	z	-0.199	1.50	No
		z	-0.199	4.50	No
		z	-0.054	0.50	No
	10	z	-0.086	1.00	No
		z	-0.086	4.50	No
		z	-0.025	2.50	No
	11	z	-0.113	1.50	No
		z	-0.113	4.50	No
		z	-0.091	0.50	No
	12	z	-0.113	1.50	No
		z	-0.113	4.50	No
		z	-0.064	0.50	No
	13	z	-0.086	1.00	No
		z	-0.086	4.50	No
		z	-0.025	2.50	No
	14	z	-0.113	1.50	No
		z	-0.113	4.50	No
		z	-0.091	0.50	No
	15	z	-0.113	1.50	No
		z	-0.113	4.50	No
		z	-0.064	0.50	No
W30	7	x	-0.071	1.00	No
		x	-0.071	4.50	No
		x	-0.027	2.50	No
	8	x	-0.085	1.50	No
		x	-0.085	4.50	No
		x	-0.097	0.50	No
	9	x	-0.085	1.50	No
		x	-0.085	4.50	No
		x	-0.065	0.50	No
		x	-0.054	5.50	No
	10	x	-0.117	1.00	No
		x	-0.117	4.50	No
		x	-0.023	2.50	No
	11	x	-0.171	1.50	No
		x	-0.171	4.50	No
		x	-0.061	0.50	No
	12	x	-0.171	1.50	No
		x	-0.171	4.50	No
		x	-0.046	0.50	No
	13	x	-0.117	1.00	No
		x	-0.117	4.50	No
		x	-0.023	2.50	No
	14	x	-0.171	1.50	No
		x	-0.171	4.50	No

		x	-0.061	0.50	No
	15	x	-0.171	1.50	No
		x	-0.171	4.50	No
		x	-0.046	0.50	No
Di	7	y	-0.043	1.00	No
		y	-0.043	4.50	No
		y	-0.011	2.50	No
	8	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.067	0.50	No
	9	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.032	0.50	No
		y	-0.03	5.50	No
	10	y	-0.043	1.00	No
		y	-0.043	4.50	No
		y	-0.011	2.50	No
	11	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.067	0.50	No
	12	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.032	0.50	No
	13	y	-0.043	1.00	No
		y	-0.043	4.50	No
		y	-0.011	2.50	No
	14	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.067	0.50	No
	15	y	-0.066	1.50	No
		y	-0.066	4.50	No
		y	-0.032	0.50	No
Wi0	7	z	-0.023	1.00	No
		z	-0.023	4.50	No
		z	-0.005	2.50	No
	8	z	-0.032	1.50	No
		z	-0.032	4.50	No
		z	-0.024	0.50	No
	9	z	-0.032	1.50	No
		z	-0.032	4.50	No
		z	-0.002	0.50	No
		z	-0.01	5.50	No
	10	z	-0.016	1.00	No
		z	-0.016	4.50	No
		z	-0.006	2.50	No
	11	z	-0.02	1.50	No
		z	-0.02	4.50	No
		z	-0.017	0.50	No
	12	z	-0.02	1.50	No
		z	-0.02	4.50	No
		z	-0.012	0.50	No
	13	z	-0.016	1.00	No
		z	-0.016	4.50	No
		z	-0.006	2.50	No
	14	z	-0.02	1.50	No
		z	-0.02	4.50	No
		z	-0.017	0.50	No
	15	z	-0.02	1.50	No
		z	-0.02	4.50	No
		z	-0.012	0.50	No

Wi30	7	x	-0.014	1.00	No
		x	-0.014	4.50	No
		x	-0.006	2.50	No
	8	x	-0.016	1.50	No
		x	-0.016	4.50	No
		x	-0.018	0.50	No
	9	x	-0.016	1.50	No
		x	-0.016	4.50	No
		x	-0.012	0.50	No
		x	-0.01	5.50	No
	10	x	-0.021	1.00	No
		x	-0.021	4.50	No
		x	-0.005	2.50	No
	11	x	-0.028	1.50	No
		x	-0.028	4.50	No
		x	-0.011	0.50	No
	12	x	-0.028	1.50	No
		x	-0.028	4.50	No
		x	-0.009	0.50	No
	13	x	-0.021	1.00	No
		x	-0.021	4.50	No
		x	-0.005	2.50	No
	14	x	-0.028	1.50	No
		x	-0.028	4.50	No
		x	-0.011	0.50	No
	15	x	-0.028	1.50	No
		x	-0.028	4.50	No
		x	-0.009	0.50	No
WL0	7	z	-0.007	1.00	No
		z	-0.007	4.50	No
		z	-0.001	2.50	No
	8	z	-0.01	1.50	No
		z	-0.01	4.50	No
		z	-0.006	0.50	No
	9	z	-0.01	1.50	No
		z	-0.01	4.50	No
		z	-0.003	0.50	No
	10	z	-0.005	1.00	No
		z	-0.005	4.50	No
		z	-0.001	2.50	No
	11	z	-0.006	1.50	No
		z	-0.006	4.50	No
		z	-0.004	0.50	No
	12	z	-0.006	1.50	No
		z	-0.006	4.50	No
		z	-0.003	0.50	No
	13	z	-0.005	1.00	No
		z	-0.005	4.50	No
		z	-0.001	2.50	No
	14	z	-0.006	1.50	No
		z	-0.006	4.50	No
		z	-0.004	0.50	No
	15	z	-0.006	1.50	No
		z	-0.006	4.50	No
		z	-0.003	0.50	No
WL30	7	x	-0.004	1.00	No
		x	-0.004	4.50	No
		x	-0.001	2.50	No
	8	x	-0.005	1.50	No
		x	-0.005	4.50	No

		x	-0.005	0.50	No
	9	x	-0.005	1.50	No
		x	-0.005	4.50	No
		x	-0.003	0.50	No
		x	-0.003	5.50	No
	10	x	-0.006	1.00	No
		x	-0.006	4.50	No
		x	-0.001	2.50	No
	11	x	-0.009	1.50	No
		x	-0.009	4.50	No
		x	-0.003	0.50	No
	12	x	-0.009	1.50	No
		x	-0.009	4.50	No
		x	-0.002	0.50	No
	13	x	-0.006	1.00	No
		x	-0.006	4.50	No
		x	-0.001	2.50	No
	14	x	-0.009	1.50	No
		x	-0.009	4.50	No
		x	-0.003	0.50	No
	15	x	-0.009	1.50	No
		x	-0.009	4.50	No
		x	-0.002	0.50	No
LL1	4	y	-0.25	7.00	No
LL2	4	y	-0.25	0.00	No
LLa1	7	y	-0.25	3.00	No
LLa2	8	y	-0.25	3.00	No
LLa3	9	y	-0.25	3.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	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 End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	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
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	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

Bentley

Current Date: 10/28/2019 11:16 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2235\LTE 2C-3C-4C\CT2235 (LTE 2C-3C-4C)(MODS).retx\

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2DL+W0
LC2=1.2DL+W30
LC3=1.2DL-W0
LC4=1.2DL-W30
LC5=0.9DL+W0
LC6=0.9DL+W30
LC7=0.9DL-W0
LC8=0.9DL-W30
LC9=1.2DL+Di+Wi0
LC10=1.2DL+Di+Wi30
LC11=1.2DL+Di-Wi0
LC12=1.2DL+Di-Wi30
LC13=1.2DL
LC15=1.2DL+1.5LL1
LC16=1.2DL+1.5LL2
LC17=1.2DL+WL0+1.5LLa1
LC18=1.2DL+WL30+1.5LLa1
LC19=1.2DL-WL0+1.5LLa1
LC20=1.2DL-WL30+1.5LLa1
LC21=1.2DL+WL0+1.5LLa2
LC22=1.2DL+WL30+1.5LLa2
LC23=1.2DL-WL0+1.5LLa2
LC24=1.2DL-WL30+1.5LLa2
LC25=1.2DL+WL0+1.5LLa3
LC26=1.2DL+WL30+1.5LLa3
LC27=1.2DL-WL0+1.5LLa3
LC28=1.2DL-WL30+1.5LLa3

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4-1_2X4-1_2X1_4	**2**	LC1 at 0.00%	**0.18**	**OK**	
		5	LC2 at 100.00%	0.15	OK	
		6	LC4 at 100.00%	0.16	OK	
	L 2-1_2X2-1_2X3_16	**43**	LC1 at 0.00%	0.17	OK	
		44	LC4 at 100.00%	0.15	OK	
		45	LC1 at 100.00%	**0.19**	**OK**	
	L 3X3X1_4	**1**	LC1 at 100.00%	0.50	With warnings	
		3	LC1 at 0.00%	**0.51**	**With warnings**	
		4	LC3 at 100.00%	0.41	With warnings	
		25	LC6 at 50.00%	0.15	OK	
		26	LC7 at 50.00%	0.16	OK	
		27	LC7 at 46.88%	0.16	OK	
	PIPE 2-1_2x0.203	**40**	LC4 at 16.41%	0.23	OK	
		41	LC1 at 16.41%	**0.24**	**OK**	
		42	LC3 at 83.59%	0.23	OK	
	PIPE 2x0.154	**7**	LC4 at 64.58%	0.22	OK	
		8	LC2 at 64.58%	0.29	OK	

	9	LC2 at 64.58%	0.24	OK
	10	LC2 at 64.58%	0.24	OK
	11	LC1 at 64.58%	**0.36**	**OK**
	12	LC1 at 64.58%	0.30	OK
	13	LC1 at 64.58%	0.32	OK
	14	LC3 at 64.58%	0.31	OK
	15	LC4 at 64.58%	0.22	OK
	46	LC1 at 0.00%	0.21	OK
	47	LC2 at 0.00%	0.20	OK
	48	LC1 at 100.00%	0.21	OK
T2L 2-1_2X2-1_2X3_16	**49**	LC10 at 100.00%	0.16	OK
	50	LC16 at 0.00%	**0.17**	**OK**
	51	LC1 at 0.00%	0.15	OK
T2L 3X3X1_4	**28**	LC3 at 100.00%	**0.23**	**OK**
	29	LC2 at 100.00%	0.20	OK
	30	LC4 at 100.00%	0.19	OK

Bentley

Current Date: 10/28/2019 11:16 AM
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File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2235\LTE 2C-3C-4C\CT2235 (LTE 2C-3C-4C)(MODS).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
2	-3.5074	0.00	-2.025	0
4	0.0037	0.00	-8.0936	0
11	-6.3456	-2.00	2.4909	0
12	-3.9306	-2.00	-1.692	0
13	-0.8891	-2.00	-6.96	0
14	-6.3456	4.00	2.4909	0
15	-3.9306	4.00	-1.692	0
16	-0.8891	4.00	-6.96	0
17	-1.3423	0.00	-0.775	0
20	7.013	0.00	4.0468	0
27	1.0156	-2.00	-6.7409	0
28	3.4306	-2.00	-2.558	0
29	6.4721	-2.00	2.71	0
30	1.0156	4.00	-6.7409	0
31	3.4306	4.00	-2.558	0
32	6.4721	4.00	2.71	0
33	1.3423	0.00	-0.775	0
34	0.00	0.00	4.05	0
36	-7.0111	0.00	4.0436	0
43	5.33	-2.00	4.25	0
44	0.50	-2.00	4.25	0

45	-5.583	-2.00	4.25	0
46	5.33	4.00	4.25	0
47	0.50	4.00	4.25	0
48	-5.583	4.00	4.25	0
49	0.00	0.00	1.55	0
50	0.00	0.00	2.225	0
55	0.00	0.00	-4.45	0
56	3.8538	0.00	2.225	0
57	-3.8538	0.00	2.225	0
58	-1.9269	0.00	-1.1125	0
59	1.9269	0.00	-1.1125	0
76	6.2989	2.00	2.81	0
81	-6.50	2.00	4.0436	0
82	6.513	2.00	4.0468	0
83	-0.2463	2.00	-7.6606	0
84	-6.7611	2.00	3.617	0
85	6.7574	2.00	3.617	0
86	0.2481	2.00	-7.6638	0
87	-5.4111	2.00	4.0436	0
88	5.4111	2.00	4.0468	0
91	6.2074	2.00	2.6644	0
93	-4.40	2.00	4.0436	0
94	4.40	2.00	4.0468	0
95	-1.3019	2.00	-5.8323	0
96	-5.7046	2.00	1.7871	0
97	5.7019	2.00	1.7887	0
98	1.3046	2.00	-5.8339	0
100	-5.7482	0.00	3.3162	0
102	5.7493	0.00	3.3181	0
105	0.0022	0.00	-6.6362	0
108	0.00	-2.50	-1.50	0
109	1.299	-2.50	0.75	0
110	-1.299	-2.50	0.75	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
17	1	1	1	1	1	1
33	1	1	1	1	1	1
49	1	1	1	1	1	1
108	1	1	1	1	1	1
109	1	1	1	1	1	1
110	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	36	4		L 3X3X1_4	A36	0.00	0.00	0.00
2	17	2		HSS_SQR 4-1_2X4-1_2...	A500 GrB rectangular	0.00	0.00	0.00
3	4	20		L 3X3X1_4	A36	0.00	0.00	0.00
4	20	36		L 3X3X1_4	A36	0.00	0.00	0.00
5	34	49		HSS_SQR 4-1_2X4-1_2...	A500 GrB rectangular	0.00	0.00	0.00
6	18	33		HSS_SQR 4-1_2X4-1_2...	A500 GrB rectangular	0.00	0.00	0.00
7	46	43		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
8	47	44		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
9	48	45		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
10	14	11		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
11	15	12		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
12	16	13		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
13	30	27		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
14	31	28		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
15	32	29		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
25	57	56		L 3X3X1_4	A36	0.00	0.00	0.00
26	56	55		L 3X3X1_4	A36	0.00	0.00	0.00
27	55	57		L 3X3X1_4	A36	0.00	0.00	0.00
28	57	36		T2L 3X3X1_4	A36	0.00	0.00	0.00
29	55	4		T2L 3X3X1_4	A36	0.00	0.00	0.00
30	56	20		T2L 3X3X1_4	A36	0.00	0.00	0.00
40	81	82		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
41	85	86		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
42	83	84		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
43	88	91		L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
44	92	89		L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
45	90	87		L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
46	94	97		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
47	98	95		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
48	96	93		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
49	100	110		T2L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
50	102	109		T2L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
51	105	108		T2L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
7	0.00	2	1.00	0.00	0.00
8	0.00	2	1.00	0.00	0.00
9	0.00	2	1.00	0.00	0.00
10	0.00	2	1.00	0.00	0.00
11	0.00	2	1.00	0.00	0.00
12	0.00	2	1.00	0.00	0.00
13	0.00	2	1.00	0.00	0.00
14	0.00	2	1.00	0.00	0.00
15	0.00	2	1.00	0.00	0.00
28	180.00	0	0.00	0.00	0.00
29	180.00	0	0.00	0.00	0.00
30	180.00	0	0.00	0.00	0.00
43	90.00	0	0.00	0.00	0.00
44	90.00	0	0.00	0.00	0.00
45	90.00	0	0.00	0.00	0.00

Rigid end offsets

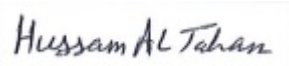
Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
2	0.00	-3.00	0.00	0.00	-3.00	0.00
5	0.00	-3.00	0.00	0.00	-3.00	0.00
6	0.00	-3.00	0.00	0.00	-3.00	0.00
46	0.00	2.00	0.00	0.00	2.00	0.00
47	0.00	2.00	0.00	0.00	2.00	0.00
48	0.00	2.00	0.00	0.00	2.00	0.00

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**170.5 ft Monopole**
ATC Site Name	:	**Old Lyme South CT, CT**
ATC Asset Number	:	**411178**
Engineering Number	:	**OAA754039_C3_01**
Proposed Carrier	:	**AT&T MOBILITY**
Carrier Site Name	:	**OLD LYME-MILE CREEK**
Carrier Site Number	:	**CT2235**
Site Location	:	**125 Mile Creek Road** **OLD LYME, CT 06371-1718** **41.305700,-72.297400**
County	:	**New London**
Date	:	**November 8, 2019**
Max Usage	:	**54%**
Result	:	**Pass**

Prepared By:
Hussam Al Tahan, E.I.
Structural Engineer I



Reviewed By:

COA: PEC.0001553

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Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 170.5 ft monopole to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	EEI Project #11723 Rev 1, dated September 19, 2003 Mapping by TEP Job #68269-80551, dated April 25, 2016
Foundation Drawing	EEI Project #11723 Rev 1, dated October 21, 2003
Geotechnical Report	Clarence Welti Site #CT54XC701, dated October 17, 2003

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	105 mph (3-Second Gust, V_{asd}) / 135 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.16, S_1 = 0.06
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
177.0	1	Generic 12' Dipole	Flush	(7) 1/2" Coax	TOWN OF OLD LYME, CT
176.0	1	Decibel DB201-A			
171.0	1	Generic E-911 GPS	T-Arm w/ Reinforcement	(4) 1 5/8" (1.63"-41.3mm) Fiber (9) 1 5/8" Coax (1) 1/2" Coax	T-MOBILE
	3	Ericsson KRY 112 144/1			
	3	Ericsson Radio 4449 B12,B71			
	3	RFS APXVAARR24_43-U-NA20			
	3	Ericsson AIR 21, 1.3M, B4A B2P			
	3	Ericsson AIR 21, 1.3 M, B2A B4P			
161.0	6	Commscope SBNHH-1D65B	Low Profile Platform	(18) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Alcatel-Lucent RRH2X60-1900			
	3	Alcatel-Lucent RRH2x60 700			
	2	Amphenol Antel LPA-80080-6CF-EDIN-2			
	4	RFS APL866513-42T0			
	1	Antel BXA-70063-4CF-EDIN-10			
	2	RFS DB-T1-6Z-8AB-0Z			
	2	Antel BXA-70063/6CF_			
	1	VZW Unused Reserve: 520 sq in			
	3	Alcatel-Lucent B66 RRH4x45			
149.0	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	Low Profile Platform	(4) 1 1/4" Hybriflex Cable (6) 1 5/8" Coax (1) 1/2" Coax	SPRINT NEXTEL
	3	Alcatel-Lucent 1900 MHz 4X45 RRH			
	6	Alcatel-Lucent RRH2x50-08			
	1	Generic GPS			
	3	RFS APXVTM14-ALU-I20			
	3	Commscope NNVV-65B-R4			
140.0	6	Powerwave Allgon TT19-08BP111-001	-	(1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Coax (1) 2" conduit	AT&T MOBILITY
	1	Raycap DC6-48-60-18-8F ("Squid")			
	3	Powerwave Allgon 7770.00			
111.0	1	Generic 12' Dipole	Stand-Off	(2) 1/2" Coax	TOWN OF OLD LYME, CT
74.0	1	Generic GPS	Stand-Off	(1) 1/2" Coax	SPRINT NEXTEL
	1	Generic GPS			

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
140.0	6	KMW AM-X-CD-14-65-00T-RET	Low Profile Platform	-	AT&T MOBILITY
	6	Ericsson RRUS-11			

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
140.0	3	Ericsson RRUS 8843 B2, B66A	Platform w/ Handrails (SitePro1 P/N PRK-1245L w/ handrail kit, SitePro1 P/N HRK14-3HD, or approved equal)	(1) 0.39" (10mm) Fiber Trunk (3) 0.78" (19.7mm) 8 AWG 6 (1) 2" conduit	AT&T MOBILITY
	3	Ericsson RRUS 4478 B14 (15")			
	3	Ericsson RRUS 4449 B5, B12			
	1	Raycap DC9-48-60-24-8C-EV			
	6	CCI DMP65R-BU4D			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	43%	Pass
Shaft	54%	Pass
Base Plate	46%	Pass
Flange	13%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	4,460.4	43%
Axial (Kips)	71.2	13%
Shear (Kips)	36.5	18%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
140.0	Ericsson RRUS 8843 B2, B66A	AT&T MOBILITY	0.757	0.631
	Ericsson RRUS 4478 B14 (15")			
	Ericsson RRUS 4449 B5, B12			
	Raycap DC9-48-60-24-8C-EV			
	CCI DMP65R-BU4D			

***Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G**

AMERICAN TOWER®
CORPORATION

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

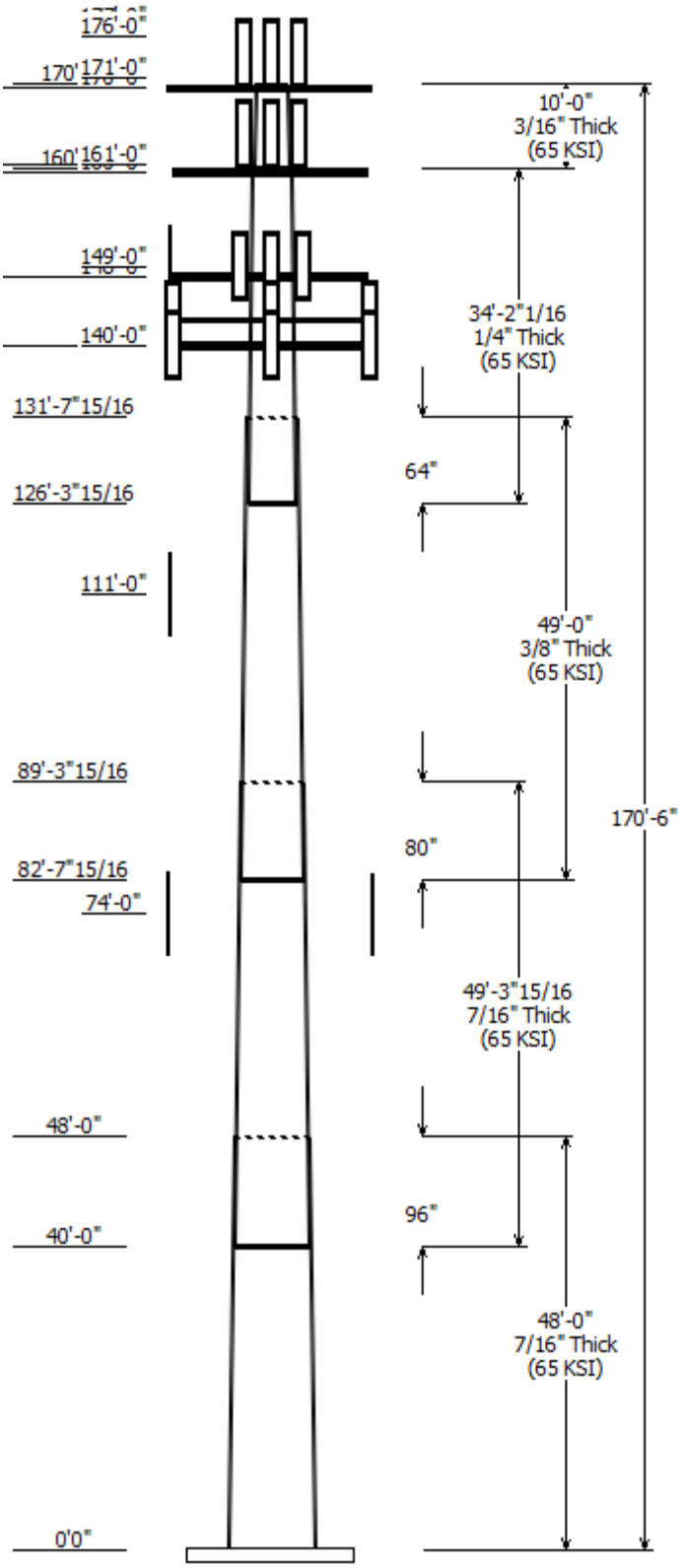
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Job Information

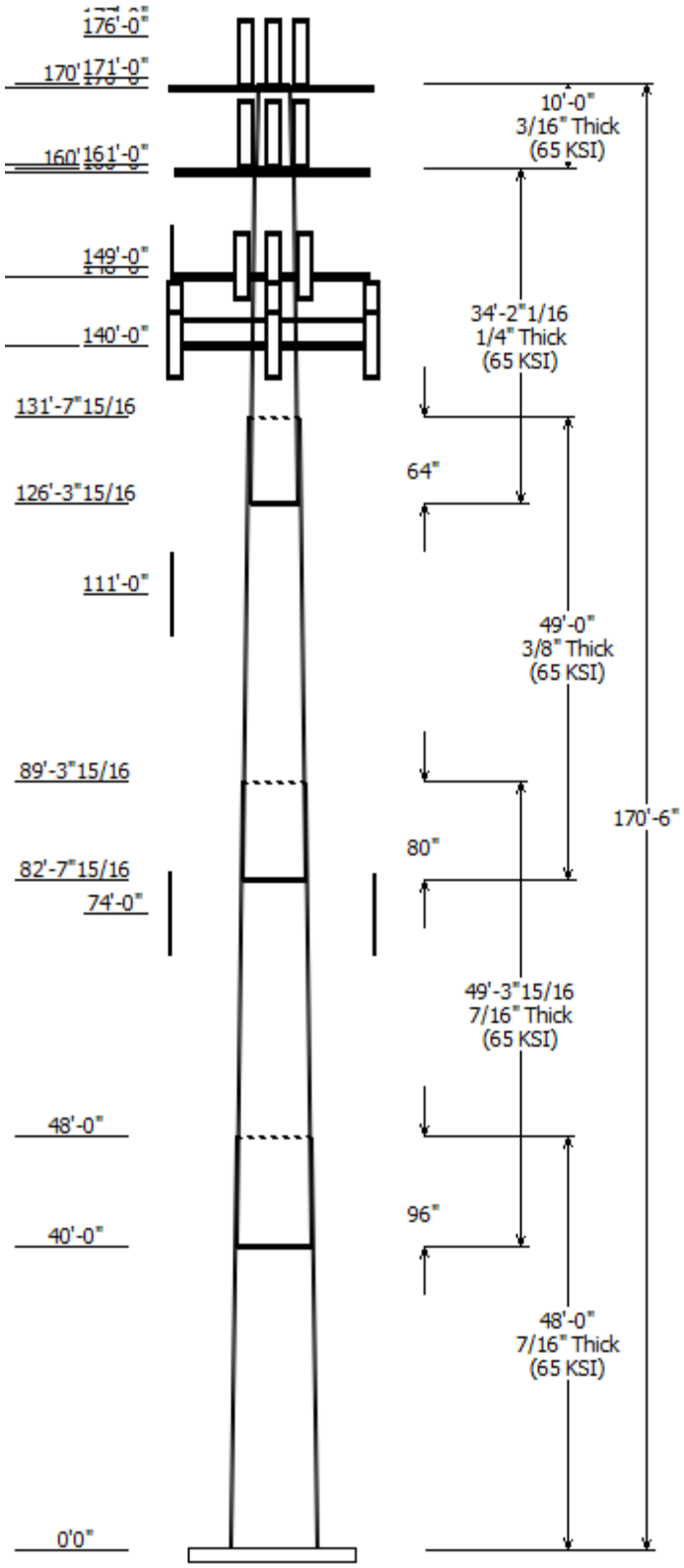
Client :	AT&T MOBILITY		
Pole :	411178	Code:	ANSI/TIA-222-G
Location :	Old Lyme South CT, CT		
Description :	170.5 ft Monopole	Struct Class :	II
Shape :	18 Sides	Exposure :	B
Height :	170.50 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.262461 (in/ft)		

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	48.000	56.28	69.00	0.438		0.000	18 Sides	65
2	49.330	46.20	59.27	0.438	Slip Joint	96.000	18 Sides	65
3	49.000	35.73	48.71	0.375	Slip Joint	80.000	18 Sides	65
4	34.170	28.59	37.64	0.250	Slip Joint	64.000	18 Sides	65
5	10.000	26.00	27.50	0.188	Butt Joint	0.000	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
177.000	183.500	1	Generic 12' Dipole
176.000	181.500	1	Decibel DB201-A
171.000	171.500	1	Generic E-911 GPS
170.500	171.000	3	RFS APXVAARR24_43-U-NA20
170.500	171.000	3	Ericsson AIR 21, 1.3M, B4A B2P
170.500	171.000	3	Ericsson AIR 21, 1.3 M, B2A B4
170.500	171.000	3	Ericsson Radio 4449 B12,B71
170.500	171.000	3	Ericsson KRY 112 144/1
170.000	170.000	3	Round T-Arm
161.000	162.000	2	Amphenol Antel LPA-80080-
161.000	162.000	6	Commscope SBNHH-1D65B
161.000	162.000	2	Antel BXA-70063/6CF_
161.000	162.000	2	RFS DB-T1-6Z-8AB-0Z
161.000	162.000	1	Antel BXA-70063-4CF-EDIN-10
161.000	162.000	4	RFS APL866513-42T0
161.000	162.000	3	Alcatel-Lucent B66 RRH4x45
161.000	162.000	3	Alcatel-Lucent RRH2x60 700
161.000	162.000	3	Alcatel-Lucent RRH2X60-1900
161.000	161.000	1	VZW Unused Reserve: 520 sq
160.000	160.000	1	Flat Low Profile Platform
149.000	149.000	3	Commscope NNVV-65B-R4
149.000	149.000	3	RFS APXVTM14-ALU-I20
149.000	149.000	3	Alcatel-Lucent TD-RRH8x20-25
149.000	149.000	3	Alcatel-Lucent 1900 MHz 4X45
149.000	149.000	6	Alcatel-Lucent RRH2x50-08
149.000	149.000	1	Generic GPS
148.000	148.000	1	Flat Low Profile Platform
140.000	140.000	1	Generic Flat Platform with Han
140.000	140.000	6	CCI DMP65R-BU4D
140.000	143.000	3	Powerwave Allgon 7770.00
140.000	140.000	1	Raycap DC9-48-60-24-8C-EV
140.000	140.000	3	Ericsson RRUS 4449 B5, B12
140.000	140.000	3	Ericsson RRUS 4478 B14 (15")
140.000	140.000	3	Ericsson RRUS 8843 B2, B66A
140.000	143.000	1	Raycap DC6-48-60-18-8F
140.000	143.000	6	Powerwave Allgon TT19-
111.000	111.000	1	Generic 12' Dipole
74.000	74.000	1	Generic GPS
74.000	74.000	1	Generic GPS



Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	74.000	1/2" Coax	No
0.000	111.0	1/2" Coax	No
0.000	140.0	0.39" (10mm)	No
0.000	140.0	0.39" (10mm)	No
0.000	140.0	0.78" (19.7mm) 8	No
0.000	140.0	0.78" (19.7mm) 8	No
0.000	140.0	1 5/8" Coax	No
0.000	140.0	2" conduit	No
0.000	140.0	2" conduit	No
0.000	149.0	1 1/4" Hybriflex	No
0.000	149.0	1 5/8" Coax	No
0.000	149.0	1/2" Coax	No
0.000	161.0	1 5/8" Coax	No
0.000	161.0	1 5/8" Hybriflex	No
0.000	162.0	1 5/8" Coax	No
0.000	171.0	1 5/8" (1.63"-	No
0.000	171.0	1 5/8" Coax	Yes
0.000	171.0	1 5/8" Coax	No
0.000	171.0	1/2" Coax	No
0.000	176.0	1/2" Coax	No
0.000	176.0	1/2" Coax	No
0.000	177.0	1/2" Coax	No

Load Cases

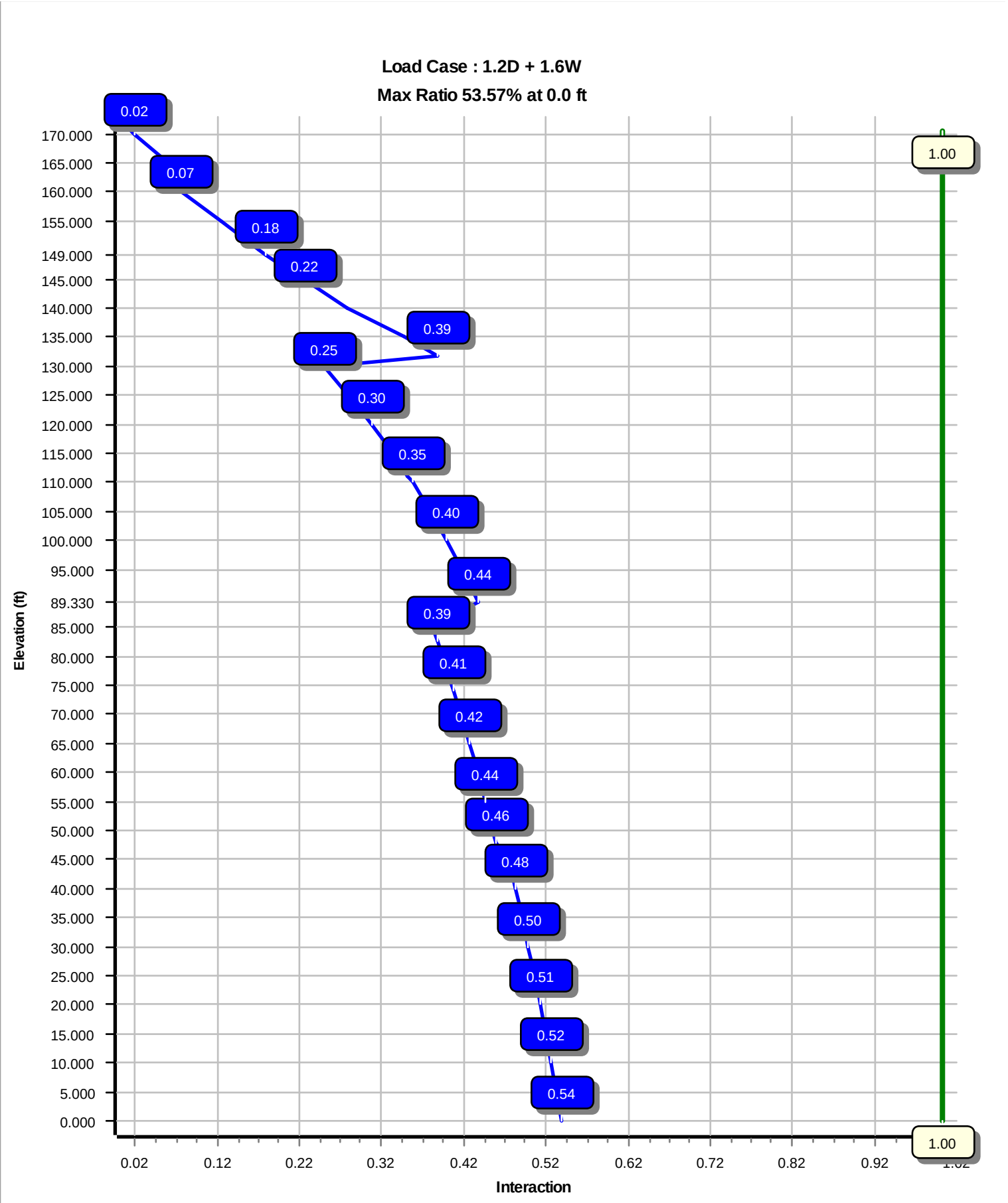
1.2D + 1.6W	105 mph with No Ice
0.9D + 1.6W	105 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	4460.41	36.51	71.21
0.9D + 1.6W	4418.48	36.48	53.40
1.2D + 1.0Di + 1.0Wi	1149.91	9.69	100.70
(1.2 + 0.2Sds) * DL + E ELFM	236.95	1.78	70.91
(1.2 + 0.2Sds) * DL + E EMAM	278.30	2.19	70.91
(0.9 - 0.2Sds) * DL + E ELFM	234.55	1.78	49.75
(0.9 - 0.2Sds) * DL + E EMAM	275.29	2.19	49.75
1.0D + 1.0W	809.43	6.66	59.37

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000


Load Case : 1.2D + 1.6W
Max Ratio 53.57% at 0.0 ft
0.02
0.07
0.18
0.22
0.39
0.25
0.30
0.35
0.40
0.44
0.39
0.41
0.42
0.44
0.46
0.48
0.50
0.51
0.52
0.54
1.00
1.00
170.000
165.000
160.000
155.000
149.000
145.000
140.000
135.000
130.000
125.000
120.000
115.000
110.000
105.000
100.000
95.000
89.330
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number: 411178 Code: ANSI/TIA-222-G

Site Name: Old Lyme South CT, CT Engineering Number:OAA754039_C3_01 11/8/2019 3:27:49 PM

Customer: AT&T MOBILITY

Analysis Parameters

Location :	New London County, CT	Height (ft) :	170.5
Code :	ANSI/TIA-222-G	Base Diameter (in) :	69.00
Shape :	18 Sides	Top Diameter (in) :	26.00
Pole Type :	Custom	Taper (in/ft) :	0.262
Pole Manfacturer :	EEI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	105 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	2.13				
T_L (sec):	6	p:	1	C_s:	0.030
S_s:	0.160	S_1:	0.060	C_s Max:	0.030
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.171	S_{d1}:	0.096		

Load Cases

1.2D + 1.6W	105 mph with No Ice
0.9D + 1.6W	105 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	48.000	0.4375	65		0.00	14,108	69.00	0.00	95.20	56543.5	26.40	157.71	56.28	48.00	77.54	30550.4	21.27	128.64	0.265000
2-18	49.330	0.4375	65	Slip	96.00	12,191	59.27	40.00	81.70	35734.3	22.48	135.49	46.20	89.33	63.55	16816.1	17.21	105.61	0.265000
3-18	49.000	0.3750	65	Slip	80.00	8,305	48.71	82.66	57.54	16990.6	21.50	129.92	35.73	131.66	42.08	6647.9	15.39	95.29	0.265000
4-18	34.170	0.2500	65	Slip	64.00	3,033	37.64	126.33	29.67	5243.4	25.14	150.59	28.59	160.50	22.49	2282.4	18.76	114.37	0.265000
5-18	10.000	0.1875	65	Butt	0.00	538	27.50	160.50	16.25	1531.9	24.45	146.67	26.00	170.50	15.36	1293.1	23.04	138.67	0.150000
				Shaft Weight		38,174													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
177.00	Generic 12' Dipole	1	1.00	6.500	40.00	4.510	1.00	175.32	11.773	1.00
176.00	Decibel DB201-A	1	1.00	5.500	25.00	3.130	1.00	125.74	13.811	1.00
171.00	Generic E-911 GPS	1	0.80	0.500	5.00	0.580	1.00	31.00	1.029	1.00
170.50	Ericsson KRY 112 144/1	3	0.80	0.500	11.00	0.350	0.50	21.92	0.761	0.50
170.50	Ericsson Radio 4449 B12,B71	3	0.80	0.500	74.00	1.640	0.50	130.82	2.497	0.50
170.50	Ericsson AIR 21, 1.3 M, B2A B4P	3	0.80	0.500	83.00	6.050	0.71	231.11	8.244	0.71
170.50	Ericsson AIR 21, 1.3M, B4A B2P	3	0.80	0.500	81.50	6.090	0.70	229.06	8.286	0.70
170.50	RFS APXVAARR24_43-U-NA20	3	0.80	0.500	127.90	20.240	0.63	526.30	24.003	0.63
170.00	Round T-Arm w/Reinforcement	3	0.75	0.000	405.00	9.700	0.67	748.03	18.053	0.67
161.00	Alcatel-Lucent RRH2X60-1900	3	0.80	1.000	43.00	1.880	0.50	98.83	2.828	0.50
161.00	Alcatel-Lucent RRH2x60 700	3	0.80	1.000	56.70	2.150	0.67	125.37	3.161	0.67
161.00	Alcatel-Lucent B66 RRH4x45	3	0.80	1.000	67.00	2.580	0.67	138.49	3.717	0.67
161.00	VZW Unused Reserve: 520 sq in	1	0.80	0.000	209.00	3.610	0.90	355.91	6.148	0.90
161.00	RFS APL866513-42T0	4	0.80	1.000	15.70	4.050	0.76	125.66	5.926	0.76
161.00	Antel BXA-70063-4CF-EDIN-10	1	0.80	1.000	9.90	4.710	1.00	112.46	6.567	1.00
161.00	RFS DB-T1-6Z-8AB-0Z	2	0.80	1.000	44.00	4.800	0.72	170.99	6.234	0.72
161.00	Antel BXA-70063/6CF_	2	0.80	1.000	17.00	7.570	0.73	159.69	10.353	0.73
161.00	Commscope SBNHH-1D65B	6	0.80	1.000	50.70	8.170	0.69	227.79	11.024	0.69
161.00	Amphenol Antel LPA-80080-6CF-	2	0.80	1.000	21.00	8.630	0.71	190.60	11.390	0.71
160.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,152.40	45.325	1.00
149.00	Generic GPS	1	0.80	0.000	10.00	0.900	1.00	39.29	1.540	1.00
149.00	Alcatel-Lucent RRH2x50-08	6	0.80	0.000	52.90	1.700	0.50	112.22	2.563	0.50
149.00	Alcatel-Lucent 1900 MHz 4X45	3	0.80	0.000	60.00	2.320	0.67	140.67	3.401	0.67
149.00	Alcatel-Lucent TD-RRH8x20-25	3	0.80	0.000	70.00	4.050	0.61	164.61	5.380	0.61
149.00	RFS APXVTM14-ALU-I20	3	0.80	0.000	56.20	6.340	0.66	194.04	8.520	0.66
149.00	Commscope NNVV-65B-R4	3	0.80	0.000	77.40	12.270	0.64	328.94	15.077	0.64
148.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,147.69	45.186	1.00
140.00	Powerwave Allgon TT19-	6	0.80	3.000	16.00	0.550	0.50	36.06	1.055	0.50
140.00	Raycap DC6-48-60-18-8F	1	0.80	3.000	31.80	1.470	1.00	93.09	2.164	1.00
140.00	Ericsson RRUS 8843 B2, B66A	3	0.80	0.000	72.00	1.640	0.50	132.89	2.480	0.50
140.00	Ericsson RRUS 4478 B14 (15")	3	0.80	0.000	59.40	1.650	0.50	108.77	2.492	0.50
140.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.970	0.50	135.02	2.897	0.50
140.00	Raycap DC9-48-60-24-8C-EV	1	0.80	0.000	16.00	4.790	1.00	144.24	6.252	1.00
140.00	Powerwave Allgon 7770.00	3	0.80	3.000	35.00	5.510	0.65	168.74	6.555	0.65
140.00	CCI DMP65R-BU4D	6	0.80	0.000	67.90	8.280	0.62	247.31	10.291	0.62
140.00	Generic Flat Platform with	1	1.00	0.000	2,500.00	42.400	1.00	4,264.70	63.233	1.00
111.00	Generic 12' Dipole	1	1.00	0.000	40.00	4.510	1.00	169.59	11.466	1.00
74.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	37.24	1.495	1.00
74.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	37.24	1.495	1.00
Totals	Num Loadings:39	99			11,608.80			26,042.26		

Linear Appurtenance Properties

Load Case Azimuth (deg) : 0

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax / Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	177.00	2	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	TOWN OF OLD
0.00	176.00	4	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	TOWN OF OLD
0.00	176.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	TOWN OF OLD
0.00	171.00	4	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	171.00	6	1 5/8" Coax	1.98	0.82	N	6	1.00	1.00	90	1.00	Y	T-MOBILE
0.00	171.00	3	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	T- MOBILE
0.00	171.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	162.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	161.00	12	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	161.00	2	1 5/8" Hybriflex	1.98	1.30	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	149.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	149.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	149.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	140.00	1	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	1	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	3	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	12	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	1	2" conduit	2.38	3.65	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	1	2" conduit	2.38	3.65	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	111.00	2	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	TOWN OF OLD
0.00	74.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.4375	69.000	95.204	56,543.5	26.40	157.71	70.4	1614.	0.0	0.0
5.00		0.4375	67.675	93.364	53,328.2	25.86	154.69	71.0	1552.	0.0	1,604.1
10.00		0.4375	66.350	91.524	50,237.2	25.33	151.66	71.6	1491.	0.0	1,572.8
15.00		0.4375	65.025	89.685	47,268.1	24.80	148.63	72.2	1431.	0.0	1,541.5
20.00		0.4375	63.700	87.845	44,418.3	24.26	145.60	72.9	1373.	0.0	1,510.2
25.00		0.4375	62.375	86.005	41,685.3	23.73	142.57	73.5	1316.	0.0	1,478.9
30.00		0.4375	61.050	84.165	39,066.9	23.19	139.54	74.1	1260.	0.0	1,447.6
35.00		0.4375	59.725	82.325	36,560.5	22.66	136.51	74.7	1205.	0.0	1,416.3
40.00	Bot - Section 2	0.4375	58.400	80.485	34,163.6	22.13	133.49	75.4	1152.	0.0	1,385.0
45.00		0.4375	57.075	78.645	31,873.9	21.59	130.46	76.0	1099.	0.0	2,728.1
48.00	Top - Section 1	0.4375	57.155	78.757	32,009.1	21.62	130.64	76.0	1103.	0.0	1,606.8
50.00		0.4375	56.625	78.021	31,120.1	21.41	129.43	76.2	1082.	0.0	533.5
55.00		0.4375	55.300	76.181	28,970.0	20.88	126.40	76.8	1031.	0.0	1,311.8
60.00		0.4375	53.975	74.341	26,921.3	20.34	123.37	77.5	982.4	0.0	1,280.5
65.00		0.4375	52.650	72.501	24,971.6	19.81	120.34	78.1	934.2	0.0	1,249.2
70.00		0.4375	51.325	70.661	23,118.3	19.28	117.31	78.7	887.2	0.0	1,217.9
74.00		0.4375	50.265	69.189	21,703.5	18.85	114.89	79.2	850.4	0.0	951.8
75.00		0.4375	50.000	68.821	21,359.1	18.74	114.29	79.4	841.4	0.0	234.8
80.00		0.4375	48.675	66.981	19,691.4	18.21	111.26	80.0	796.8	0.0	1,155.3
82.66	Bot - Section 3	0.4375	47.969	66.001	18,839.7	17.92	109.64	80.3	773.6	0.0	602.6
85.00		0.4375	47.350	65.142	18,112.9	17.67	108.23	80.6	753.4	0.0	975.9
89.33	Top - Section 2	0.3750	46.953	55.437	15,195.2	20.67	125.21	77.1	637.4	0.0	1,774.9
90.00		0.3750	46.775	55.226	15,022.1	20.58	124.73	77.2	632.6	0.0	126.1
95.00		0.3750	45.450	53.649	13,771.5	19.96	121.20	77.9	596.8	0.0	926.2
100.0		0.3750	44.125	52.072	12,592.4	19.34	117.67	78.7	562.1	0.0	899.4
105.0		0.3750	42.800	50.495	11,482.6	18.71	114.13	79.4	528.4	0.0	872.5
110.0		0.3750	41.475	48.918	10,440.0	18.09	110.60	80.1	495.8	0.0	845.7
111.0		0.3750	41.210	48.602	10,239.4	17.97	109.89	80.3	489.4	0.0	165.9
115.0		0.3750	40.150	47.340	9,462.5	17.47	107.07	80.9	464.2	0.0	652.9
120.0		0.3750	38.825	45.763	8,548.0	16.85	103.53	81.6	433.6	0.0	792.0
125.0		0.3750	37.500	44.186	7,694.4	16.22	100.00	82.3	404.1	0.0	765.2
126.3	Bot - Section 4	0.3750	37.148	43.767	7,477.3	16.06	99.06	82.5	396.5	0.0	199.0
130.0		0.3750	36.175	42.609	6,899.6	15.60	96.47	82.6	375.7	0.0	905.1
131.6	Top - Section 3	0.2500	36.234	28.552	4,671.1	24.15	144.94	73.0	253.9	0.0	402.3
135.0		0.2500	35.350	27.851	4,335.2	23.52	141.40	73.7	241.5	0.0	320.2
140.0		0.2500	34.025	26.799	3,862.5	22.59	136.10	74.8	223.6	0.0	464.9
145.0		0.2500	32.700	25.748	3,425.5	21.65	130.80	75.9	206.3	0.0	447.0
148.0		0.2500	31.905	25.117	3,179.9	21.09	127.62	76.6	196.3	0.0	259.6
149.0		0.2500	31.640	24.907	3,100.7	20.91	126.56	76.8	193.0	0.0	85.1
150.0		0.2500	31.375	24.697	3,022.8	20.72	125.50	77.0	189.8	0.0	84.4
155.0		0.2500	30.050	23.645	2,653.0	19.78	120.20	78.1	173.9	0.0	411.2
160.0		0.2500	28.725	22.594	2,314.6	18.85	114.90	79.2	158.7	0.0	393.4
160.5	Top - Section 4	0.2500	28.592	22.489	2,282.4	18.76	114.37	79.3	157.2	0.0	38.4
160.5	Bot - Section 5	0.1875	27.500	16.254	1,531.9	24.45	146.67	72.6	109.7	0.0	
161.0		0.1875	27.425	16.209	1,519.3	24.38	146.27	72.7	109.1	0.0	27.6
165.0		0.1875	26.825	15.852	1,421.1	23.82	143.07	73.4	104.3	0.0	218.2
170.0		0.1875	26.075	15.406	1,304.4	23.11	139.07	74.2	98.5	0.0	265.9
170.5		0.1875	26.000	15.361	1,293.1	23.04	138.67	74.3	98.0	0.0	26.2
											38,174.1

Load Case: 1.2D + 1.6W 105 mph with No Ice 23 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		310.4	0.0					0.0	0.0	310.4	0.0	0.0	0.0
5.00		614.8	1,925.0					0.0	372.7	614.8	2,297.6	0.0	0.0
10.00		602.8	1,887.4					0.0	372.7	602.8	2,260.1	0.0	0.0
15.00		590.7	1,849.8					0.0	372.7	590.7	2,222.5	0.0	0.0
20.00		578.7	1,812.3					0.0	372.7	578.7	2,184.9	0.0	0.0
25.00		566.6	1,774.7					0.0	372.7	566.6	2,147.4	0.0	0.0
30.00		561.2	1,737.2					0.0	372.7	561.2	2,109.8	0.0	0.0
35.00		567.1	1,699.6					0.0	372.7	567.1	2,072.2	0.0	0.0
40.00	Bot - Section 2	580.5	1,662.0					0.0	372.7	580.5	2,034.7	0.0	0.0
45.00		472.3	3,273.7					0.0	372.7	472.3	3,646.4	0.0	0.0
48.00	Top - Section 1	296.9	1,928.2					0.0	223.6	296.9	2,151.8	0.0	0.0
50.00		417.5	640.2					0.0	149.1	417.5	789.2	0.0	0.0
55.00		597.7	1,574.1					0.0	372.7	597.7	1,946.8	0.0	0.0
60.00		598.0	1,536.6					0.0	372.7	598.0	1,909.2	0.0	0.0
65.00		596.9	1,499.0					0.0	372.7	596.9	1,871.7	0.0	0.0
70.00		535.2	1,461.4					0.0	372.7	535.2	1,834.1	0.0	0.0
74.00	Appurtenance(s)	296.3	1,142.1	77.0	0.0	0.0	24.0	0.0	298.1	373.4	1,464.2	0.0	0.0
75.00		353.3	281.8					0.0	74.4	353.3	356.1	0.0	0.0
80.00		449.8	1,386.3					0.0	371.8	449.8	1,758.1	0.0	0.0
82.66	Bot - Section 3	293.5	723.1					0.0	198.0	293.5	921.1	0.0	0.0
85.00		391.7	1,171.1					0.0	173.7	391.7	1,344.9	0.0	0.0
89.33	Top - Section 2	292.8	2,129.9					0.0	321.9	292.8	2,451.9	0.0	0.0
90.00		328.2	151.4					0.0	49.8	328.2	201.2	0.0	0.0
95.00		574.3	1,111.4					0.0	371.8	574.3	1,483.2	0.0	0.0
100.00		565.8	1,079.2					0.0	371.8	565.8	1,451.0	0.0	0.0
105.00		556.5	1,047.0					0.0	371.8	556.5	1,418.8	0.0	0.0
110.00		330.4	1,014.8					0.0	371.8	330.4	1,386.6	0.0	0.0
111.00	Appurtenance(s)	270.7	199.1	216.7	0.0	0.0	48.0	0.0	74.4	487.4	321.5	0.0	0.0
115.00		481.3	783.5					0.0	296.0	481.3	1,079.5	0.0	0.0
120.00		524.5	950.4					0.0	370.0	524.5	1,320.4	0.0	0.0
125.00		327.3	918.2					0.0	370.0	327.3	1,288.2	0.0	0.0
126.33	Bot - Section 4	255.7	238.8					0.0	98.4	255.7	337.2	0.0	0.0
130.00		271.7	1,086.1					0.0	271.6	271.7	1,357.7	0.0	0.0
131.66	Top - Section 3	250.3	482.7					0.0	123.1	250.3	605.8	0.0	0.0
135.00		409.9	384.2					0.0	246.9	409.9	631.1	0.0	0.0
140.00	Appurtenance(s)	480.3	557.9	4,535.7	0.0	1,718.7	4,516.1	0.0	370.0	5,016.0	5,443.9	0.0	0.0
145.00		375.3	536.4					0.0	248.7	375.3	785.1	0.0	0.0
148.00	Appurtenance(s)	184.2	311.6	1,361.4	0.0	0.0	1,800.0	0.0	149.2	1,545.7	2,260.8	0.0	0.0
149.00	Appurtenance(s)	91.0	102.1	2,265.6	0.0	0.0	1,341.8	0.0	49.7	2,356.5	1,493.7	0.0	0.0
150.00		267.5	101.3					0.0	38.9	267.5	140.1	0.0	0.0
155.00		436.8	493.5					0.0	194.3	436.8	687.8	0.0	0.0
160.00	Appurtenance(s)	235.6	472.0	1,392.1	0.0	0.0	1,800.0	0.0	194.3	1,627.7	2,466.3	0.0	0.0
160.50	Top - Section 4	41.5	46.0					0.0	19.4	41.5	65.5	0.0	0.0
161.00	Appurtenance(s)	183.1	33.1	4,138.1	0.0	3,999.2	1,500.0	0.0	19.4	4,321.2	1,552.6	0.0	0.0
165.00		364.1	261.8					0.0	78.0	364.1	339.8	0.0	0.0
170.00	Appurtenance(s)	221.4	319.1	793.6	0.0	0.0	1,458.0	0.0	90.1	1,015.0	1,867.2	0.0	0.0
170.50	Appurtenance(s)	20.0	31.4	2,910.0	0.0	1,455.0	1,358.6	0.0	9.0	2,930.0	1,399.1	0.0	0.0

Load Case: 1.2D + 1.6W — 105 mph with No Ice — 23 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.20
Wind Load Factor :1.60

Wind Importance Factor 1.00

Totals:	36,302.4	71,158.7	0.00	0.00

Load Case: 1.2D + 1.6W 105 mph with No Ice 23 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-71.21	-36.51	0.00	-4,460.41	0.00	4,460.41	6,027.96	3,013.98	17,007.2	8,516.24	0.00	0.00	0.536
5.00	-68.84	-36.03	0.00	-4,277.87	0.00	4,277.87	5,964.25	2,982.12	16,500.1	8,262.35	0.06	-0.11	0.529
10.00	-66.51	-35.55	0.00	-4,097.74	0.00	4,097.74	5,898.45	2,949.22	15,994.5	8,009.14	0.24	-0.22	0.523
15.00	-64.22	-35.07	0.00	-3,920.00	0.00	3,920.00	5,830.57	2,915.29	15,490.5	7,756.77	0.53	-0.34	0.517
20.00	-61.97	-34.61	0.00	-3,744.63	0.00	3,744.63	5,760.62	2,880.31	14,988.5	7,505.43	0.94	-0.45	0.510
25.00	-59.76	-34.14	0.00	-3,571.60	0.00	3,571.60	5,688.58	2,844.29	14,489.0	7,255.28	1.48	-0.57	0.503
30.00	-57.59	-33.68	0.00	-3,400.88	0.00	3,400.88	5,614.46	2,807.23	13,992.1	7,006.49	2.14	-0.69	0.496
35.00	-55.45	-33.20	0.00	-3,232.48	0.00	3,232.48	5,538.27	2,769.13	13,498.4	6,759.23	2.92	-0.81	0.488
40.00	-53.35	-32.71	0.00	-3,066.47	0.00	3,066.47	5,459.99	2,729.99	13,008.0	6,513.68	3.83	-0.93	0.481
45.00	-49.66	-32.26	0.00	-2,902.93	0.00	2,902.93	5,379.63	2,689.82	12,521.4	6,270.01	4.87	-1.05	0.472
48.00	-47.48	-31.97	0.00	-2,806.15	0.00	2,806.15	5,384.54	2,692.27	12,550.6	6,284.66	5.56	-1.13	0.455
50.00	-46.65	-31.61	0.00	-2,742.21	0.00	2,742.21	5,351.87	2,675.93	12,357.0	6,187.71	6.05	-1.18	0.452
55.00	-44.65	-31.07	0.00	-2,584.15	0.00	2,584.15	5,268.72	2,634.36	11,875.9	5,946.82	7.35	-1.30	0.443
60.00	-42.69	-30.52	0.00	-2,428.81	0.00	2,428.81	5,183.50	2,591.75	11,399.4	5,708.21	8.78	-1.43	0.434
65.00	-40.77	-29.96	0.00	-2,276.24	0.00	2,276.24	5,096.20	2,548.10	10,927.8	5,472.05	10.34	-1.55	0.424
70.00	-38.89	-29.45	0.00	-2,126.44	0.00	2,126.44	5,006.81	2,503.41	10,461.4	5,238.51	12.04	-1.68	0.414
74.00	-37.41	-29.07	0.00	-2,008.64	0.00	2,008.64	4,933.81	2,466.91	10,092.3	5,053.69	13.49	-1.78	0.405
75.00	-37.02	-28.76	0.00	-1,979.56	0.00	1,979.56	4,915.35	2,457.68	10,000.6	5,007.77	13.86	-1.80	0.403
80.00	-35.23	-28.31	0.00	-1,835.77	0.00	1,835.77	4,821.81	2,410.90	9,545.79	4,779.99	15.82	-1.93	0.391
82.66	-34.29	-28.03	0.00	-1,760.36	0.00	1,760.36	4,771.13	2,385.57	9,306.02	4,659.93	16.92	-2.00	0.385
85.00	-32.92	-27.64	0.00	-1,694.87	0.00	1,694.87	4,726.18	2,363.09	9,097.16	4,555.34	17.91	-2.06	0.379
89.33	-30.45	-27.29	0.00	-1,575.20	0.00	1,575.20	3,846.41	1,923.21	7,360.18	3,685.56	19.83	-2.17	0.436
90.00	-30.22	-27.00	0.00	-1,556.92	0.00	1,556.92	3,836.63	1,918.32	7,313.25	3,662.06	20.14	-2.19	0.433
95.00	-28.70	-26.43	0.00	-1,421.94	0.00	1,421.94	3,762.45	1,881.23	6,965.41	3,487.88	22.51	-2.33	0.416
100.00	-27.21	-25.87	0.00	-1,289.78	0.00	1,289.78	3,686.20	1,843.10	6,621.98	3,315.91	25.03	-2.47	0.397
105.00	-25.76	-25.32	0.00	-1,160.41	0.00	1,160.41	3,607.86	1,803.93	6,283.29	3,146.32	27.69	-2.61	0.376
110.00	-24.35	-24.96	0.00	-1,033.83	0.00	1,033.83	3,527.44	1,763.72	5,949.70	2,979.27	30.50	-2.75	0.354
111.00	-24.03	-24.48	0.00	-1,008.88	0.00	1,008.88	3,511.11	1,755.55	5,883.62	2,946.18	31.08	-2.77	0.349
115.00	-22.92	-24.00	0.00	-910.95	0.00	910.95	3,444.94	1,722.47	5,621.53	2,814.94	33.45	-2.88	0.330
120.00	-21.58	-23.45	0.00	-790.97	0.00	790.97	3,360.36	1,680.18	5,299.14	2,653.51	36.53	-3.01	0.305
125.00	-20.28	-23.08	0.00	-673.72	0.00	673.72	3,273.70	1,636.85	4,982.86	2,495.14	39.75	-3.13	0.276
126.33	-19.93	-22.83	0.00	-643.02	0.00	643.02	3,250.30	1,625.15	4,899.81	2,453.55	40.63	-3.16	0.268
130.00	-18.57	-22.50	0.00	-559.24	0.00	559.24	3,165.67	1,582.83	4,644.73	2,325.82	43.09	-3.25	0.247
131.66	-17.96	-22.23	0.00	-521.82	0.00	521.82	1,875.92	937.96	2,776.25	1,390.19	44.23	-3.28	0.385
135.00	-17.31	-21.82	0.00	-447.63	0.00	447.63	1,848.21	924.11	2,667.57	1,335.77	46.55	-3.35	0.345
140.00	-12.15	-16.51	0.00	-336.83	0.00	336.83	1,804.96	902.48	2,506.10	1,254.91	50.13	-3.48	0.275
145.00	-11.36	-16.10	0.00	-254.27	0.00	254.27	1,759.62	879.81	2,346.60	1,175.04	53.84	-3.59	0.223
148.00	-9.19	-14.42	0.00	-205.96	0.00	205.96	1,731.42	865.71	2,251.99	1,127.67	56.11	-3.65	0.188
149.00	-7.85	-11.98	0.00	-191.53	0.00	191.53	1,721.85	860.93	2,220.65	1,111.98	56.88	-3.67	0.177
150.00	-7.72	-11.71	0.00	-179.55	0.00	179.55	1,712.20	856.10	2,189.41	1,096.33	57.65	-3.68	0.168
155.00	-7.05	-11.24	0.00	-121.00	0.00	121.00	1,662.70	831.35	2,034.89	1,018.96	61.54	-3.75	0.123
160.00	-4.69	-9.45	0.00	-64.82	0.00	64.82	1,611.13	805.56	1,883.37	943.08	65.50	-3.80	0.072
160.50	-4.63	-9.41	0.00	-60.09	0.00	60.09	1,605.85	802.93	1,868.39	935.58	65.90	-3.81	0.067

Load Case: 1.2D + 1.6W 105 mph with No Ice 23 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

160.50	-4.63	-9.41	0.00	-60.09	0.00	60.09	1,062.64	531.32	1,193.75	597.76	65.90	-3.81	0.105
161.00	-3.36	-4.99	0.00	-51.39	0.00	51.39	1,060.93	530.47	1,188.54	595.15	66.30	-3.81	0.090
165.00	-3.05	-4.61	0.00	-31.41	0.00	31.41	1,047.03	523.52	1,146.95	574.33	69.51	-3.84	0.058
170.00	-1.25	-3.47	0.00	-8.37	0.00	8.37	1,029.05	514.53	1,095.30	548.46	73.54	-3.86	0.017
170.50	0.00	-3.38	0.00	-6.64	0.00	6.64	1,027.22	513.61	1,090.15	545.89	73.94	-3.86	0.012

Load Case: 0.9D + 1.6W 105 mph with No Ice (Reduced DL) 23 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :0.90
Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		310.4	0.0					0.0	0.0	310.4	0.0	0.0	0.0
5.00		614.8	1,443.7					0.0	279.5	614.8	1,723.2	0.0	0.0
10.00		602.8	1,415.6					0.0	279.5	602.8	1,695.0	0.0	0.0
15.00		590.7	1,387.4					0.0	279.5	590.7	1,666.9	0.0	0.0
20.00		578.7	1,359.2					0.0	279.5	578.7	1,638.7	0.0	0.0
25.00		566.6	1,331.0					0.0	279.5	566.6	1,610.5	0.0	0.0
30.00		561.2	1,302.9					0.0	279.5	561.2	1,582.4	0.0	0.0
35.00		567.1	1,274.7					0.0	279.5	567.1	1,554.2	0.0	0.0
40.00	Bot - Section 2	580.5	1,246.5					0.0	279.5	580.5	1,526.0	0.0	0.0
45.00		472.3	2,455.3					0.0	279.5	472.3	2,734.8	0.0	0.0
48.00	Top - Section 1	296.9	1,446.1					0.0	167.7	296.9	1,613.8	0.0	0.0
50.00		417.5	480.1					0.0	111.8	417.5	591.9	0.0	0.0
55.00		597.7	1,180.6					0.0	279.5	597.7	1,460.1	0.0	0.0
60.00		598.0	1,152.4					0.0	279.5	598.0	1,431.9	0.0	0.0
65.00		596.9	1,124.3					0.0	279.5	596.9	1,403.8	0.0	0.0
70.00		535.2	1,096.1					0.0	279.5	535.2	1,375.6	0.0	0.0
74.00	Appurtenance(s)	296.3	856.6	77.0	0.0	0.0	18.0	0.0	223.6	373.4	1,098.2	0.0	0.0
75.00		353.3	211.3					0.0	55.8	353.3	267.1	0.0	0.0
80.00		449.8	1,039.7					0.0	278.8	449.8	1,318.6	0.0	0.0
82.66	Bot - Section 3	293.5	542.3					0.0	148.5	293.5	690.9	0.0	0.0
85.00		391.7	878.4					0.0	130.3	391.7	1,008.7	0.0	0.0
89.33	Top - Section 2	292.8	1,597.4					0.0	241.5	292.8	1,838.9	0.0	0.0
90.00		328.2	113.5					0.0	37.4	328.2	150.9	0.0	0.0
95.00		574.3	833.6					0.0	278.8	574.3	1,112.4	0.0	0.0
100.00		565.8	809.4					0.0	278.8	565.8	1,088.2	0.0	0.0
105.00		556.5	785.3					0.0	278.8	556.5	1,064.1	0.0	0.0
110.00		330.4	761.1					0.0	278.8	330.4	1,039.9	0.0	0.0
111.00	Appurtenance(s)	270.7	149.3	216.7	0.0	0.0	36.0	0.0	55.8	487.4	241.1	0.0	0.0
115.00		481.3	587.6					0.0	222.0	481.3	809.6	0.0	0.0
120.00		524.5	712.8					0.0	277.5	524.5	990.3	0.0	0.0
125.00		327.3	688.7					0.0	277.5	327.3	966.1	0.0	0.0
126.33	Bot - Section 4	255.7	179.1					0.0	73.8	255.7	252.9	0.0	0.0
130.00		271.7	814.6					0.0	203.7	271.7	1,018.2	0.0	0.0
131.66	Top - Section 3	250.3	362.0					0.0	92.3	250.3	454.4	0.0	0.0
135.00		409.9	288.2					0.0	185.2	409.9	473.3	0.0	0.0
140.00	Appurtenance(s)	480.3	418.4	4,535.7	0.0	1,718.7	3,387.1	0.0	277.5	5,016.0	4,082.9	0.0	0.0
145.00		375.3	402.3					0.0	186.5	375.3	588.8	0.0	0.0
148.00	Appurtenance(s)	184.2	233.7	1,361.4	0.0	0.0	1,350.0	0.0	111.9	1,545.7	1,695.6	0.0	0.0
149.00	Appurtenance(s)	91.0	76.6	2,265.6	0.0	0.0	1,006.4	0.0	37.3	2,356.5	1,120.3	0.0	0.0
150.00		267.5	76.0					0.0	29.1	267.5	105.1	0.0	0.0
155.00		436.8	370.1					0.0	145.7	436.8	515.8	0.0	0.0
160.00	Appurtenance(s)	235.6	354.0	1,392.1	0.0	0.0	1,350.0	0.0	145.7	1,627.7	1,849.7	0.0	0.0
160.50	Top - Section 4	41.2	34.5					0.0	14.6	41.2	49.1	0.0	0.0
161.00	Appurtenance(s)	180.2	24.9	4,138.1	0.0	3,999.2	1,125.0	0.0	14.6	4,318.3	1,164.4	0.0	0.0
165.00		356.5	196.4					0.0	58.5	356.5	254.9	0.0	0.0
170.00	Appurtenance(s)	216.0	239.3	793.6	0.0	0.0	1,093.5	0.0	67.6	1,009.6	1,400.4	0.0	0.0
170.50	Appurtenance(s)	19.4	23.6	2,910.0	0.0	1,455.0	1,019.0	0.0	6.8	2,929.4	1,049.3	0.0	0.0

Load Case: 0.9D + 1.6W — 105 mph with No Ice (Reduced DL) — 23 Iterations

Gust Response Factor :1.10
Dead Load Factor :0.90
Wind Load Factor :1.60
Wind Importance Factor 1.00

Totals:	36,285.6	53,369.0	0.00	0.00

Load Case: 0.9D + 1.6W 105 mph with No Ice (Reduced DL) 23 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :0.90
Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-53.40	-36.48	0.00	-4,418.48	0.00	4,418.48	6,027.96	3,013.98	17,007.2	8,516.24	0.00	0.00	0.528
5.00	-51.60	-35.96	0.00	-4,236.11	0.00	4,236.11	5,964.25	2,982.12	16,500.1	8,262.35	0.06	-0.11	0.521
10.00	-49.84	-35.45	0.00	-4,056.32	0.00	4,056.32	5,898.45	2,949.22	15,994.5	8,009.14	0.23	-0.22	0.515
15.00	-48.11	-34.94	0.00	-3,879.09	0.00	3,879.09	5,830.57	2,915.29	15,490.5	7,756.77	0.52	-0.33	0.508
20.00	-46.41	-34.45	0.00	-3,704.37	0.00	3,704.37	5,760.62	2,880.31	14,988.5	7,505.43	0.93	-0.45	0.502
25.00	-44.73	-33.96	0.00	-3,532.14	0.00	3,532.14	5,688.58	2,844.29	14,489.0	7,255.28	1.46	-0.56	0.495
30.00	-43.09	-33.47	0.00	-3,362.36	0.00	3,362.36	5,614.46	2,807.23	13,992.1	7,006.49	2.11	-0.68	0.488
35.00	-41.47	-32.97	0.00	-3,195.02	0.00	3,195.02	5,538.27	2,769.13	13,498.4	6,759.23	2.89	-0.80	0.480
40.00	-39.88	-32.45	0.00	-3,030.18	0.00	3,030.18	5,459.99	2,729.99	13,008.0	6,513.68	3.79	-0.92	0.473
45.00	-37.10	-31.99	0.00	-2,867.93	0.00	2,867.93	5,379.63	2,689.82	12,521.4	6,270.01	4.82	-1.04	0.464
48.00	-35.46	-31.71	0.00	-2,771.95	0.00	2,771.95	5,384.54	2,692.27	12,550.6	6,284.66	5.50	-1.12	0.448
50.00	-34.83	-31.33	0.00	-2,708.54	0.00	2,708.54	5,351.87	2,675.93	12,357.0	6,187.71	5.98	-1.17	0.444
55.00	-33.32	-30.77	0.00	-2,551.89	0.00	2,551.89	5,268.72	2,634.36	11,875.9	5,946.82	7.27	-1.29	0.436
60.00	-31.84	-30.21	0.00	-2,398.04	0.00	2,398.04	5,183.50	2,591.75	11,399.4	5,708.21	8.69	-1.41	0.426
65.00	-30.38	-29.64	0.00	-2,247.00	0.00	2,247.00	5,096.20	2,548.10	10,927.8	5,472.05	10.23	-1.53	0.417
70.00	-28.97	-29.12	0.00	-2,098.80	0.00	2,098.80	5,006.81	2,503.41	10,461.4	5,238.51	11.91	-1.66	0.407
74.00	-27.85	-28.75	0.00	-1,982.31	0.00	1,982.31	4,933.81	2,466.91	10,092.3	5,053.69	13.34	-1.76	0.398
75.00	-27.56	-28.42	0.00	-1,953.56	0.00	1,953.56	4,915.35	2,457.68	10,000.6	5,007.77	13.71	-1.78	0.396
80.00	-26.20	-27.98	0.00	-1,811.45	0.00	1,811.45	4,821.81	2,410.90	9,545.79	4,779.99	15.64	-1.91	0.385
82.66	-25.49	-27.69	0.00	-1,736.94	0.00	1,736.94	4,771.13	2,385.57	9,306.02	4,659.93	16.73	-1.98	0.378
85.00	-24.46	-27.30	0.00	-1,672.25	0.00	1,672.25	4,726.18	2,363.09	9,097.16	4,555.34	17.71	-2.04	0.372
89.33	-22.60	-26.96	0.00	-1,554.05	0.00	1,554.05	3,846.41	1,923.21	7,360.18	3,685.56	19.61	-2.15	0.428
90.00	-22.43	-26.66	0.00	-1,535.99	0.00	1,535.99	3,836.63	1,918.32	7,313.25	3,662.06	19.91	-2.16	0.425
95.00	-21.27	-26.09	0.00	-1,402.70	0.00	1,402.70	3,762.45	1,881.23	6,965.41	3,487.88	22.26	-2.30	0.408
100.00	-20.15	-25.53	0.00	-1,272.23	0.00	1,272.23	3,686.20	1,843.10	6,621.98	3,315.91	24.74	-2.44	0.389
105.00	-19.05	-24.97	0.00	-1,144.57	0.00	1,144.57	3,607.86	1,803.93	6,283.29	3,146.32	27.38	-2.58	0.369
110.00	-17.99	-24.62	0.00	-1,019.71	0.00	1,019.71	3,527.44	1,763.72	5,949.70	2,979.27	30.15	-2.71	0.348
111.00	-17.75	-24.14	0.00	-995.08	0.00	995.08	3,511.11	1,755.55	5,883.62	2,946.18	30.72	-2.74	0.343
115.00	-16.91	-23.66	0.00	-898.51	0.00	898.51	3,444.94	1,722.47	5,621.53	2,814.94	33.06	-2.85	0.324
120.00	-15.90	-23.12	0.00	-780.23	0.00	780.23	3,360.36	1,680.18	5,299.14	2,653.51	36.11	-2.97	0.299
125.00	-14.93	-22.76	0.00	-664.64	0.00	664.64	3,273.70	1,636.85	4,982.86	2,495.14	39.29	-3.09	0.271
126.33	-14.66	-22.51	0.00	-634.37	0.00	634.37	3,250.30	1,625.15	4,899.81	2,453.55	40.15	-3.12	0.263
130.00	-13.64	-22.19	0.00	-551.77	0.00	551.77	3,165.67	1,582.83	4,644.73	2,325.82	42.59	-3.21	0.242
131.66	-13.18	-21.93	0.00	-514.86	0.00	514.86	1,875.92	937.96	2,776.25	1,390.19	43.71	-3.24	0.378
135.00	-12.69	-21.51	0.00	-441.69	0.00	441.69	1,848.21	924.11	2,667.57	1,335.77	46.00	-3.31	0.338
140.00	-8.88	-16.28	0.00	-332.40	0.00	332.40	1,804.96	902.48	2,506.10	1,254.91	49.54	-3.44	0.270
145.00	-8.29	-15.89	0.00	-250.98	0.00	250.98	1,759.62	879.81	2,346.60	1,175.04	53.20	-3.55	0.219
148.00	-6.69	-14.24	0.00	-203.33	0.00	203.33	1,731.42	865.71	2,251.99	1,127.67	55.44	-3.60	0.184
149.00	-5.71	-11.82	0.00	-189.08	0.00	189.08	1,721.85	860.93	2,220.65	1,111.98	56.20	-3.62	0.174
150.00	-5.62	-11.55	0.00	-177.26	0.00	177.26	1,712.20	856.10	2,189.41	1,096.33	56.96	-3.64	0.165
155.00	-5.12	-11.09	0.00	-119.51	0.00	119.51	1,662.70	831.35	2,034.89	1,018.96	60.81	-3.71	0.121
160.00	-3.38	-9.34	0.00	-64.07	0.00	64.07	1,611.13	805.56	1,883.37	943.08	64.72	-3.76	0.070
160.50	-3.33	-9.30	0.00	-59.39	0.00	59.39	1,605.85	802.93	1,868.39	935.58	65.11	-3.76	0.066

Site Number: 411178 Code: ANSI/TIA-222-G

Site Name: Old Lyme South CT, CT Engineering Number:OAA754039_C3_01 11/8/2019 3:28:01 PM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W 105 mph with No Ice (Reduced DL) 23 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

160.50	-3.33	-9.30	0.00	-59.39	0.00	59.39	1,062.64	531.32	1,193.75	597.76	65.11	-3.76	0.103
161.00	-2.45	-4.92	0.00	-50.74	0.00	50.74	1,060.93	530.47	1,188.54	595.15	65.50	-3.76	0.088
165.00	-2.22	-4.54	0.00	-31.08	0.00	31.08	1,047.03	523.52	1,146.95	574.33	68.67	-3.79	0.056
170.00	-0.89	-3.44	0.00	-8.36	0.00	8.36	1,029.05	514.53	1,095.30	548.46	72.65	-3.81	0.016
170.50	0.00	-3.38	0.00	-6.64	0.00	6.64	1,027.22	513.61	1,090.15	545.89	73.05	-3.81	0.012

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 22 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00
Dead Load Factor :1.20 Ice Importance Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		83.9	0.0					0.0	0.0	83.9	0.0	0.0	0.0
5.00		166.6	2,424.7					12.6	453.9	179.2	2,878.6	0.0	0.0
10.00		163.9	2,435.5					13.4	460.6	177.3	2,896.2	0.0	0.0
15.00		161.0	2,416.0					13.8	464.1	174.8	2,880.1	0.0	0.0
20.00		158.1	2,386.5					14.0	466.5	172.1	2,853.0	0.0	0.0
25.00		155.1	2,351.9					14.2	468.3	169.3	2,820.2	0.0	0.0
30.00		153.9	2,314.0					14.4	469.8	168.3	2,783.9	0.0	0.0
35.00		155.8	2,274.0					14.9	471.1	170.7	2,745.1	0.0	0.0
40.00	Bot - Section 2	159.7	2,232.3					15.7	472.3	175.3	2,704.6	0.0	0.0
45.00		130.0	3,847.0					16.4	473.3	146.4	4,320.3	0.0	0.0
48.00	Top - Section 1	81.8	2,270.7					10.1	284.4	92.0	2,555.1	0.0	0.0
50.00		115.2	867.7					6.9	189.8	122.1	1,057.5	0.0	0.0
55.00		165.2	2,133.9					17.6	475.0	182.8	2,608.9	0.0	0.0
60.00		165.6	2,088.4					18.2	475.8	183.7	2,564.2	0.0	0.0
65.00		165.5	2,042.3					18.7	476.5	184.2	2,518.8	0.0	0.0
70.00		148.7	1,995.7					19.2	477.1	167.9	2,472.8	0.0	0.0
74.00	Appurtenance(s)	82.4	1,563.8	18.1	0.0	0.0	61.5	15.7	382.1	116.3	2,007.4	0.0	0.0
75.00		98.4	387.0					4.0	95.4	102.4	482.4	0.0	0.0
80.00		125.4	1,901.1					20.2	477.4	145.6	2,378.5	0.0	0.0
82.66	Bot - Section 3	81.9	994.8					10.9	254.5	92.9	1,249.3	0.0	0.0
85.00		109.5	1,410.9					9.7	223.4	119.1	1,634.3	0.0	0.0
89.33	Top - Section 2	81.9	2,565.7					18.2	414.3	100.1	2,980.0	0.0	0.0
90.00		92.0	218.8					2.8	64.1	94.8	282.9	0.0	0.0
95.00		161.1	1,602.1					21.4	479.0	182.6	2,081.1	0.0	0.0
100.00		159.1	1,558.7					21.8	479.4	180.9	2,038.1	0.0	0.0
105.00		156.9	1,515.0					22.2	479.9	179.1	1,994.9	0.0	0.0
110.00		93.3	1,471.2					22.6	480.3	115.9	1,951.5	0.0	0.0
111.00	Appurtenance(s)	76.6	290.1	78.1	0.0	0.0	151.8	4.6	96.1	159.3	537.9	0.0	0.0
115.00		136.5	1,139.2					18.4	383.2	154.8	1,522.4	0.0	0.0
120.00		149.1	1,382.7					23.3	479.3	172.4	1,862.0	0.0	0.0
125.00		93.2	1,338.2					23.6	479.7	116.9	1,817.9	0.0	0.0
126.33	Bot - Section 4	73.0	349.8					6.3	127.7	79.3	477.5	0.0	0.0
130.00		77.6	1,389.3					17.6	352.4	95.2	1,741.7	0.0	0.0
131.66	Top - Section 3	71.7	618.9					8.0	159.8	79.7	778.6	0.0	0.0
135.00		117.6	651.5					16.2	320.6	133.9	972.1	0.0	0.0
140.00	Appurtenance(s)	138.3	945.3	894.1	0.0	318.2	7,534.7	24.6	480.8	1,057.0	8,960.7	0.0	0.0
145.00		108.4	910.8					24.9	359.8	133.3	1,270.7	0.0	0.0
148.00	Appurtenance(s)	53.3	531.6	334.0	0.0	0.0	2,147.7	15.1	216.1	402.5	2,895.4	0.0	0.0
149.00	Appurtenance(s)	26.4	175.0	425.0	0.0	0.0	2,824.7	5.1	72.0	456.5	3,071.7	0.0	0.0
150.00		77.8	173.6					5.1	61.2	82.9	234.8	0.0	0.0
155.00		127.4	841.5					25.5	306.1	152.9	1,147.6	0.0	0.0
160.00	Appurtenance(s)	68.9	806.7	342.6	0.0	0.0	2,152.4	25.8	306.4	437.3	3,265.5	0.0	0.0
160.50	Top - Section 4	12.1	79.4					2.6	30.7	14.7	110.1	0.0	0.0
161.00	Appurtenance(s)	53.2	65.2	813.7	0.0	780.2	3,801.6	2.6	30.7	869.5	3,897.5	0.0	0.0
165.00		105.4	513.8					20.9	167.9	126.3	681.7	0.0	0.0
170.00	Appurtenance(s)	63.9	626.6	209.3	0.0	0.0	2,244.1	26.4	202.8	299.6	3,073.5	0.0	0.0
170.50	Appurtenance(s)	5.8	62.1	525.2	0.0	262.6	2,997.5	2.7	20.3	533.6	3,079.9	0.0	0.0

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 22 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00
Dead Load Factor :1.20 Ice Importance Factor :1.00
Wind Load Factor :1.00

Totals:	9,537.29	101,139.	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 22 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00
Dead Load Factor :1.20 Ice Importance Factor :1.00
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-100.70	-9.69	0.00	-1,149.91	0.00	1,149.91	6,027.96	3,013.98	17,007.2	8,516.24	0.00	0.00	0.152
5.00	-97.82	-9.55	0.00	-1,101.48	0.00	1,101.48	5,964.25	2,982.12	16,500.1	8,262.35	0.02	-0.03	0.150
10.00	-94.92	-9.42	0.00	-1,053.71	0.00	1,053.71	5,898.45	2,949.22	15,994.5	8,009.14	0.06	-0.06	0.148
15.00	-92.03	-9.29	0.00	-1,006.60	0.00	1,006.60	5,830.57	2,915.29	15,490.5	7,756.77	0.14	-0.09	0.146
20.00	-89.17	-9.16	0.00	-960.15	0.00	960.15	5,760.62	2,880.31	14,988.5	7,505.43	0.24	-0.12	0.143
25.00	-86.35	-9.03	0.00	-914.34	0.00	914.34	5,688.58	2,844.29	14,489.0	7,255.28	0.38	-0.15	0.141
30.00	-83.56	-8.90	0.00	-869.19	0.00	869.19	5,614.46	2,807.23	13,992.1	7,006.49	0.55	-0.18	0.139
35.00	-80.81	-8.76	0.00	-824.70	0.00	824.70	5,538.27	2,769.13	13,498.4	6,759.23	0.75	-0.21	0.137
40.00	-78.10	-8.62	0.00	-780.89	0.00	780.89	5,459.99	2,729.99	13,008.0	6,513.68	0.98	-0.24	0.134
45.00	-73.78	-8.49	0.00	-737.79	0.00	737.79	5,379.63	2,689.82	12,521.4	6,270.01	1.25	-0.27	0.131
48.00	-71.22	-8.40	0.00	-712.33	0.00	712.33	5,384.54	2,692.27	12,550.6	6,284.66	1.43	-0.29	0.127
50.00	-70.16	-8.30	0.00	-695.52	0.00	695.52	5,351.87	2,675.93	12,357.0	6,187.71	1.55	-0.30	0.126
55.00	-67.55	-8.14	0.00	-654.01	0.00	654.01	5,268.72	2,634.36	11,875.9	5,946.82	1.88	-0.33	0.123
60.00	-64.98	-7.98	0.00	-613.31	0.00	613.31	5,183.50	2,591.75	11,399.4	5,708.21	2.25	-0.36	0.120
65.00	-62.46	-7.81	0.00	-573.42	0.00	573.42	5,096.20	2,548.10	10,927.8	5,472.05	2.65	-0.40	0.117
70.00	-59.99	-7.66	0.00	-534.36	0.00	534.36	5,006.81	2,503.41	10,461.4	5,238.51	3.08	-0.43	0.114
74.00	-57.98	-7.54	0.00	-503.75	0.00	503.75	4,933.81	2,466.91	10,092.3	5,053.69	3.45	-0.45	0.111
75.00	-57.49	-7.45	0.00	-496.21	0.00	496.21	4,915.35	2,457.68	10,000.6	5,007.77	3.55	-0.46	0.111
80.00	-55.11	-7.31	0.00	-458.94	0.00	458.94	4,821.81	2,410.90	9,545.79	4,779.99	4.04	-0.49	0.107
82.66	-53.86	-7.22	0.00	-439.47	0.00	439.47	4,771.13	2,385.57	9,306.02	4,659.93	4.32	-0.51	0.106
85.00	-52.23	-7.11	0.00	-422.60	0.00	422.60	4,726.18	2,363.09	9,097.16	4,555.34	4.58	-0.52	0.104
89.33	-49.25	-6.99	0.00	-391.82	0.00	391.82	3,846.41	1,923.21	7,360.18	3,685.56	5.06	-0.55	0.119
90.00	-48.96	-6.91	0.00	-387.13	0.00	387.13	3,836.63	1,918.32	7,313.25	3,662.06	5.14	-0.56	0.118
95.00	-46.88	-6.74	0.00	-352.57	0.00	352.57	3,762.45	1,881.23	6,965.41	3,487.88	5.74	-0.59	0.114
100.00	-44.84	-6.56	0.00	-318.87	0.00	318.87	3,686.20	1,843.10	6,621.98	3,315.91	6.38	-0.63	0.108
105.00	-42.84	-6.39	0.00	-286.06	0.00	286.06	3,607.86	1,803.93	6,283.29	3,146.32	7.05	-0.66	0.103
110.00	-40.89	-6.26	0.00	-254.13	0.00	254.13	3,527.44	1,763.72	5,949.70	2,979.27	7.76	-0.69	0.097
111.00	-40.35	-6.11	0.00	-247.87	0.00	247.87	3,511.11	1,755.55	5,883.62	2,946.18	7.91	-0.70	0.096
115.00	-38.83	-5.95	0.00	-223.43	0.00	223.43	3,444.94	1,722.47	5,621.53	2,814.94	8.51	-0.73	0.091
120.00	-36.97	-5.78	0.00	-193.66	0.00	193.66	3,360.36	1,680.18	5,299.14	2,653.51	9.29	-0.76	0.084
125.00	-35.15	-5.65	0.00	-164.78	0.00	164.78	3,273.70	1,636.85	4,982.86	2,495.14	10.10	-0.79	0.077
126.33	-34.67	-5.57	0.00	-157.27	0.00	157.27	3,250.30	1,625.15	4,899.81	2,453.55	10.32	-0.80	0.075
130.00	-32.93	-5.46	0.00	-136.83	0.00	136.83	3,165.67	1,582.83	4,644.73	2,325.82	10.94	-0.82	0.069
131.66	-32.15	-5.38	0.00	-127.75	0.00	127.75	1,875.92	937.96	2,776.25	1,390.19	11.22	-0.82	0.109
135.00	-31.18	-5.24	0.00	-109.81	0.00	109.81	1,848.21	924.11	2,667.57	1,335.77	11.81	-0.84	0.099
140.00	-22.23	-4.06	0.00	-83.29	0.00	83.29	1,804.96	902.48	2,506.10	1,254.91	12.70	-0.87	0.079
145.00	-20.96	-3.92	0.00	-62.99	0.00	62.99	1,759.62	879.81	2,346.60	1,175.04	13.63	-0.90	0.066
148.00	-18.07	-3.47	0.00	-51.24	0.00	51.24	1,731.42	865.71	2,251.99	1,127.67	14.21	-0.91	0.056
149.00	-15.01	-2.97	0.00	-47.77	0.00	47.77	1,721.85	860.93	2,220.65	1,111.98	14.40	-0.92	0.052
150.00	-14.78	-2.88	0.00	-44.81	0.00	44.81	1,712.20	856.10	2,189.41	1,096.33	14.59	-0.92	0.050
155.00	-13.63	-2.71	0.00	-30.40	0.00	30.40	1,662.70	831.35	2,034.89	1,018.96	15.57	-0.94	0.038
160.00	-10.37	-2.22	0.00	-16.83	0.00	16.83	1,611.13	805.56	1,883.37	943.08	16.56	-0.95	0.024
160.50	-10.26	-2.21	0.00	-15.72	0.00	15.72	1,605.85	802.93	1,868.39	935.58	16.66	-0.95	0.023

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 22 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00
Dead Load Factor :1.20 Ice Importance Factor :1.00
Wind Load Factor :1.00

160.50	-10.26	-2.21	0.00	-15.72	0.00	15.72	1,062.64	531.32	1,193.75	597.76	16.66	-0.95	0.036
161.00	-6.38	-1.27	0.00	-13.83	0.00	13.83	1,060.93	530.47	1,188.54	595.15	16.76	-0.96	0.029
165.00	-5.70	-1.14	0.00	-8.74	0.00	8.74	1,047.03	523.52	1,146.95	574.33	17.57	-0.96	0.021
170.00	-2.63	-0.79	0.00	-3.06	0.00	3.06	1,029.05	514.53	1,095.30	548.46	18.58	-0.97	0.008
170.50	0.00	-0.74	0.00	-2.66	0.00	2.66	1,027.22	513.61	1,090.15	545.89	18.68	-0.97	0.005

Load Case: 1.0D + 1.0W Serviceability 60 mph 21 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		56.7	0.0					0.0	0.0	56.7	0.0	0.0	0.0
5.00		112.3	1,604.1					0.0	310.6	112.3	1,914.7	0.0	0.0
10.00		110.1	1,572.8					0.0	310.6	110.1	1,883.4	0.0	0.0
15.00		107.9	1,541.5					0.0	310.6	107.9	1,852.1	0.0	0.0
20.00		105.7	1,510.2					0.0	310.6	105.7	1,820.8	0.0	0.0
25.00		103.5	1,478.9					0.0	310.6	103.5	1,789.5	0.0	0.0
30.00		102.5	1,447.6					0.0	310.6	102.5	1,758.2	0.0	0.0
35.00		103.5	1,416.3					0.0	310.6	103.5	1,726.9	0.0	0.0
40.00	Bot - Section 2	106.0	1,385.0					0.0	310.6	106.0	1,695.6	0.0	0.0
45.00		86.2	2,728.1					0.0	310.6	86.2	3,038.7	0.0	0.0
48.00	Top - Section 1	54.2	1,606.8					0.0	186.3	54.2	1,793.1	0.0	0.0
50.00		76.2	533.5					0.0	124.2	76.2	657.7	0.0	0.0
55.00		109.1	1,311.8					0.0	310.6	109.1	1,622.3	0.0	0.0
60.00		109.2	1,280.5					0.0	310.6	109.2	1,591.0	0.0	0.0
65.00		109.0	1,249.2					0.0	310.6	109.0	1,559.7	0.0	0.0
70.00		97.7	1,217.9					0.0	310.6	97.7	1,528.4	0.0	0.0
74.00	Appurtenance(s)	54.1	951.8	14.1	0.0	0.0	20.0	0.0	248.4	68.2	1,220.2	0.0	0.0
75.00		64.5	234.8					0.0	62.0	64.5	296.8	0.0	0.0
80.00		82.1	1,155.3					0.0	309.8	82.1	1,465.1	0.0	0.0
82.66	Bot - Section 3	53.6	602.6					0.0	165.0	53.6	767.6	0.0	0.0
85.00		71.5	975.9					0.0	144.8	71.5	1,120.7	0.0	0.0
89.33	Top - Section 2	53.5	1,774.9					0.0	268.3	53.5	2,043.2	0.0	0.0
90.00		59.9	126.1					0.0	41.5	59.9	167.7	0.0	0.0
95.00		104.9	926.2					0.0	309.8	104.9	1,236.0	0.0	0.0
100.00		103.3	899.4					0.0	309.8	103.3	1,209.2	0.0	0.0
105.00		101.6	872.5					0.0	309.8	101.6	1,182.3	0.0	0.0
110.00		60.3	845.7					0.0	309.8	60.3	1,155.5	0.0	0.0
111.00	Appurtenance(s)	49.4	165.9	39.6	0.0	0.0	40.0	0.0	62.0	89.0	267.9	0.0	0.0
115.00		87.9	652.9					0.0	246.6	87.9	899.6	0.0	0.0
120.00		95.8	792.0					0.0	308.3	95.8	1,100.3	0.0	0.0
125.00		59.8	765.2					0.0	308.3	59.8	1,073.5	0.0	0.0
126.33	Bot - Section 4	46.7	199.0					0.0	82.0	46.7	281.0	0.0	0.0
130.00		49.6	905.1					0.0	226.3	49.6	1,131.4	0.0	0.0
131.66	Top - Section 3	45.7	402.3					0.0	102.6	45.7	504.8	0.0	0.0
135.00		74.8	320.2					0.0	205.7	74.8	525.9	0.0	0.0
140.00	Appurtenance(s)	87.7	464.9	828.2	0.0	313.8	3,763.4	0.0	308.3	915.9	4,536.6	0.0	0.0
145.00		68.5	447.0					0.0	207.3	68.5	654.3	0.0	0.0
148.00	Appurtenance(s)	33.6	259.6	248.6	0.0	0.0	1,500.0	0.0	124.4	282.2	1,884.0	0.0	0.0
149.00	Appurtenance(s)	16.6	85.1	413.7	0.0	0.0	1,118.2	0.0	41.5	430.3	1,244.8	0.0	0.0
150.00		48.8	84.4					0.0	32.4	48.8	116.8	0.0	0.0
155.00		79.8	411.2					0.0	161.9	79.8	573.1	0.0	0.0
160.00	Appurtenance(s)	43.0	393.4	254.2	0.0	0.0	1,500.0	0.0	161.9	297.2	2,055.3	0.0	0.0
160.50	Top - Section 4	7.5	38.4					0.0	16.2	7.5	54.5	0.0	0.0
161.00	Appurtenance(s)	32.9	27.6	755.6	0.0	730.3	1,250.0	0.0	16.2	788.5	1,293.8	0.0	0.0
165.00		65.1	218.2					0.0	65.0	65.1	283.2	0.0	0.0
170.00	Appurtenance(s)	39.4	265.9	144.9	0.0	0.0	1,215.0	0.0	75.1	184.3	1,556.0	0.0	0.0
170.50	Appurtenance(s)	3.5	26.2	531.4	0.0	265.7	1,132.2	0.0	7.5	534.9	1,165.9	0.0	0.0

Load Case: 1.0D + 1.0W Serviceability 60 mph 21 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Totals:	6,625.73	59,298.9	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 21 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-59.37	-6.66	0.00	-809.43	0.00	809.43	6,027.96	3,013.98	17,007.2	8,516.24	0.00	0.00	0.105
5.00	-57.45	-6.57	0.00	-776.13	0.00	776.13	5,964.25	2,982.12	16,500.1	8,262.35	0.01	-0.02	0.104
10.00	-55.57	-6.48	0.00	-743.29	0.00	743.29	5,898.45	2,949.22	15,994.5	8,009.14	0.04	-0.04	0.102
15.00	-53.71	-6.39	0.00	-710.91	0.00	710.91	5,830.57	2,915.29	15,490.5	7,756.77	0.10	-0.06	0.101
20.00	-51.89	-6.30	0.00	-678.99	0.00	678.99	5,760.62	2,880.31	14,988.5	7,505.43	0.17	-0.08	0.099
25.00	-50.10	-6.21	0.00	-647.50	0.00	647.50	5,688.58	2,844.29	14,489.0	7,255.28	0.27	-0.10	0.098
30.00	-48.34	-6.12	0.00	-616.45	0.00	616.45	5,614.46	2,807.23	13,992.1	7,006.49	0.39	-0.12	0.097
35.00	-46.61	-6.03	0.00	-585.84	0.00	585.84	5,538.27	2,769.13	13,498.4	6,759.23	0.53	-0.15	0.095
40.00	-44.91	-5.94	0.00	-555.68	0.00	555.68	5,459.99	2,729.99	13,008.0	6,513.68	0.70	-0.17	0.094
45.00	-41.87	-5.86	0.00	-525.99	0.00	525.99	5,379.63	2,689.82	12,521.4	6,270.01	0.88	-0.19	0.092
48.00	-40.08	-5.80	0.00	-508.42	0.00	508.42	5,384.54	2,692.27	12,550.6	6,284.66	1.01	-0.20	0.088
50.00	-39.42	-5.74	0.00	-496.81	0.00	496.81	5,351.87	2,675.93	12,357.0	6,187.71	1.10	-0.21	0.088
55.00	-37.79	-5.64	0.00	-468.13	0.00	468.13	5,268.72	2,634.36	11,875.9	5,946.82	1.33	-0.24	0.086
60.00	-36.20	-5.53	0.00	-439.95	0.00	439.95	5,183.50	2,591.75	11,399.4	5,708.21	1.59	-0.26	0.084
65.00	-34.64	-5.43	0.00	-412.28	0.00	412.28	5,096.20	2,548.10	10,927.8	5,472.05	1.88	-0.28	0.082
70.00	-33.11	-5.34	0.00	-385.13	0.00	385.13	5,006.81	2,503.41	10,461.4	5,238.51	2.18	-0.30	0.080
74.00	-31.89	-5.27	0.00	-363.78	0.00	363.78	4,933.81	2,466.91	10,092.3	5,053.69	2.45	-0.32	0.078
75.00	-31.59	-5.21	0.00	-358.51	0.00	358.51	4,915.35	2,457.68	10,000.6	5,007.77	2.51	-0.33	0.078
80.00	-30.12	-5.13	0.00	-332.46	0.00	332.46	4,821.81	2,410.90	9,545.79	4,779.99	2.87	-0.35	0.076
82.66	-29.36	-5.08	0.00	-318.80	0.00	318.80	4,771.13	2,385.57	9,306.02	4,659.93	3.07	-0.36	0.075
85.00	-28.23	-5.01	0.00	-306.94	0.00	306.94	4,726.18	2,363.09	9,097.16	4,555.34	3.25	-0.37	0.073
89.33	-26.19	-4.94	0.00	-285.26	0.00	285.26	3,846.41	1,923.21	7,360.18	3,685.56	3.60	-0.39	0.084
90.00	-26.02	-4.89	0.00	-281.95	0.00	281.95	3,836.63	1,918.32	7,313.25	3,662.06	3.65	-0.40	0.084
95.00	-24.78	-4.79	0.00	-257.50	0.00	257.50	3,762.45	1,881.23	6,965.41	3,487.88	4.08	-0.42	0.080
100.00	-23.57	-4.68	0.00	-233.57	0.00	233.57	3,686.20	1,843.10	6,621.98	3,315.91	4.54	-0.45	0.077
105.00	-22.39	-4.58	0.00	-210.15	0.00	210.15	3,607.86	1,803.93	6,283.29	3,146.32	5.02	-0.47	0.073
110.00	-21.23	-4.52	0.00	-187.23	0.00	187.23	3,527.44	1,763.72	5,949.70	2,979.27	5.53	-0.50	0.069
111.00	-20.97	-4.43	0.00	-182.71	0.00	182.71	3,511.11	1,755.55	5,883.62	2,946.18	5.63	-0.50	0.068
115.00	-20.07	-4.34	0.00	-164.99	0.00	164.99	3,444.94	1,722.47	5,621.53	2,814.94	6.06	-0.52	0.064
120.00	-18.96	-4.24	0.00	-143.27	0.00	143.27	3,360.36	1,680.18	5,299.14	2,653.51	6.62	-0.55	0.060
125.00	-17.89	-4.18	0.00	-122.05	0.00	122.05	3,273.70	1,636.85	4,982.86	2,495.14	7.21	-0.57	0.054
126.33	-17.61	-4.13	0.00	-116.49	0.00	116.49	3,250.30	1,625.15	4,899.81	2,453.55	7.36	-0.57	0.053
130.00	-16.48	-4.08	0.00	-101.32	0.00	101.32	3,165.67	1,582.83	4,644.73	2,325.82	7.81	-0.59	0.049
131.66	-15.97	-4.03	0.00	-94.54	0.00	94.54	1,875.92	937.96	2,776.25	1,390.19	8.02	-0.60	0.077
135.00	-15.45	-3.95	0.00	-81.11	0.00	81.11	1,848.21	924.11	2,667.57	1,335.77	8.44	-0.61	0.069
140.00	-10.92	-2.99	0.00	-61.04	0.00	61.04	1,804.96	902.48	2,506.10	1,254.91	9.09	-0.63	0.055
145.00	-10.26	-2.92	0.00	-46.08	0.00	46.08	1,759.62	879.81	2,346.60	1,175.04	9.76	-0.65	0.045
148.00	-8.38	-2.61	0.00	-37.33	0.00	37.33	1,731.42	865.71	2,251.99	1,127.67	10.17	-0.66	0.038
149.00	-7.14	-2.17	0.00	-34.71	0.00	34.71	1,721.85	860.93	2,220.65	1,111.98	10.31	-0.66	0.035
150.00	-7.03	-2.12	0.00	-32.54	0.00	32.54	1,712.20	856.10	2,189.41	1,096.33	10.45	-0.67	0.034
155.00	-6.45	-2.04	0.00	-21.94	0.00	21.94	1,662.70	831.35	2,034.89	1,018.96	11.16	-0.68	0.025
160.00	-4.40	-1.71	0.00	-11.76	0.00	11.76	1,611.13	805.56	1,883.37	943.08	11.88	-0.69	0.015
160.50	-4.35	-1.71	0.00	-10.90	0.00	10.90	1,605.85	802.93	1,868.39	935.58	11.95	-0.69	0.014

Load Case: 1.0D + 1.0W Serviceability 60 mph 21 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

160.50	-4.35	-1.71	0.00	-10.90	0.00	10.90	1,062.64	531.32	1,193.75	597.76	11.95	-0.69	0.022
161.00	-3.06	-0.90	0.00	-9.31	0.00	9.31	1,060.93	530.47	1,188.54	595.15	12.02	-0.69	0.019
165.00	-2.78	-0.83	0.00	-5.70	0.00	5.70	1,047.03	523.52	1,146.95	574.33	12.60	-0.70	0.013
170.00	-1.23	-0.63	0.00	-1.53	0.00	1.53	1,029.05	514.53	1,095.30	548.46	13.33	-0.70	0.004
170.50	0.00	-0.62	0.00	-1.21	0.00	1.21	1,027.22	513.61	1,090.15	545.89	13.41	-0.70	0.002

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.16	
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06	
Long-Period Transition Period (T_L):	6	
Importance Factor (I_E):	1.00	
Site Coefficient F_a:	1.60	
Site Coeffiecient F_v:	2.40	
Response Modification Coefficient (R):	1.50	
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.17	
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10	
Seismic Response Coefficient (C_s):	0.03	
Upper Limit C_s	0.03	
Lower Limit C_s	0.03	
Period based on Rayleigh Method (sec):	2.13	
Redundancy Factor (p):	1.00	
Seismic Force Distribution Exponent (k):	1.82	
Total Unfactored Dead Load:	59.37	k
Seismic Base Shear (E):	1.78	k

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
46	170.25	34	379	0.002	3	42
45	167.50	341	3,723	0.016	28	421
44	163.00	283	2,942	0.012	22	349
43	160.75	44	444	0.002	3	54
42	160.25	55	549	0.002	4	67
41	157.50	555	5,420	0.023	40	685
40	152.50	573	5,277	0.022	39	707
39	149.50	117	1,037	0.004	8	144
38	148.50	127	1,110	0.005	8	156
37	146.50	384	3,287	0.014	24	474
36	142.50	654	5,326	0.022	40	807
35	137.50	773	5,899	0.025	44	954
34	133.33	526	3,794	0.016	28	649
33	130.83	505	3,519	0.015	26	623
32	128.17	1,131	7,597	0.032	56	1,396
31	125.67	281	1,821	0.008	14	347
30	122.50	1,073	6,640	0.028	49	1,325
29	117.50	1,100	6,310	0.026	47	1,358
28	113.00	900	4,806	0.020	36	1,110
27	110.50	228	1,169	0.005	9	281
26	107.50	1,155	5,638	0.023	42	1,426
25	102.50	1,182	5,291	0.022	39	1,459
24	97.50	1,209	4,941	0.021	37	1,492

23	92.50	1,236	4,591	0.019	34	1,525
22	89.67	168	589	0.002	4	207
21	87.17	2,043	6,813	0.028	51	2,522
20	83.83	1,121	3,482	0.014	26	1,383
19	81.33	768	2,257	0.009	17	947
18	77.50	1,465	3,946	0.016	29	1,808
17	74.50	297	744	0.003	6	366
16	72.00	1,200	2,828	0.012	21	1,481
15	67.50	1,528	3,204	0.013	24	1,886
14	62.50	1,560	2,843	0.012	21	1,925
13	57.50	1,591	2,493	0.010	19	1,964
12	52.50	1,622	2,155	0.009	16	2,002
11	49.00	658	771	0.003	6	812
10	46.50	1,793	1,911	0.008	14	2,213
9	42.50	3,039	2,750	0.011	20	3,750
8	37.50	1,696	1,222	0.005	9	2,093
7	32.50	1,727	960	0.004	7	2,131
6	27.50	1,758	722	0.003	5	2,170
5	22.50	1,789	510	0.002	4	2,208
4	17.50	1,821	329	0.001	2	2,247
3	12.50	1,852	182	0.001	1	2,286
2	7.50	1,883	73	0.000	1	2,324
1	2.50	1,915	10	0.000	0	2,363
Generic 12' Dipole	170.50	40	451	0.002	3	49
Decibel DB201-A	170.50	25	282	0.001	2	31
Generic E-911 GPS	170.50	5	56	0.000	0	6
Ericsson KRY 112 144	170.50	33	372	0.002	3	41
Ericsson Radio 4449	170.50	222	2,503	0.010	19	274
Ericsson AIR 21, 1.3	170.50	249	2,807	0.012	21	307
Ericsson AIR 21, 1.3	170.50	244	2,756	0.011	20	302
RFS APXVAARR24_43-U-	170.50	384	4,326	0.018	32	474
Round T-Arm w/Reinfo	170.00	1,215	13,625	0.057	101	1,499
Alcatel-Lucent RRH2X	161.00	129	1,311	0.005	10	159
Alcatel-Lucent RRH2x	161.00	170	1,728	0.007	13	210
Alcatel-Lucent B66 R	161.00	201	2,042	0.009	15	248
VZW Unused Reserve:	161.00	209	2,123	0.009	16	258
RFS APL866513-42T0	161.00	63	638	0.003	5	78
Antel BXA-70063-4CF-	161.00	10	101	0.000	1	12
RFS DB-T1-6Z-8AB-0Z	161.00	88	894	0.004	7	109
Antel BXA-70063/6CF_	161.00	34	345	0.001	3	42
Commscope SBNHH-1D65	161.00	304	3,090	0.013	23	375
Amphenol Antel LPA-8	161.00	42	427	0.002	3	52
Flat Low Profile Pla	160.00	1,500	15,068	0.063	112	1,851
Generic GPS	149.00	10	88	0.000	1	12
Alcatel-Lucent RRH2x	149.00	317	2,802	0.012	21	392
Alcatel-Lucent 1900	149.00	180	1,589	0.007	12	222
Alcatel-Lucent TD-RR	149.00	210	1,854	0.008	14	259
RFS APXVTM14-ALU-I20	149.00	169	1,488	0.006	11	208
Commscope NNVV-65B-R	149.00	232	2,050	0.009	15	287
Flat Low Profile Pla	148.00	1,500	13,079	0.054	97	1,851
Powerwave Allgon TT1	140.00	96	757	0.003	6	118
Raycap DC6-48-60-18-	140.00	32	251	0.001	2	39
Ericsson RRUS 8843 B	140.00	216	1,703	0.007	13	267
Ericsson RRUS 4478 B	140.00	178	1,405	0.006	10	220
Ericsson RRUS 4449 B	140.00	213	1,679	0.007	12	263
Raycap DC9-48-60-24-	140.00	16	126	0.001	1	20
Powerwave Allgon 777	140.00	105	828	0.003	6	130
CCI DMP65R-BU4D	140.00	407	3,211	0.013	24	503
Generic Flat Platfor	140.00	2,500	19,706	0.082	146	3,085
Generic 12' Dipole	111.00	40	207	0.001	2	49
Generic GPS	74.00	10	25	0.000	0	12
Generic GPS	74.00	10	25	0.000	0	12
		59,369	240,116	1.000	1,783	73,269

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
46	170.25	34	379	0.002	3	29
45	167.50	341	3,723	0.016	28	295
44	163.00	283	2,942	0.012	22	245
43	160.75	44	444	0.002	3	38
42	160.25	55	549	0.002	4	47
41	157.50	555	5,420	0.023	40	481
40	152.50	573	5,277	0.022	39	496
39	149.50	117	1,037	0.004	8	101
38	148.50	127	1,110	0.005	8	110
37	146.50	384	3,287	0.014	24	332
36	142.50	654	5,326	0.022	40	567
35	137.50	773	5,899	0.025	44	669
34	133.33	526	3,794	0.016	28	455
33	130.83	505	3,519	0.015	26	437
32	128.17	1,131	7,597	0.032	56	980
31	125.67	281	1,821	0.008	14	243
30	122.50	1,073	6,640	0.028	49	930
29	117.50	1,100	6,310	0.026	47	953
28	113.00	900	4,806	0.020	36	779
27	110.50	228	1,169	0.005	9	197
26	107.50	1,155	5,638	0.023	42	1,001
25	102.50	1,182	5,291	0.022	39	1,024
24	97.50	1,209	4,941	0.021	37	1,047
23	92.50	1,236	4,591	0.019	34	1,070
22	89.67	168	589	0.002	4	145
21	87.17	2,043	6,813	0.028	51	1,769
20	83.83	1,121	3,482	0.014	26	970
19	81.33	768	2,257	0.009	17	665
18	77.50	1,465	3,946	0.016	29	1,269
17	74.50	297	744	0.003	6	257
16	72.00	1,200	2,828	0.012	21	1,039
15	67.50	1,528	3,204	0.013	24	1,323
14	62.50	1,560	2,843	0.012	21	1,351
13	57.50	1,591	2,493	0.010	19	1,378
12	52.50	1,622	2,155	0.009	16	1,405
11	49.00	658	771	0.003	6	569
10	46.50	1,793	1,911	0.008	14	1,553
9	42.50	3,039	2,750	0.011	20	2,631
8	37.50	1,696	1,222	0.005	9	1,468
7	32.50	1,727	960	0.004	7	1,495
6	27.50	1,758	722	0.003	5	1,522
5	22.50	1,789	510	0.002	4	1,549
4	17.50	1,821	329	0.001	2	1,577
3	12.50	1,852	182	0.001	1	1,604
2	7.50	1,883	73	0.000	1	1,631
1	2.50	1,915	10	0.000	0	1,658
Generic 12' Dipole	170.50	40	451	0.002	3	35
Decibel DB201-A	170.50	25	282	0.001	2	22
Generic E-911 GPS	170.50	5	56	0.000	0	4
Ericsson KRY 112 144	170.50	33	372	0.002	3	29
Ericsson Radio 4449	170.50	222	2,503	0.010	19	192
Ericsson AIR 21, 1.3	170.50	249	2,807	0.012	21	216
Ericsson AIR 21, 1.3	170.50	244	2,756	0.011	20	212
RFS APXVAARR24_43-U-	170.50	384	4,326	0.018	32	332
Round T-Arm w/Reinfo	170.00	1,215	13,625	0.057	101	1,052
Alcatel-Lucent RRH2X	161.00	129	1,311	0.005	10	112
Alcatel-Lucent RRH2x	161.00	170	1,728	0.007	13	147

Alcatel-Lucent B66 R	161.00	201	2,042	0.009	15	174
VZW Unused Reserve:	161.00	209	2,123	0.009	16	181
RFS APL866513-42T0	161.00	63	638	0.003	5	54
Antel BXA-70063-4CF-	161.00	10	101	0.000	1	9
RFS DB-T1-6Z-8AB-0Z	161.00	88	894	0.004	7	76
Antel BXA-70063/6CF_	161.00	34	345	0.001	3	29
Commscope SBNHH-1D65	161.00	304	3,090	0.013	23	263
Amphenol Antel LPA-8	161.00	42	427	0.002	3	36
Flat Low Profile Pla	160.00	1,500	15,068	0.063	112	1,299
Generic GPS	149.00	10	88	0.000	1	9
Alcatel-Lucent RRH2x	149.00	317	2,802	0.012	21	275
Alcatel-Lucent 1900	149.00	180	1,589	0.007	12	156
Alcatel-Lucent TD-RR	149.00	210	1,854	0.008	14	182
RFS APXVTM14-ALU-I20	149.00	169	1,488	0.006	11	146
Commscope NNVV-65B-R	149.00	232	2,050	0.009	15	201
Flat Low Profile Pla	148.00	1,500	13,079	0.054	97	1,299
Powerwave Allgon TT1	140.00	96	757	0.003	6	83
Raycap DC6-48-60-18-	140.00	32	251	0.001	2	28
Ericsson RRUS 8843 B	140.00	216	1,703	0.007	13	187
Ericsson RRUS 4478 B	140.00	178	1,405	0.006	10	154
Ericsson RRUS 4449 B	140.00	213	1,679	0.007	12	184
Raycap DC9-48-60-24-	140.00	16	126	0.001	1	14
Powerwave Allgon 777	140.00	105	828	0.003	6	91
CCI DMP65R-BU4D	140.00	407	3,211	0.013	24	353
Generic Flat Platfor	140.00	2,500	19,706	0.082	146	2,165
Generic 12' Dipole	111.00	40	207	0.001	2	35
Generic GPS	74.00	10	25	0.000	0	9
Generic GPS	74.00	10	25	0.000	0	9
		59,369	240,116	1.000	1,783	51,406

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-70.91	-1.78	0.00	-236.95	0.00	236.95	6,027.96	3,013.98	17,007.2	8,516.24	0.00	0.00	0.040
5.00	-68.58	-1.79	0.00	-228.03	0.00	228.03	5,964.25	2,982.12	16,500.1	8,262.35	0.00	-0.01	0.039
10.00	-66.30	-1.80	0.00	-219.08	0.00	219.08	5,898.45	2,949.22	15,994.5	8,009.14	0.01	-0.01	0.039
15.00	-64.05	-1.80	0.00	-210.09	0.00	210.09	5,830.57	2,915.29	15,490.5	7,756.77	0.03	-0.02	0.038
20.00	-61.84	-1.80	0.00	-201.09	0.00	201.09	5,760.62	2,880.31	14,988.5	7,505.43	0.05	-0.02	0.038
25.00	-59.67	-1.80	0.00	-192.08	0.00	192.08	5,688.58	2,844.29	14,489.0	7,255.28	0.08	-0.03	0.037
30.00	-57.54	-1.80	0.00	-183.07	0.00	183.07	5,614.46	2,807.23	13,992.1	7,006.49	0.11	-0.04	0.036
35.00	-55.45	-1.80	0.00	-174.07	0.00	174.07	5,538.27	2,769.13	13,498.4	6,759.23	0.16	-0.04	0.036
40.00	-51.70	-1.78	0.00	-165.09	0.00	165.09	5,459.99	2,729.99	13,008.0	6,513.68	0.21	-0.05	0.035
45.00	-49.48	-1.77	0.00	-156.19	0.00	156.19	5,379.63	2,689.82	12,521.4	6,270.01	0.26	-0.06	0.034
48.00	-48.67	-1.76	0.00	-150.89	0.00	150.89	5,384.54	2,692.27	12,550.6	6,284.66	0.30	-0.06	0.033
50.00	-46.67	-1.75	0.00	-147.36	0.00	147.36	5,351.87	2,675.93	12,357.0	6,187.71	0.32	-0.06	0.033
55.00	-44.70	-1.73	0.00	-138.61	0.00	138.61	5,268.72	2,634.36	11,875.9	5,946.82	0.39	-0.07	0.032
60.00	-42.78	-1.72	0.00	-129.95	0.00	129.95	5,183.50	2,591.75	11,399.4	5,708.21	0.47	-0.08	0.031
65.00	-40.89	-1.69	0.00	-121.37	0.00	121.37	5,096.20	2,548.10	10,927.8	5,472.05	0.55	-0.08	0.030
70.00	-39.41	-1.67	0.00	-112.90	0.00	112.90	5,006.81	2,503.41	10,461.4	5,238.51	0.65	-0.09	0.029
74.00	-39.02	-1.67	0.00	-106.21	0.00	106.21	4,933.81	2,466.91	10,092.3	5,053.69	0.72	-0.10	0.029
75.00	-37.21	-1.64	0.00	-104.54	0.00	104.54	4,915.35	2,457.68	10,000.6	5,007.77	0.74	-0.10	0.028
80.00	-36.26	-1.63	0.00	-96.33	0.00	96.33	4,821.81	2,410.90	9,545.79	4,779.99	0.85	-0.10	0.028
82.66	-34.88	-1.60	0.00	-92.01	0.00	92.01	4,771.13	2,385.57	9,306.02	4,659.93	0.91	-0.11	0.027
85.00	-32.36	-1.55	0.00	-88.27	0.00	88.27	4,726.18	2,363.09	9,097.16	4,555.34	0.96	-0.11	0.026
89.33	-32.15	-1.54	0.00	-81.57	0.00	81.57	3,846.41	1,923.21	7,360.18	3,685.56	1.06	-0.12	0.030
90.00	-30.63	-1.51	0.00	-80.54	0.00	80.54	3,836.63	1,918.32	7,313.25	3,662.06	1.08	-0.12	0.030
95.00	-29.14	-1.47	0.00	-73.00	0.00	73.00	3,762.45	1,881.23	6,965.41	3,487.88	1.21	-0.12	0.029
100.00	-27.68	-1.43	0.00	-65.64	0.00	65.64	3,686.20	1,843.10	6,621.98	3,315.91	1.34	-0.13	0.027
105.00	-26.25	-1.39	0.00	-58.47	0.00	58.47	3,607.86	1,803.93	6,283.29	3,146.32	1.48	-0.14	0.026
110.00	-25.97	-1.38	0.00	-51.52	0.00	51.52	3,527.44	1,763.72	5,949.70	2,979.27	1.63	-0.15	0.025
111.00	-24.81	-1.35	0.00	-50.13	0.00	50.13	3,511.11	1,755.55	5,883.62	2,946.18	1.66	-0.15	0.024
115.00	-23.45	-1.30	0.00	-44.75	0.00	44.75	3,444.94	1,722.47	5,621.53	2,814.94	1.78	-0.15	0.023
120.00	-22.13	-1.25	0.00	-38.27	0.00	38.27	3,360.36	1,680.18	5,299.14	2,653.51	1.95	-0.16	0.021
125.00	-21.78	-1.23	0.00	-32.03	0.00	32.03	3,273.70	1,636.85	4,982.86	2,495.14	2.12	-0.16	0.019
126.33	-20.38	-1.17	0.00	-30.39	0.00	30.39	3,250.30	1,625.15	4,899.81	2,453.55	2.16	-0.17	0.019
130.00	-19.76	-1.15	0.00	-26.08	0.00	26.08	3,165.67	1,582.83	4,644.73	2,325.82	2.29	-0.17	0.017
131.66	-19.11	-1.12	0.00	-24.18	0.00	24.18	1,875.92	937.96	2,776.25	1,390.19	2.35	-0.17	0.028
135.00	-18.16	-1.07	0.00	-20.45	0.00	20.45	1,848.21	924.11	2,667.57	1,335.77	2.47	-0.17	0.025
140.00	-12.71	-0.80	0.00	-15.08	0.00	15.08	1,804.96	902.48	2,506.10	1,254.91	2.66	-0.18	0.019
145.00	-12.23	-0.77	0.00	-11.10	0.00	11.10	1,759.62	879.81	2,346.60	1,175.04	2.85	-0.18	0.016
148.00	-10.22	-0.66	0.00	-8.78	0.00	8.78	1,731.42	865.71	2,251.99	1,127.67	2.96	-0.19	0.014
149.00	-8.70	-0.58	0.00	-8.12	0.00	8.12	1,721.85	860.93	2,220.65	1,111.98	3.00	-0.19	0.012
150.00	-7.99	-0.53	0.00	-7.54	0.00	7.54	1,712.20	856.10	2,189.41	1,096.33	3.04	-0.19	0.012
155.00	-7.31	-0.49	0.00	-4.87	0.00	4.87	1,662.70	831.35	2,034.89	1,018.96	3.24	-0.19	0.009
160.00	-5.39	-0.37	0.00	-2.42	0.00	2.42	1,611.13	805.56	1,883.37	943.08	3.45	-0.19	0.006
160.50	-5.34	-0.37	0.00	-2.23	0.00	2.23	1,605.85	802.93	1,868.39	935.58	3.47	-0.19	0.006
160.50	-5.34	-0.37	0.00	-2.23	0.00	2.23	1,062.64	531.32	1,193.75	597.76	3.47	-0.19	0.009
161.00	-3.44	-0.24	0.00	-2.05	0.00	2.05	1,060.93	530.47	1,188.54	595.15	3.49	-0.19	0.007
165.00	-3.02	-0.21	0.00	-1.07	0.00	1.07	1,047.03	523.52	1,146.95	574.33	3.65	-0.20	0.005
170.00	0.00	0.00	0.00	0.00	0.00	0.00	1,029.05	514.53	1,095.30	548.46	3.85	-0.20	0.000

170.50	0.00	0.00	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.15	545.89	3.87	-0.20	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.75	-1.78	0.00	-234.55	0.00	234.55	6,027.96	3,013.98	17,007.2	8,516.24	0.00	0.00	0.036
5.00	-48.12	-1.79	0.00	-225.63	0.00	225.63	5,964.25	2,982.12	16,500.1	8,262.35	0.00	-0.01	0.035
10.00	-46.51	-1.79	0.00	-216.69	0.00	216.69	5,898.45	2,949.22	15,994.5	8,009.14	0.01	-0.01	0.035
15.00	-44.94	-1.79	0.00	-207.74	0.00	207.74	5,830.57	2,915.29	15,490.5	7,756.77	0.03	-0.02	0.034
20.00	-43.39	-1.79	0.00	-198.77	0.00	198.77	5,760.62	2,880.31	14,988.5	7,505.43	0.05	-0.02	0.034
25.00	-41.86	-1.79	0.00	-189.81	0.00	189.81	5,688.58	2,844.29	14,489.0	7,255.28	0.08	-0.03	0.034
30.00	-40.37	-1.79	0.00	-180.85	0.00	180.85	5,614.46	2,807.23	13,992.1	7,006.49	0.11	-0.04	0.033
35.00	-38.90	-1.78	0.00	-171.91	0.00	171.91	5,538.27	2,769.13	13,498.4	6,759.23	0.15	-0.04	0.032
40.00	-36.27	-1.76	0.00	-162.99	0.00	162.99	5,459.99	2,729.99	13,008.0	6,513.68	0.20	-0.05	0.032
45.00	-34.72	-1.75	0.00	-154.17	0.00	154.17	5,379.63	2,689.82	12,521.4	6,270.01	0.26	-0.06	0.031
48.00	-34.15	-1.75	0.00	-148.92	0.00	148.92	5,384.54	2,692.27	12,550.6	6,284.66	0.29	-0.06	0.030
50.00	-32.74	-1.73	0.00	-145.42	0.00	145.42	5,351.87	2,675.93	12,357.0	6,187.71	0.32	-0.06	0.030
55.00	-31.36	-1.72	0.00	-136.76	0.00	136.76	5,268.72	2,634.36	11,875.9	5,946.82	0.39	-0.07	0.029
60.00	-30.01	-1.70	0.00	-128.17	0.00	128.17	5,183.50	2,591.75	11,399.4	5,708.21	0.47	-0.08	0.028
65.00	-28.69	-1.67	0.00	-119.69	0.00	119.69	5,096.20	2,548.10	10,927.8	5,472.05	0.55	-0.08	0.028
70.00	-27.65	-1.65	0.00	-111.32	0.00	111.32	5,006.81	2,503.41	10,461.4	5,238.51	0.64	-0.09	0.027
74.00	-27.38	-1.65	0.00	-104.70	0.00	104.70	4,933.81	2,466.91	10,092.3	5,053.69	0.71	-0.09	0.026
75.00	-26.11	-1.62	0.00	-103.05	0.00	103.05	4,915.35	2,457.68	10,000.6	5,007.77	0.73	-0.10	0.026
80.00	-25.44	-1.60	0.00	-94.95	0.00	94.95	4,821.81	2,410.90	9,545.79	4,779.99	0.84	-0.10	0.025
82.66	-24.47	-1.58	0.00	-90.67	0.00	90.67	4,771.13	2,385.57	9,306.02	4,659.93	0.90	-0.11	0.025
85.00	-22.70	-1.53	0.00	-86.98	0.00	86.98	4,726.18	2,363.09	9,097.16	4,555.34	0.95	-0.11	0.024
89.33	-22.56	-1.52	0.00	-80.37	0.00	80.37	3,846.41	1,923.21	7,360.18	3,685.56	1.05	-0.11	0.028
90.00	-21.49	-1.49	0.00	-79.35	0.00	79.35	3,836.63	1,918.32	7,313.25	3,662.06	1.07	-0.12	0.027
95.00	-20.44	-1.45	0.00	-71.91	0.00	71.91	3,762.45	1,881.23	6,965.41	3,487.88	1.19	-0.12	0.026
100.00	-19.42	-1.41	0.00	-64.65	0.00	64.65	3,686.20	1,843.10	6,621.98	3,315.91	1.32	-0.13	0.025
105.00	-18.42	-1.37	0.00	-57.58	0.00	57.58	3,607.86	1,803.93	6,283.29	3,146.32	1.46	-0.14	0.023
110.00	-18.22	-1.36	0.00	-50.72	0.00	50.72	3,527.44	1,763.72	5,949.70	2,979.27	1.61	-0.14	0.022
111.00	-17.41	-1.33	0.00	-49.36	0.00	49.36	3,511.11	1,755.55	5,883.62	2,946.18	1.64	-0.14	0.022
115.00	-16.45	-1.28	0.00	-44.06	0.00	44.06	3,444.94	1,722.47	5,621.53	2,814.94	1.76	-0.15	0.020
120.00	-15.52	-1.23	0.00	-37.67	0.00	37.67	3,360.36	1,680.18	5,299.14	2,653.51	1.92	-0.16	0.019
125.00	-15.28	-1.21	0.00	-31.53	0.00	31.53	3,273.70	1,636.85	4,982.86	2,495.14	2.09	-0.16	0.017
126.33	-14.30	-1.16	0.00	-29.92	0.00	29.92	3,250.30	1,625.15	4,899.81	2,453.55	2.13	-0.16	0.017
130.00	-13.86	-1.13	0.00	-25.68	0.00	25.68	3,165.67	1,582.83	4,644.73	2,325.82	2.26	-0.17	0.015
131.66	-13.41	-1.10	0.00	-23.80	0.00	23.80	1,875.92	937.96	2,776.25	1,390.19	2.32	-0.17	0.024
135.00	-12.74	-1.06	0.00	-20.13	0.00	20.13	1,848.21	924.11	2,667.57	1,335.77	2.44	-0.17	0.022
140.00	-8.91	-0.78	0.00	-14.85	0.00	14.85	1,804.96	902.48	2,506.10	1,254.91	2.62	-0.18	0.017
145.00	-8.58	-0.76	0.00	-10.93	0.00	10.93	1,759.62	879.81	2,346.60	1,175.04	2.81	-0.18	0.014
148.00	-7.17	-0.65	0.00	-8.65	0.00	8.65	1,731.42	865.71	2,251.99	1,127.67	2.93	-0.18	0.012
149.00	-6.10	-0.57	0.00	-8.00	0.00	8.00	1,721.85	860.93	2,220.65	1,111.98	2.97	-0.19	0.011
150.00	-5.61	-0.53	0.00	-7.43	0.00	7.43	1,712.20	856.10	2,189.41	1,096.33	3.00	-0.19	0.010
155.00	-5.13	-0.48	0.00	-4.80	0.00	4.80	1,662.70	831.35	2,034.89	1,018.96	3.20	-0.19	0.008
160.00	-3.78	-0.36	0.00	-2.38	0.00	2.38	1,611.13	805.56	1,883.37	943.08	3.40	-0.19	0.005
160.50	-3.74	-0.36	0.00	-2.20	0.00	2.20	1,605.85	802.93	1,868.39	935.58	3.42	-0.19	0.005
160.50	-3.74	-0.36	0.00	-2.20	0.00	2.20	1,062.64	531.32	1,193.75	597.76	3.42	-0.19	0.007
161.00	-2.42	-0.24	0.00	-2.02	0.00	2.02	1,060.93	530.47	1,188.54	595.15	3.44	-0.19	0.006
165.00	-2.12	-0.21	0.00	-1.06	0.00	1.06	1,047.03	523.52	1,146.95	574.33	3.60	-0.19	0.004
170.00	0.00	0.00	0.00	0.00	0.00	0.00	1,029.05	514.53	1,095.30	548.46	3.80	-0.19	0.000

170.50	0.00	0.00	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.15	545.89	3.82	-0.19	0.000

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.16
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.17
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.13
Redundancy Factor (p):	1.00

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
46	170.25	34	1.884	1.951	1.130	0.325	7	42
45	167.50	341	1.824	1.650	1.019	0.291	66	421
44	163.00	283	1.727	1.229	0.857	0.239	45	349
43	160.75	44	1.680	1.048	0.784	0.215	6	54
42	160.25	55	1.670	1.010	0.769	0.210	8	67
41	157.50	555	1.613	0.819	0.688	0.183	68	685
40	152.50	573	1.512	0.531	0.557	0.137	52	707
39	149.50	117	1.453	0.392	0.489	0.113	9	144
38	148.50	127	1.434	0.351	0.467	0.105	9	156
37	146.50	384	1.395	0.275	0.427	0.090	23	474
36	142.50	654	1.320	0.149	0.354	0.063	28	807
35	137.50	773	1.229	0.034	0.277	0.035	18	954
34	133.33	526	1.156	-0.033	0.223	0.015	5	649
33	130.83	505	1.113	-0.062	0.195	0.005	2	623
32	128.17	1,131	1.068	-0.086	0.168	-0.004	-3	1,396
31	125.67	281	1.027	-0.102	0.145	-0.011	-2	347
30	122.50	1,073	0.976	-0.115	0.120	-0.019	-13	1,325
29	117.50	1,100	0.898	-0.122	0.086	-0.026	-19	1,358
28	113.00	900	0.830	-0.117	0.063	-0.028	-17	1,110
27	110.50	228	0.794	-0.111	0.052	-0.027	-4	281
26	107.50	1,155	0.751	-0.101	0.041	-0.025	-19	1,426
25	102.50	1,182	0.683	-0.082	0.027	-0.019	-15	1,459
24	97.50	1,209	0.618	-0.059	0.017	-0.010	-8	1,492
23	92.50	1,236	0.556	-0.037	0.010	0.001	1	1,525
22	89.67	168	0.523	-0.024	0.008	0.007	1	207
21	87.17	2,043	0.494	-0.014	0.007	0.013	17	2,522
20	83.83	1,121	0.457	-0.001	0.006	0.019	14	1,383
19	81.33	768	0.430	0.008	0.006	0.024	12	947
18	77.50	1,465	0.390	0.021	0.007	0.030	29	1,808
17	74.50	297	0.361	0.030	0.008	0.034	7	366
16	72.00	1,200	0.337	0.036	0.009	0.036	29	1,481
15	67.50	1,528	0.296	0.046	0.013	0.040	40	1,886
14	62.50	1,560	0.254	0.055	0.017	0.042	44	1,925
13	57.50	1,591	0.215	0.061	0.021	0.043	45	1,964

12	52.50	1,622	0.179	0.065	0.026	0.043	46	2,002
11	49.00	658	0.156	0.067	0.029	0.042	19	812
10	46.50	1,793	0.141	0.069	0.031	0.042	50	2,213
9	42.50	3,039	0.117	0.070	0.035	0.041	84	3,750
8	37.50	1,696	0.091	0.071	0.038	0.040	46	2,093
7	32.50	1,727	0.069	0.072	0.041	0.039	45	2,131
6	27.50	1,758	0.049	0.071	0.042	0.038	45	2,170
5	22.50	1,789	0.033	0.069	0.041	0.037	44	2,208
4	17.50	1,821	0.020	0.064	0.038	0.034	41	2,247
3	12.50	1,852	0.010	0.055	0.032	0.030	37	2,286
2	7.50	1,883	0.004	0.040	0.022	0.023	28	2,324
1	2.50	1,915	0.000	0.016	0.009	0.010	13	2,363
Generic 12' Dipole	170.50	40	1.890	1.980	1.140	0.328	9	49
Decibel DB201-A	170.50	25	1.890	1.980	1.140	0.328	5	31
Generic E-911 GPS	170.50	5	1.890	1.980	1.140	0.328	1	6
Ericsson KRY 112 144	170.50	33	1.890	1.980	1.140	0.328	7	41
Ericsson Radio 4449	170.50	222	1.890	1.980	1.140	0.328	48	274
Ericsson AIR 21, 1.3	170.50	249	1.890	1.980	1.140	0.328	54	307
Ericsson AIR 21, 1.3	170.50	244	1.890	1.980	1.140	0.328	53	302
RFS APXVAARR24_43-U-	170.50	384	1.890	1.980	1.140	0.328	84	474
Round T-Arm w/Reinfo	170.00	1,215	1.879	1.922	1.119	0.321	260	1,499
Alcatel-Lucent RRH2X	161.00	129	1.685	1.067	0.792	0.218	19	159
Alcatel-Lucent RRH2x	161.00	170	1.685	1.067	0.792	0.218	25	210
Alcatel-Lucent B66 R	161.00	201	1.685	1.067	0.792	0.218	29	248
VZW Unused Reserve:	161.00	209	1.685	1.067	0.792	0.218	30	258
RFS APL866513-42T0	161.00	63	1.685	1.067	0.792	0.218	9	78
Antel BXA-70063-4CF-	161.00	10	1.685	1.067	0.792	0.218	1	12
RFS DB-T1-6Z-8AB-0Z	161.00	88	1.685	1.067	0.792	0.218	13	109
Antel BXA-70063/6CF_	161.00	34	1.685	1.067	0.792	0.218	5	42
Commscope SBNHH-	161.00	304	1.685	1.067	0.792	0.218	44	375
Amphenol Antel LPA-8	161.00	42	1.685	1.067	0.792	0.218	6	52
Flat Low Profile Pla	160.00	1,500	1.664	0.992	0.761	0.207	207	1,851
Generic GPS	149.00	10	1.443	0.371	0.478	0.109	1	12
Alcatel-Lucent RRH2x	149.00	317	1.443	0.371	0.478	0.109	23	392
Alcatel-Lucent 1900	149.00	180	1.443	0.371	0.478	0.109	13	222
Alcatel-Lucent TD-RR	149.00	210	1.443	0.371	0.478	0.109	15	259
RFS APXVTM14-ALU-I20	149.00	169	1.443	0.371	0.478	0.109	12	208
Commscope NNVV-	149.00	232	1.443	0.371	0.478	0.109	17	287
Flat Low Profile Pla	148.00	1,500	1.424	0.331	0.457	0.101	101	1,851
Powerwave Allgon TT1	140.00	96	1.274	0.086	0.314	0.048	3	118
Raycap DC6-48-60-18-	140.00	32	1.274	0.086	0.314	0.048	1	39
Ericsson RRUS 8843 B	140.00	216	1.274	0.086	0.314	0.048	7	267
Ericsson RRUS 4478 B	140.00	178	1.274	0.086	0.314	0.048	6	220
Ericsson RRUS 4449 B	140.00	213	1.274	0.086	0.314	0.048	7	263
Raycap DC9-48-60-24-	140.00	16	1.274	0.086	0.314	0.048	1	20
Powerwave Allgon 777	140.00	105	1.274	0.086	0.314	0.048	3	130
CCI DMP65R-BU4D	140.00	407	1.274	0.086	0.314	0.048	13	503
Generic Flat Platfor	140.00	2,500	1.274	0.086	0.314	0.048	80	3,085
Generic 12' Dipole	111.00	40	0.801	-0.112	0.054	-0.027	-1	49
Generic GPS	74.00	10	0.356	0.031	0.008	0.034	0	12
Generic GPS	74.00	10	0.356	0.031	0.008	0.034	0	12
		59,369	92.420	42.071	34.592	9.122	2,198	73,269

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
46	170.25	34	1.884	1.951	1.130	0.325	7	29
45	167.50	341	1.824	1.650	1.019	0.291	66	295

44	163.00	283	1.727	1.229	0.857	0.239	45	245
43	160.75	44	1.680	1.048	0.784	0.215	6	38
42	160.25	55	1.670	1.010	0.769	0.210	8	47
41	157.50	555	1.613	0.819	0.688	0.183	68	481
40	152.50	573	1.512	0.531	0.557	0.137	52	496
39	149.50	117	1.453	0.392	0.489	0.113	9	101
38	148.50	127	1.434	0.351	0.467	0.105	9	110
37	146.50	384	1.395	0.275	0.427	0.090	23	332
36	142.50	654	1.320	0.149	0.354	0.063	28	567
35	137.50	773	1.229	0.034	0.277	0.035	18	669
34	133.33	526	1.156	-0.033	0.223	0.015	5	455
33	130.83	505	1.113	-0.062	0.195	0.005	2	437
32	128.17	1,131	1.068	-0.086	0.168	-0.004	-3	980
31	125.67	281	1.027	-0.102	0.145	-0.011	-2	243
30	122.50	1,073	0.976	-0.115	0.120	-0.019	-13	930
29	117.50	1,100	0.898	-0.122	0.086	-0.026	-19	953
28	113.00	900	0.830	-0.117	0.063	-0.028	-17	779
27	110.50	228	0.794	-0.111	0.052	-0.027	-4	197
26	107.50	1,155	0.751	-0.101	0.041	-0.025	-19	1,001
25	102.50	1,182	0.683	-0.082	0.027	-0.019	-15	1,024
24	97.50	1,209	0.618	-0.059	0.017	-0.010	-8	1,047
23	92.50	1,236	0.556	-0.037	0.010	0.001	1	1,070
22	89.67	168	0.523	-0.024	0.008	0.007	1	145
21	87.17	2,043	0.494	-0.014	0.007	0.013	17	1,769
20	83.83	1,121	0.457	-0.001	0.006	0.019	14	970
19	81.33	768	0.430	0.008	0.006	0.024	12	665
18	77.50	1,465	0.390	0.021	0.007	0.030	29	1,269
17	74.50	297	0.361	0.030	0.008	0.034	7	257
16	72.00	1,200	0.337	0.036	0.009	0.036	29	1,039
15	67.50	1,528	0.296	0.046	0.013	0.040	40	1,323
14	62.50	1,560	0.254	0.055	0.017	0.042	44	1,351
13	57.50	1,591	0.215	0.061	0.021	0.043	45	1,378
12	52.50	1,622	0.179	0.065	0.026	0.043	46	1,405
11	49.00	658	0.156	0.067	0.029	0.042	19	569
10	46.50	1,793	0.141	0.069	0.031	0.042	50	1,553
9	42.50	3,039	0.117	0.070	0.035	0.041	84	2,631
8	37.50	1,696	0.091	0.071	0.038	0.040	46	1,468
7	32.50	1,727	0.069	0.072	0.041	0.039	45	1,495
6	27.50	1,758	0.049	0.071	0.042	0.038	45	1,522
5	22.50	1,789	0.033	0.069	0.041	0.037	44	1,549
4	17.50	1,821	0.020	0.064	0.038	0.034	41	1,577
3	12.50	1,852	0.010	0.055	0.032	0.030	37	1,604
2	7.50	1,883	0.004	0.040	0.022	0.023	28	1,631
1	2.50	1,915	0.000	0.016	0.009	0.010	13	1,658
Generic 12' Dipole	170.50	40	1.890	1.980	1.140	0.328	9	35
Decibel DB201-A	170.50	25	1.890	1.980	1.140	0.328	5	22
Generic E-911 GPS	170.50	5	1.890	1.980	1.140	0.328	1	4
Ericsson KRY 112 144	170.50	33	1.890	1.980	1.140	0.328	7	29
Ericsson Radio 4449	170.50	222	1.890	1.980	1.140	0.328	48	192
Ericsson AIR 21, 1.3	170.50	249	1.890	1.980	1.140	0.328	54	216
Ericsson AIR 21, 1.3	170.50	244	1.890	1.980	1.140	0.328	53	212
RFS APXVAARR24_43-U-	170.50	384	1.890	1.980	1.140	0.328	84	332
Round T-Arm w/Reinfo	170.00	1,215	1.879	1.922	1.119	0.321	260	1,052
Alcatel-Lucent RRH2X	161.00	129	1.685	1.067	0.792	0.218	19	112
Alcatel-Lucent RRH2x	161.00	170	1.685	1.067	0.792	0.218	25	147
Alcatel-Lucent B66 R	161.00	201	1.685	1.067	0.792	0.218	29	174
VZW Unused Reserve:	161.00	209	1.685	1.067	0.792	0.218	30	181
RFS APL866513-42T0	161.00	63	1.685	1.067	0.792	0.218	9	54
Antel BXA-70063-4CF-	161.00	10	1.685	1.067	0.792	0.218	1	9
RFS DB-T1-6Z-8AB-0Z	161.00	88	1.685	1.067	0.792	0.218	13	76
Antel BXA-70063/6CF_	161.00	34	1.685	1.067	0.792	0.218	5	29
Commscope SBNHH-	161.00	304	1.685	1.067	0.792	0.218	44	263
Amphenol Antel LPA-8	161.00	42	1.685	1.067	0.792	0.218	6	36
Flat Low Profile Pla	160.00	1,500	1.664	0.992	0.761	0.207	207	1,299

Generic GPS	149.00	10	1.443	0.371	0.478	0.109	1	9
Alcatel-Lucent RRH2x	149.00	317	1.443	0.371	0.478	0.109	23	275
Alcatel-Lucent 1900	149.00	180	1.443	0.371	0.478	0.109	13	156
Alcatel-Lucent TD-RR	149.00	210	1.443	0.371	0.478	0.109	15	182
RFS APXVTM14-ALU-I20	149.00	169	1.443	0.371	0.478	0.109	12	146
Commscope NNVV-	149.00	232	1.443	0.371	0.478	0.109	17	201
Flat Low Profile Pla	148.00	1,500	1.424	0.331	0.457	0.101	101	1,299
Powerwave Allgon TT1	140.00	96	1.274	0.086	0.314	0.048	3	83
Raycap DC6-48-60-18-	140.00	32	1.274	0.086	0.314	0.048	1	28
Ericsson RRUS 8843 B	140.00	216	1.274	0.086	0.314	0.048	7	187
Ericsson RRUS 4478 B	140.00	178	1.274	0.086	0.314	0.048	6	154
Ericsson RRUS 4449 B	140.00	213	1.274	0.086	0.314	0.048	7	184
Raycap DC9-48-60-24-	140.00	16	1.274	0.086	0.314	0.048	1	14
Powerwave Allgon 777	140.00	105	1.274	0.086	0.314	0.048	3	91
CCI DMP65R-BU4D	140.00	407	1.274	0.086	0.314	0.048	13	353
Generic Flat Platfor	140.00	2,500	1.274	0.086	0.314	0.048	80	2,165
Generic 12' Dipole	111.00	40	0.801	-0.112	0.054	-0.027	-1	35
Generic GPS	74.00	10	0.356	0.031	0.008	0.034	0	9
Generic GPS	74.00	10	0.356	0.031	0.008	0.034	0	9
		59,369	92.420	42.071	34.592	9.122	2,198	51,406

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-70.91	-2.19	0.00	-278.30	0.00	278.30	6,027.96	3,013.98	17,007.20	8,516.24	0.00	0.00	0.044
5.00	-68.58	-2.17	0.00	-267.35	0.00	267.35	5,964.25	2,982.12	16,500.18	8,262.35	0.00	-0.01	0.044
10.00	-66.30	-2.14	0.00	-256.51	0.00	256.51	5,898.45	2,949.22	15,994.50	8,009.14	0.01	-0.01	0.043
15.00	-64.05	-2.11	0.00	-245.81	0.00	245.81	5,830.57	2,915.29	15,490.52	7,756.77	0.03	-0.02	0.043
20.00	-61.84	-2.07	0.00	-235.28	0.00	235.28	5,760.62	2,880.31	14,988.58	7,505.43	0.06	-0.03	0.042
25.00	-59.67	-2.03	0.00	-224.94	0.00	224.94	5,688.58	2,844.29	14,489.01	7,255.28	0.09	-0.04	0.041
30.00	-57.54	-1.99	0.00	-214.78	0.00	214.78	5,614.46	2,807.23	13,992.17	7,006.49	0.13	-0.04	0.041
35.00	-55.45	-1.95	0.00	-204.82	0.00	204.82	5,538.27	2,769.13	13,498.40	6,759.23	0.18	-0.05	0.040
40.00	-51.69	-1.87	0.00	-195.06	0.00	195.06	5,459.99	2,729.99	13,008.03	6,513.68	0.24	-0.06	0.039
45.00	-49.48	-1.82	0.00	-185.70	0.00	185.70	5,379.63	2,689.82	12,521.41	6,270.01	0.31	-0.07	0.039
48.00	-48.67	-1.81	0.00	-180.23	0.00	180.23	5,384.54	2,692.27	12,550.67	6,284.66	0.35	-0.07	0.038
50.00	-46.67	-1.76	0.00	-176.61	0.00	176.61	5,351.87	2,675.93	12,357.05	6,187.71	0.38	-0.07	0.037
55.00	-44.70	-1.72	0.00	-167.79	0.00	167.79	5,268.72	2,634.36	11,875.99	5,946.82	0.46	-0.08	0.037
60.00	-42.78	-1.68	0.00	-159.18	0.00	159.18	5,183.50	2,591.75	11,399.48	5,708.21	0.55	-0.09	0.036
65.00	-40.89	-1.64	0.00	-150.77	0.00	150.77	5,096.20	2,548.10	10,927.86	5,472.05	0.65	-0.10	0.036
70.00	-39.41	-1.62	0.00	-142.55	0.00	142.55	5,006.81	2,503.41	10,461.47	5,238.51	0.76	-0.11	0.035
74.00	-39.02	-1.61	0.00	-136.08	0.00	136.08	4,933.81	2,466.91	10,092.37	5,053.69	0.85	-0.11	0.035
75.00	-37.21	-1.58	0.00	-134.47	0.00	134.47	4,915.35	2,457.68	10,000.67	5,007.77	0.88	-0.12	0.034
80.00	-36.26	-1.57	0.00	-126.56	0.00	126.56	4,821.81	2,410.90	9,545.79	4,779.99	1.00	-0.12	0.034
82.66	-34.88	-1.56	0.00	-122.37	0.00	122.37	4,771.13	2,385.57	9,306.02	4,659.93	1.07	-0.13	0.034
85.00	-32.36	-1.54	0.00	-118.72	0.00	118.72	4,726.18	2,363.09	9,097.16	4,555.34	1.14	-0.13	0.033
89.33	-32.15	-1.54	0.00	-112.06	0.00	112.06	3,846.41	1,923.21	7,360.18	3,685.56	1.26	-0.14	0.039
90.00	-30.63	-1.54	0.00	-111.03	0.00	111.03	3,836.63	1,918.32	7,313.25	3,662.06	1.28	-0.14	0.038
95.00	-29.13	-1.55	0.00	-103.33	0.00	103.33	3,762.45	1,881.23	6,965.41	3,487.88	1.44	-0.15	0.037
100.00	-27.67	-1.56	0.00	-95.59	0.00	95.59	3,686.20	1,843.10	6,621.98	3,315.91	1.60	-0.16	0.036
105.00	-26.25	-1.58	0.00	-87.78	0.00	87.78	3,607.86	1,803.93	6,283.29	3,146.32	1.78	-0.17	0.035
110.00	-25.97	-1.59	0.00	-79.86	0.00	79.86	3,527.44	1,763.72	5,949.70	2,979.27	1.97	-0.18	0.034
111.00	-24.81	-1.61	0.00	-78.27	0.00	78.27	3,511.11	1,755.55	5,883.62	2,946.18	2.00	-0.19	0.034
115.00	-23.45	-1.62	0.00	-71.85	0.00	71.85	3,444.94	1,722.47	5,621.53	2,814.94	2.16	-0.19	0.032
120.00	-22.12	-1.64	0.00	-63.73	0.00	63.73	3,360.36	1,680.18	5,299.14	2,653.51	2.37	-0.20	0.031
125.00	-21.78	-1.64	0.00	-55.55	0.00	55.55	3,273.70	1,636.85	4,982.86	2,495.14	2.59	-0.21	0.029
126.33	-20.38	-1.64	0.00	-53.37	0.00	53.37	3,250.30	1,625.15	4,899.81	2,453.55	2.65	-0.22	0.028
130.00	-19.76	-1.64	0.00	-47.36	0.00	47.36	3,165.67	1,582.83	4,644.73	2,325.82	2.82	-0.22	0.027
131.66	-19.11	-1.63	0.00	-44.64	0.00	44.64	1,875.92	937.96	2,776.25	1,390.19	2.90	-0.23	0.042
135.00	-18.15	-1.61	0.00	-39.20	0.00	39.20	1,848.21	924.11	2,667.57	1,335.77	3.06	-0.23	0.039
140.00	-12.70	-1.44	0.00	-31.14	0.00	31.14	1,804.96	902.48	2,506.10	1,254.91	3.31	-0.24	0.032
145.00	-12.23	-1.42	0.00	-23.93	0.00	23.93	1,759.62	879.81	2,346.60	1,175.04	3.57	-0.25	0.027
148.00	-10.22	-1.30	0.00	-19.67	0.00	19.67	1,731.42	865.71	2,251.99	1,127.67	3.74	-0.26	0.023
149.00	-8.70	-1.20	0.00	-18.37	0.00	18.37	1,721.85	860.93	2,220.65	1,111.98	3.79	-0.26	0.022
150.00	-7.99	-1.15	0.00	-17.17	0.00	17.17	1,712.20	856.10	2,189.41	1,096.33	3.85	-0.26	0.020
155.00	-7.31	-1.08	0.00	-11.42	0.00	11.42	1,662.70	831.35	2,034.89	1,018.96	4.13	-0.27	0.016
160.00	-5.39	-0.85	0.00	-6.03	0.00	6.03	1,611.13	805.56	1,883.37	943.08	4.41	-0.28	0.010
160.50	-5.33	-0.85	0.00	-5.60	0.00	5.60	1,605.85	802.93	1,868.39	935.58	4.44	-0.28	0.009
160.50	-5.33	-0.85	0.00	-5.60	0.00	5.60	1,062.64	531.32	1,193.75	597.76	4.44	-0.28	0.014
161.00	-3.44	-0.61	0.00	-5.18	0.00	5.18	1,060.93	530.47	1,188.54	595.15	4.47	-0.28	0.012
165.00	-3.02	-0.54	0.00	-2.72	0.00	2.72	1,047.03	523.52	1,146.95	574.33	4.70	-0.28	0.008
170.00	0.00	0.00	0.00	0.00	0.00	0.00	1,029.05	514.53	1,095.30	548.46	5.00	-0.28	0.000

170.50	0.00	0.00	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.15	545.89	5.03	-0.28	0.000

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.75	-2.19	0.00	-275.29	0.00	275.29	6,027.96	3,013.98	17,007.20	8,516.24	0.00	0.00	0.041
5.00	-48.12	-2.17	0.00	-264.36	0.00	264.36	5,964.25	2,982.12	16,500.18	8,262.35	0.00	-0.01	0.040
10.00	-46.51	-2.13	0.00	-253.53	0.00	253.53	5,898.45	2,949.22	15,994.50	8,009.14	0.01	-0.01	0.040
15.00	-44.94	-2.10	0.00	-242.86	0.00	242.86	5,830.57	2,915.29	15,490.52	7,756.77	0.03	-0.02	0.039
20.00	-43.39	-2.06	0.00	-232.38	0.00	232.38	5,760.62	2,880.31	14,988.58	7,505.43	0.06	-0.03	0.038
25.00	-41.86	-2.02	0.00	-222.08	0.00	222.08	5,688.58	2,844.29	14,489.01	7,255.28	0.09	-0.04	0.038
30.00	-40.37	-1.98	0.00	-211.99	0.00	211.99	5,614.46	2,807.23	13,992.17	7,006.49	0.13	-0.04	0.037
35.00	-38.90	-1.94	0.00	-202.11	0.00	202.11	5,538.27	2,769.13	13,498.40	6,759.23	0.18	-0.05	0.037
40.00	-36.27	-1.85	0.00	-192.43	0.00	192.43	5,459.99	2,729.99	13,008.03	6,513.68	0.24	-0.06	0.036
45.00	-34.72	-1.81	0.00	-183.15	0.00	183.15	5,379.63	2,689.82	12,521.41	6,270.01	0.30	-0.07	0.036
48.00	-34.15	-1.79	0.00	-177.74	0.00	177.74	5,384.54	2,692.27	12,550.67	6,284.66	0.34	-0.07	0.035
50.00	-32.74	-1.74	0.00	-174.16	0.00	174.16	5,351.87	2,675.93	12,357.05	6,187.71	0.38	-0.07	0.034
55.00	-31.36	-1.70	0.00	-165.43	0.00	165.43	5,268.72	2,634.36	11,875.99	5,946.82	0.46	-0.08	0.034
60.00	-30.01	-1.66	0.00	-156.93	0.00	156.93	5,183.50	2,591.75	11,399.48	5,708.21	0.55	-0.09	0.033
65.00	-28.69	-1.62	0.00	-148.63	0.00	148.63	5,096.20	2,548.10	10,927.86	5,472.05	0.64	-0.10	0.033
70.00	-27.65	-1.59	0.00	-140.52	0.00	140.52	5,006.81	2,503.41	10,461.47	5,238.51	0.75	-0.11	0.032
74.00	-27.38	-1.59	0.00	-134.14	0.00	134.14	4,933.81	2,466.91	10,092.37	5,053.69	0.84	-0.11	0.032
75.00	-26.11	-1.56	0.00	-132.56	0.00	132.56	4,915.35	2,457.68	10,000.67	5,007.77	0.87	-0.11	0.032
80.00	-25.44	-1.55	0.00	-124.76	0.00	124.76	4,821.81	2,410.90	9,545.79	4,779.99	0.99	-0.12	0.031
82.66	-24.47	-1.53	0.00	-120.63	0.00	120.63	4,771.13	2,385.57	9,306.02	4,659.93	1.06	-0.13	0.031
85.00	-22.70	-1.52	0.00	-117.05	0.00	117.05	4,726.18	2,363.09	9,097.16	4,555.34	1.12	-0.13	0.030
89.33	-22.56	-1.52	0.00	-110.49	0.00	110.49	3,846.41	1,923.21	7,360.18	3,685.56	1.25	-0.14	0.036
90.00	-21.49	-1.51	0.00	-109.47	0.00	109.47	3,836.63	1,918.32	7,313.25	3,662.06	1.27	-0.14	0.035
95.00	-20.44	-1.52	0.00	-101.90	0.00	101.90	3,762.45	1,881.23	6,965.41	3,487.88	1.42	-0.15	0.035
100.00	-19.42	-1.54	0.00	-94.29	0.00	94.29	3,686.20	1,843.10	6,621.98	3,315.91	1.58	-0.16	0.034
105.00	-18.41	-1.56	0.00	-86.59	0.00	86.59	3,607.86	1,803.93	6,283.29	3,146.32	1.76	-0.17	0.033
110.00	-18.22	-1.56	0.00	-78.80	0.00	78.80	3,527.44	1,763.72	5,949.70	2,979.27	1.94	-0.18	0.032
111.00	-17.40	-1.58	0.00	-77.24	0.00	77.24	3,511.11	1,755.55	5,883.62	2,946.18	1.98	-0.18	0.031
115.00	-16.45	-1.60	0.00	-70.92	0.00	70.92	3,444.94	1,722.47	5,621.53	2,814.94	2.14	-0.19	0.030
120.00	-15.52	-1.61	0.00	-62.93	0.00	62.93	3,360.36	1,680.18	5,299.14	2,653.51	2.34	-0.20	0.028
125.00	-15.28	-1.61	0.00	-54.87	0.00	54.87	3,273.70	1,636.85	4,982.86	2,495.14	2.56	-0.21	0.027
126.33	-14.30	-1.61	0.00	-52.72	0.00	52.72	3,250.30	1,625.15	4,899.81	2,453.55	2.62	-0.21	0.026
130.00	-13.86	-1.61	0.00	-46.80	0.00	46.80	3,165.67	1,582.83	4,644.73	2,325.82	2.79	-0.22	0.025
131.66	-13.40	-1.61	0.00	-44.12	0.00	44.12	1,875.92	937.96	2,776.25	1,390.19	2.86	-0.22	0.039
135.00	-12.73	-1.59	0.00	-38.75	0.00	38.75	1,848.21	924.11	2,667.57	1,335.77	3.02	-0.23	0.036
140.00	-8.91	-1.43	0.00	-30.81	0.00	30.81	1,804.96	902.48	2,506.10	1,254.91	3.27	-0.24	0.029
145.00	-8.58	-1.40	0.00	-23.69	0.00	23.69	1,759.62	879.81	2,346.60	1,175.04	3.53	-0.25	0.025
148.00	-7.17	-1.29	0.00	-19.48	0.00	19.48	1,731.42	865.71	2,251.99	1,127.67	3.69	-0.26	0.021
149.00	-6.10	-1.19	0.00	-18.20	0.00	18.20	1,721.85	860.93	2,220.65	1,111.98	3.74	-0.26	0.020
150.00	-5.60	-1.14	0.00	-17.00	0.00	17.00	1,712.20	856.10	2,189.41	1,096.33	3.80	-0.26	0.019
155.00	-5.12	-1.07	0.00	-11.32	0.00	11.32	1,662.70	831.35	2,034.89	1,018.96	4.07	-0.27	0.014
160.00	-3.78	-0.85	0.00	-5.98	0.00	5.98	1,611.13	805.56	1,883.37	943.08	4.36	-0.27	0.009
160.50	-3.74	-0.84	0.00	-5.55	0.00	5.55	1,605.85	802.93	1,868.39	935.58	4.38	-0.27	0.008
160.50	-3.74	-0.84	0.00	-5.55	0.00	5.55	1,062.64	531.32	1,193.75	597.76	4.38	-0.27	0.013
161.00	-2.41	-0.61	0.00	-5.13	0.00	5.13	1,060.93	530.47	1,188.54	595.15	4.41	-0.27	0.011
165.00	-2.12	-0.54	0.00	-2.70	0.00	2.70	1,047.03	523.52	1,146.95	574.33	4.64	-0.28	0.007
170.00	0.00	0.00	0.00	0.00	0.00	0.00	1,029.05	514.53	1,095.30	548.46	4.93	-0.28	0.000

170.50	0.00	0.00	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.15	545.89	4.96	-0.28	0.000

Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	36.51	0.00	71.21	0.00	0.00	4460.41	0.00	0.54
0.9D + 1.6W	36.48	0.00	53.40	0.00	0.00	4418.48	0.00	0.53
1.2D + 1.0Di + 1.0Wi	9.69	0.00	100.70	0.00	0.00	1149.91	0.00	0.15
(1.2 + 0.2Sds) * DL + E ELFM	1.78	0.00	70.91	0.00	0.00	236.95	0.00	0.04
(1.2 + 0.2Sds) * DL + E EMAM	2.19	0.00	70.91	0.00	0.00	278.30	0.00	0.04
(0.9 - 0.2Sds) * DL + E ELFM	1.78	0.00	49.75	0.00	0.00	234.55	0.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	2.19	0.00	49.75	0.00	0.00	275.29	0.00	0.04
1.0D + 1.0W	6.66	0.00	59.37	0.00	0.00	809.43	0.00	0.10

Base Plate & Anchor Rod Analysis

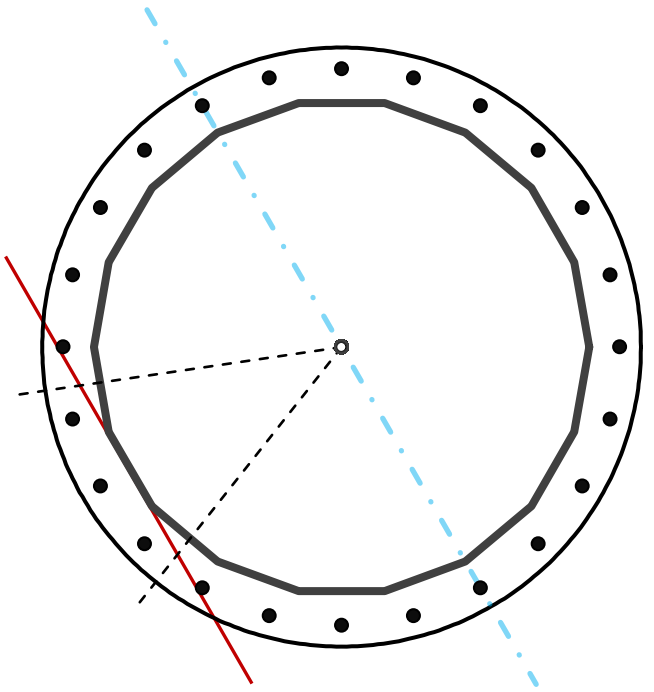
Pole Dimensions		
Number of Sides	18	-
Diameter	69	in
Thickness	0.4375	in
Orientation Offset		°

Base Reactions		
Moment, Mu	4460.4	k-ft
Axial, Pu	71.2	k
Shear, Vu	36.5	k
Neutral Axis	120	°

Report Capacities		
Component	Capacity	Result
Base Plate	43%	Pass
Anchor Rods	46%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ø	85	in
Thickness	2 1/4	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset		°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	989.8	k
Bending Stress, ϕMn	2289.0	k

Original Anchor Rods		
Arrangement	Radial	-
Quantity	24	-
Diameter, ø	2 1/4	in
Bolt Circle	79	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	10.3	in
Orientation Offset		°
Applied Force, Pu	119.3	k
Anchor Rods, ϕPn	259.8	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	36.5	4460.4	1.00
Anchor Rod Forces	36.5	4460.4	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	93.7578	5.2088	0.3334		55098.28
Bolt	3.9761	3.2477	0.8393	4.5	57225.51
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Round	-
Diameter, D	85	in
Thickness, t	2.25	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	49.639	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	24	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	79	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	119.3	k
Applied Shear, Vu	0.6	k
Compressive Capacity, ϕPn	259.8	k
Tensile Capacity, ϕRnt	0.459	OK
Interaction Capacity	0.464	OK

External Base Plate		
Chord Length AA	42.973	in
Additional AA	4.500	in
Section Modulus, Z	60.083	in^3
Applied Moment, Mu	989.8	k-ft
Bending Capacity, ϕMn	3244.5	k-ft
Capacity, Mu/ϕMn	0.305	OK
Chord Length AB	41.202	in
Additional AB	4.500	in
Section Modulus, Z	57.841	in^3
Applied Moment, Mu	802.8	k-ft
Bending Capacity, ϕMn	3123.4	k-ft
Capacity, Mu/ϕMn	0.257	OK
Bend Line Length	33.493	in
Additional Bend Line	0.000	in
Section Modulus, Z	42.390	in^3
Applied Moment, Mu	989.8	k-ft
Bending Capacity, ϕMn	2289.0	k-ft
Capacity, Mu/ϕMn	0.432	OK

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Flange Plate Analysis

Flange Plate

Plate Type	***Flange***	***@ 161 ft***
Pole Diameter	29	in
Pole Thickness	0.25	in
Plate Diameter	36	in
Plate Thickness	1	in
Plate Fy	60	ksi
Weld Length	0.25	in
f_s Resistance	81.84	k-in
Applied	8.19	k-in

Code Rev.	***G***
Moment	60.1 k-ft
Axial	4.6 k

Required Flange Thickness:
0.32 in OK

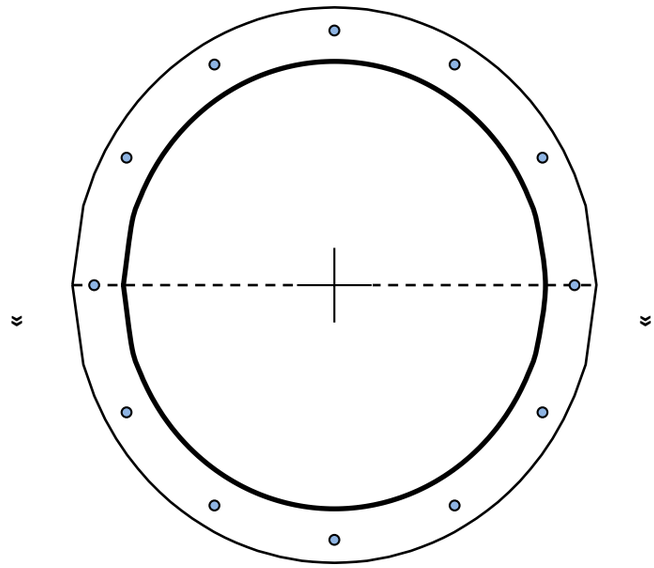
Date	11/8/2019
Engineer	HAT
Site #	411178
Carrier	AT&T

Stiffeners

#	

Bolts

#	***12***	
Bolt Circle	33	in
(R)adial / (S)quare	R	
Bolt Gap	6	in
Diameter	1	in
Hole Diameter	1.125	in
Type	A325	
Fy	92	ksi
Fu	120	ksi
f_s Resistance	54.52	k
Applied	6.90	k



Reinforcement

#	

Plate Stress Ratio:
10% Pass

Bolt Stress Ratio:
13% Pass

Extra Bolts O

#	

Site Name: Old Lyme South CT, CT
Site Number: 411178
Tower Type: MP
Design Loads (Factored) - Analysis per TIA-222-G Standards

Monolithic Mat & Pier Foundation Analysis

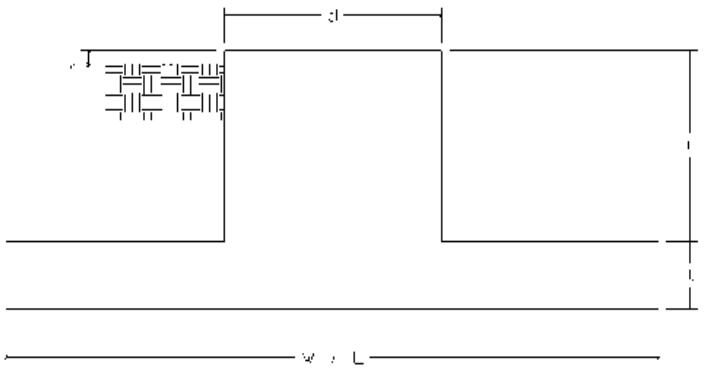
Foundation Analysis Parameters		
Design / Analysis / Mapping:	Analysis	-
Compression/Leg:	71.2	k
Uplift/Leg:	0.0	k
Total Shear:	36.5	k
Moment:	4,460.4	k-ft
Tower + Appurtenance Weight:	71.2	k
Depth to Base of Foundation (l + t - h):	7	ft
Diameter of Pier (d):	8.5	ft
Length of Pier (l):	4.5	ft
Height of Pier above Ground (h):	1	ft
Width of Pad (W):	31	ft
Length of Pad (L):	31	ft
Thickness of Pad (t):	3.5	ft
Tower Leg Center to Center:	0	ft
Number of Tower Legs:	1	-
Tower Center from Mat Center:	0	ft
Depth Below Ground Surface to Water Table:	99	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil Above Water Table:	125	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	62.6	pcf
Friction Angle of Uplift:	15	°
Coefficient of Shear Friction:	0.6	-
Ultimate Compressive Bearing Pressure:	12,000	psf
Ultimate Passive Pressure on Pad Face:	0	psf
$f_{Soil\ and\ Concrete\ Weight}$:	0.9	-
f_{Soil}:	0.75	-

Foundation Steel Parameters		
Concrete Strength (f'_c):	4,000	psi
Pad Tension Steel Depth:	38.0	in
Dead Load Factor:	0.9	-
f_{Shear}:	0.75	-
$f_{Flexure\ /\ Tension}$:	0.9	-
$f_{Compression:}$	0.65	-
b:	0.85	-
Bottom Pad Rebar Size #:	9	-
# of Bottom Pad Rebar:	54	-
Pad Bottom Steel Area:	54.00	in^2
Pad Steel F_y:	60,000	psi
Top Pad Rebar Size #:	9	-
# of Top Pad Rebar:	27	-
Pad Top Steel Area:	27.00	in^2
Pier Rebar Size #:	9	-
Pier Steel Area (Single Bar):	1.00	in^2
# of Pier Rebar:	52	-
Pier Steel F_y:	60,000	psi
Pier Cage Diameter:	94.0	in
Rebar Strain Limit:	0.008	-
Steel Elastic Modulus:	29,000	ksi
Tie Rebar Size #:	4	-
Tie Steel Area (Single Bar):	0.20	in^2
Tie Spacing:	12	in
Tie Steel F_y:	60,000	psi

Overturning Moment Usage		
Design OTM:	4752.5	k-ft
OTM Resistance:	14643.1	k-ft
Design OTM / OTM Resistance:	32%	Pass

Soil Bearing Pressure Usage		
Net Bearing Pressure:	1208	psf
Factored Nominal Bearing Pressure:	9000	psf
Factored Nominal (Net) Bearing Pressure:	13%	Pass
Load Direction Controling Design Bearing Pressure:	*Diagonal to Pad Edge*	

Sliding Factor of Safety		
Ultimate Friction Resistance:	598.7	k
Ultimate Passive Pressure Resistance:	0.0	k
Total Factored Sliding Resistance:	449.0	k
Sliding Design / Sliding Resistance:	8%	Pass



Pad Strength Capacity			
Factored One Way Shear (V_u):	240.9	k	
One Way Shear Capacity (fV_c):	1341.1	k	*ACI11.3.1.1*
V_u / fV_c:	18%	Pass	
Load Direction Controling Shear Capacity:	*Parallel to Pad Edge*		
Lower Steel Pad Factored Moment (M_u):	1920.6	k-ft	
Lower Steel Pad Moment Capacity (fM_n):	8969.4	k-ft	*ACI10.3*
M_u / fM_n:	21%	Pass	
Load Direction Controling Flexural Capacity:	*Parallel to Pad Edge*		
Upper Steel Pad Factored Moment (M_u):	1170.3	k-ft	
Upper Steel Pad Moment Capacity (fM_n):	4550.9	k-ft	
M_u / fM_n:	26%	Pass	
Lower Pad Flexural Reinforcement Ratio:	0.0038		*OK - Minimum Reinforcement Ratio Met - ACI10.5.1*
Upper Pad Flexural Reinforcement Ratio:	0.0019		*OK - Minimum Reinforcement Ratio Met - ACI10.5.1*
Pad Shrinkage Reinforcement Ratio:	0.0057		*OK - Shrinkage Reinforcement Ratio Met - ACI7.12.2.1*
Lower Pad Reinforcement Spacing:	7	in	*Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4*
Upper Pad Reinforcement Spacing:	14	in	*Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4*
Factored Punching Shear (V_u):	0.0	k	
Nominal Punching Shear Capacity (f_cV_n):	3171.1	k	*ACI11.12.2.1*
V_u / fV_c:	0%	Pass	

Pier Strength Capacity			
Factored Moment in Pier (M_u):	4624.7	k-ft	
Pier Moment Capacity (fM_n):	10755.0	k-ft	
M_u / fM_n:	43%	Pass	
Factored Shear in Pier (V_u):	36.5	k	
Pier Shear Capacity (fV_n):	901.0	k	
V_u / fV_c:	4%	Pass	
Pier Shear Reinforcement Ratio:	0.0002		*OK - No Ties Necessary for Shear - ACI11.5.6.1*
Factored Tension in Pier (T_u):	0.0	k	
Pier Tension Capacity (fT_n):	2808.0	k	
T_u / fT_n:	0%	Pass	
Factored Compression in Pier (P_u):	71.2	k	
Pier Compression Capacity (fP_n):	14354.9	k	*ACI10.3.6.2*
P_u / fP_n:	0%	Pass	
Pier Compression Reinforcement Ratio:	0.006		*OK - Reinforcement Ratio Met - ACI10.9.1 & 10.8.4*
Minimum Depth to Develop Vertical Rebar:	22	in	*ACI12.2.3*
Minimum Hook Development Length:	15	in	*ACI12.5*
Minimum Mat Thickness / Edge Distance from Pier:	18.0	in	
Minimum Foundation Depth:	3.10	ft	
$M_u/f_BM_n + T_u/f_TT_n$:	43%	Pass	

125 MILE CREEK RD

Location	125 MILE CREEK RD	**Mblu**	13/ / 93/ /
Acct#	00044800	**Owner**	MACHNIK TODD & REBECCA L Q/C/S
Assessment	$442,700	**Appraisal**	$864,600
PID	474	**Building Count**	3

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$420,000	$444,600	$864,600
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$294,000	$148,700	$442,700

Owner of Record

Owner	MACHNIK TODD & REBECCA L Q/C/S	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	126 MILE CREEK RD OLD LYME, CT 06371	**Book & Page**	0309/0432
		Sale Date	01/06/2004

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
MACHNIK TODD & REBECCA L Q/C/S	$0		0309/0432	01/06/2004
MACHNIK LEON & TODD H & REBECCCA L Q/	$0		0291/0852	01/06/2003
MACHNIK LEON & TODD & REBECCA Q/C/S T	$0		0284/0764	07/22/2002
MACHNIK LEON & Q/C/S	$0		0267/0227	01/02/2001
MACHNIK LEON ET AL	$0		0261/0299	01/19/2000

Building Information

Building 1 : Section 1

Year Built:	1975
Living Area:	678
Replacement Cost:	$82,146

Building Percent Good: 71

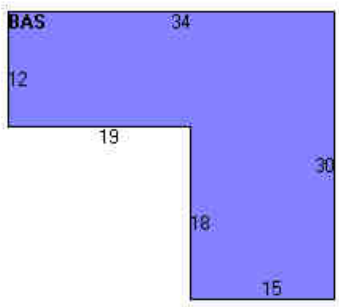
Replacement Cost Less Depreciation: $58,300

Building Attributes	
Field	**Description**
STYLE	Commercial
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	1.00
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Inlaid Sht Gds
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Struct Class	
Bldg Use	OFFICE BLD MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrfld 218	
Usrfld 219	
1st Floor Use:	3400
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	SUS-CEIL & WL
Rooms/Prtns	AVERAGE
Wall Height	8.00
% Comn Wall	0.00

Building Photo

(http://images.vgsi.com/photos/OldLymeCTPhotos//\00\00\43\44

Building Layout



(http://images.vgsi.com/photos/OldLymeCTPhotos//Sketches/474

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	678	678
		678	678

Building 2 : Section 1

Year Built: 1994

Living Area: 1,512

Replacement Cost: $66,230

Building Percent Good: 84

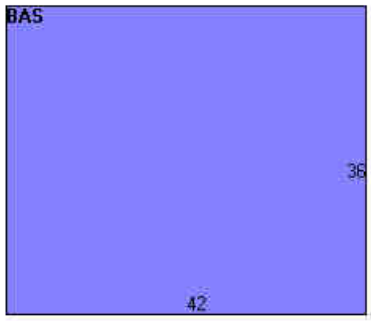
Replacement Cost Less Depreciation: $55,600

Building Attributes : Bldg 2 of 3	
Field	**Description**
STYLE	Pre-Eng Gar
MODEL	Ind/Comm
Grade	Below Average
Stories:	1
Occupancy	0.00
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Hot Air-no Duc
AC Type	None
Struct Class	
Bldg Use	COM WHS/GAR
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrfld 218	
Usrfld 219	
1st Floor Use:	316I
Heat/AC	NONE
Frame Type	STEEL
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	12.00
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/OldLymeCTPhotos//default.jpg)

Building Layout



(http://images.vgsi.com/photos/OldLymeCTPhotos//Sketches/474

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,512	1,512
		1,512	1,512

Building 3 : Section 1

Year Built: 1975

Living Area: 7,500

Replacement Cost: $323,700

Building Percent Good: 71

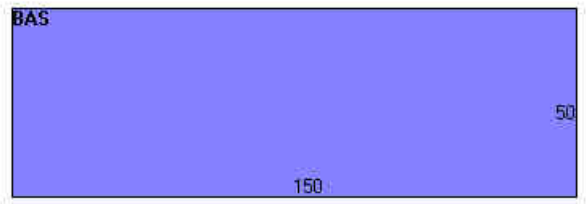
Replacement Cost Less Depreciation: $229,800

Building Attributes : Bldg 3 of 3	
Field	**Description**
STYLE	Pre-Eng Gar
MODEL	Ind/Comm
Grade	Average
Stories:	1
Occupancy	1.00
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Struct Class	
Bldg Use	AUTO REPR
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrfld 218	
Usrfld 219	
1st Floor Use:	3320
Heat/AC	HEAT/AC SPLIT
Frame Type	STEEL
Baths/Plumbing	LIGHT
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	12.00
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/OldLymeCTPhotos//default.jpg)

Building Layout



(http://images.vgsi.com/photos/OldLymeCTPhotos//Sketches/474

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	7,500	7,500
		7,500	7,500

Extra Features

Extra Features	Legend

No Data for Extra Features

Land

Land Use

Use Code	3400
Description	OFFICE BLD MDL-94
Zone	RU40
Neighborhood	0060
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	62.00
Frontage	0
Depth	0
Assessed Value	$148,700
Appraised Value	$444,600

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FGR2	GARAGE-GOOD			864.00 S.F.	$13,000	1
PAV1	PAVING-ASPHALT			1008.00 S.F.	$1,300	2
PAV1	PAVING-ASPHALT			792.00 S.F.	$800	3
BRN8	POLE BARN			1092.00 S.F.	$11,500	3
BRN8	POLE BARN			792.00 S.F.	$5,900	2
SHD2	W/LIGHTS ETC			600.00 S.F.	$6,300	1
SHD1	SHED FRAME			100.00 S.F.	$900	3
SHD2	W/LIGHTS ETC			572.00 S.F.	$6,000	1
PAV1	PAVING-ASPHALT			100.00 S.F.	$100	3
LNT	LEAN-TO			300.00 S.F.	$1,200	3
MSC19	TOWER			50.00 UNIT	$29,300	3

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$402,800	$410,600	$813,400
2018	$402,800	$410,600	$813,400
2017	$402,800	$410,600	$813,400

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$282,100	$124,900	$407,000
2018	$282,100	$124,900	$407,000
2017	$282,100	$124,900	$407,000

October 2018

This map (data) is for planning purposes only. It is not intended to be used for description, conveyance, authoritative definition of any legal boundary, or property title. This is not a survey product. The Town of Old Lyme and its mapping contractors assume no legal responsibility for the information contained herein.

AppGeo

- Parcel Line
- Right of Way
- Paper Street
- Rail Road
- Rivers/Streams
- Tie Line
- Mapgrid
- Easement
- Leader
- Railroad
- Abandoned Railroad
- Edge of Paved Area
- Edge of Unpaved Area
- Edge of Trail
- Bridge
- Tunnel/Portal
- Edge of Drive
- Buildings
- Building under construction
- Shelter
- Deck
- Flight of stairs
- Patio
- Ruined building
- Canopy
- Rivers/Streams
- Lakes/Ponds
- Swamps

Town of Old Lyme

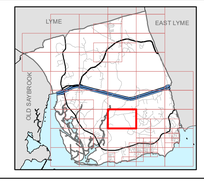
CONNECTICUT

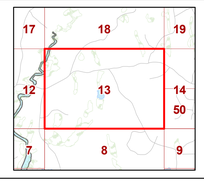
Tax Assessor Map

N W E S

0 200 400 Feet

1 inch = 200 feet





Tax Map Number

13

DOCKET NO. 202 - Crown Atlantic Company LLC and Cellco Partnership d/b/a Cellco Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a cellular telecommunications facility off of Buttonball Road, located approximately 1,000 feet south of the intersection of Buttonball Road and the Amtrak railroad right-of-way, Old Lyme; or at 125 Mile Creek Road, Old Lyme, Connecticut.	} } } }	Connecticut Siting Council September 12, 2001

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility at the proposed alternate #1 site in Old Lyme, Connecticut, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Crown Atlantic Company LLC and Cellco Partnership d/b/a Verizon Wireless for the construction, maintenance, and operation of a cellular telecommunications facility located at 125 Mile Creek Road, Old Lyme, Connecticut. We deny certification of the proposed prime site.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Cellco and at least three other telecommunications entities, both public and private, but such tower shall not exceed a height of 160 feet above ground level (AGL), including appurtenances. The tower and foundation may be designed and constructed capable of being extended from 160 feet AGL to 190 feet AGL, with such extension subject to Council approval by petition for a declaratory ruling, pursuant to Sections 16-50j-38 through 16-50j-40 of the Regulations of Connecticut State Agencies.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include: a final site plan(s) for site development to include the location and specifications for the tower foundation, antennas, equipment building, emergency generator and fuel tank, security fence, access road, and utility line; construction plans for site clearing, tree trimming, water drainage, and erosion and sedimentation controls consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; provisions for a single equipment building to accommodate the telecommunications equipment for at least three other telecommunications providers with provisions for expansion of the building and suitable architectural treatment; landscaping; a tower finish that may include painting; and provisions for the prevention and containment of spills and/or other discharge into surface water and groundwater bodies.

3. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

4. The Certificate Holder shall provide the Council with a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels originally calculated and provided in the application.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. If the facility does not initially provide, or permanently ceases to provide wireless services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

7. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.

8. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the effective date of this Decision and Order or within three years after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant, The Day, and the Pictorial/Gazette.

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

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
Crown Atlantic Company LLC and Cellco Partnership d/b/a Verizon Wireless	Robert Stanford, Project Manager Crown Atlantic Company LLC 703 Hebron Avenue Glastonbury, CT 06033 Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597
Intervenor	**Its Representative**
Town of Old Lyme Zoning Commission	Eric Knapp, Esq. Branse & Willis, LLC 41-C New London Turnpike Glen Lochen East Glastonbury, CT 06033-2038

Intervenor
James B. Blair
38-1 Buttonball Road
Old Lyme, CT 06371

Party
John P. McCarthy
Judith A. McCarthy
54 Buttonball Road
Old Lyme, CT 06371

Petition No. 877
Omnipoint Communications (T-Mobile)
Old Lyme, Connecticut
Staff Report
January 8, 2009

On November 25, 2008, Omnipoint Communications (T-Mobile) filed a petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the extension of an existing telecommunications tower in Old Lyme, Connecticut. Connecticut Siting Council member Phil Ashton and Council staff member David Martin conducted a field review of the proposed modifications on December 10, 2008. Jennifer Gaudet represented T-Mobile at the field review.

T-Mobile proposes to add a ten-foot extension to an existing 160-foot monopole tower located at 125 Mile Creek Road in Old Lyme. The existing tower is owned by Verizon Wireless and was certificated by the Council in Docket 202, which was approved on June 3, 2002. In this docket, Verizon, and its co-applicant Crown, originally proposed a 190-foot tower. The Council approved a 160-foot tower but allowed for the tower and foundation to be built to accommodate extensions up to 190 feet.

From this location, T-Mobile is seeking to cover an area south of the tower that encompasses a section of the Amtrak rail line that is currently without coverage. T-Mobile's RF engineers have determined that antennas placed at the highest, existing available height of 130 feet would not cover the target area. Consequently, T-Mobile is seeking the extension in order to place its antennas at the 170-foot level to be able to achieve its coverage objectives.

The tower is located on a 62-acre parcel used for the storage of construction and agricultural equipment. The surrounding area consists of sparse single-family residential development. There is a short section on Mile Creek Road where the tower is very clearly visible because the land has been cleared for agricultural and residential purposes. Most of the surrounding area, however, is shielded from views of the tower by existing, mature deciduous trees. The proposed ten-foot extension will not appreciably increase the visible footprint of the existing tower.

The addition of T-Mobile's antennas would bring the cumulative power density of the antenna systems on the tower to 16.6% of the FCC limit.

The tower compound is enclosed by a stockade fence. At the time of the field review, the gate of the fence was open and in poor condition. Council representatives pointed this out to T-Mobile's representative and asked that a request to repair the fence be passed on to the tower owner.

Council representatives also noted that ospreys had built a nest on the tower's highest antenna platform. T-Mobile's representative stated that the proposed modifications could be done at a time when they would not disturb the nesting birds.

Based upon observations made during the field review, T-Mobile's proposed modifications should not create any significant adverse environmental impacts. Staff recommends approval of this petition with the conditions that: 1) the tower owner repair the fence as needed and 2) any work related to the extension of the tower and installation of T-Mobile's antennas be undertaken at a time when it will not disturb any actively nesting ospreys.

View of existing tower

Tower compound

JHANA ARSENAULT
6034210470
SAI COMMUNICATIONS
12 INDUSTRIAL WAY
SALEM NH 03079

1 LBS

1 OF 1

SHIP TO:
MELANIE BACHMAN
6035606185
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQUARE
NEW BRITAIN CT 06051

CT 067 9-06

UPS GROUND
TRACKING #: 1Z 9V0 F66 03 9039 2630

BILLING: P/P

Reference No.1: CT2235 CT-103-20001

XOL 20.01.29 NV45 83.0A 12/2019

JHANA ARSENAULT
6034210470
SAI COMMUNICATIONS
12 INDUSTRIAL WAY
SALEM NH 03079

1 LBS

1 OF 1

SHIP TO:
AMERICAN TOWER CORPORATION
7819264585
AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN MA 01801

MA 018 9-04

UPS GROUND
TRACKING #: 1Z 9V0 F66 03 9851 3299

BILLING: P/P

Reference No.1: CT2235 CT-103-20001

XOL 20.01.16 NV45 83.0A 12/2019

TM

JHANA ARSENAULT
6034210470
SAI COMMUNICATIONS
12 INDUSTRIAL WAY
SALEM NH 03079

1 LBS

1 OF 1

SHIP TO:
KIM BARROWS - ZONING
6034210470
HON.TIMOTHY GRISWOLD-1ST SELECTMAN
OLD LYME TOWN HALL
52 LYME ST
OLD LYME CT 06371

CT 063 5-02

UPS GROUND
TRACKING #: 1Z 9V0 F66 03 9300 8040

BILLING: P/P

Reference No.1: CT2235 CT-103-20001

XOL 20.01.29 NV45 83.0A 12/2019