UPS CampusShip: View/Print Label

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

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

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

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

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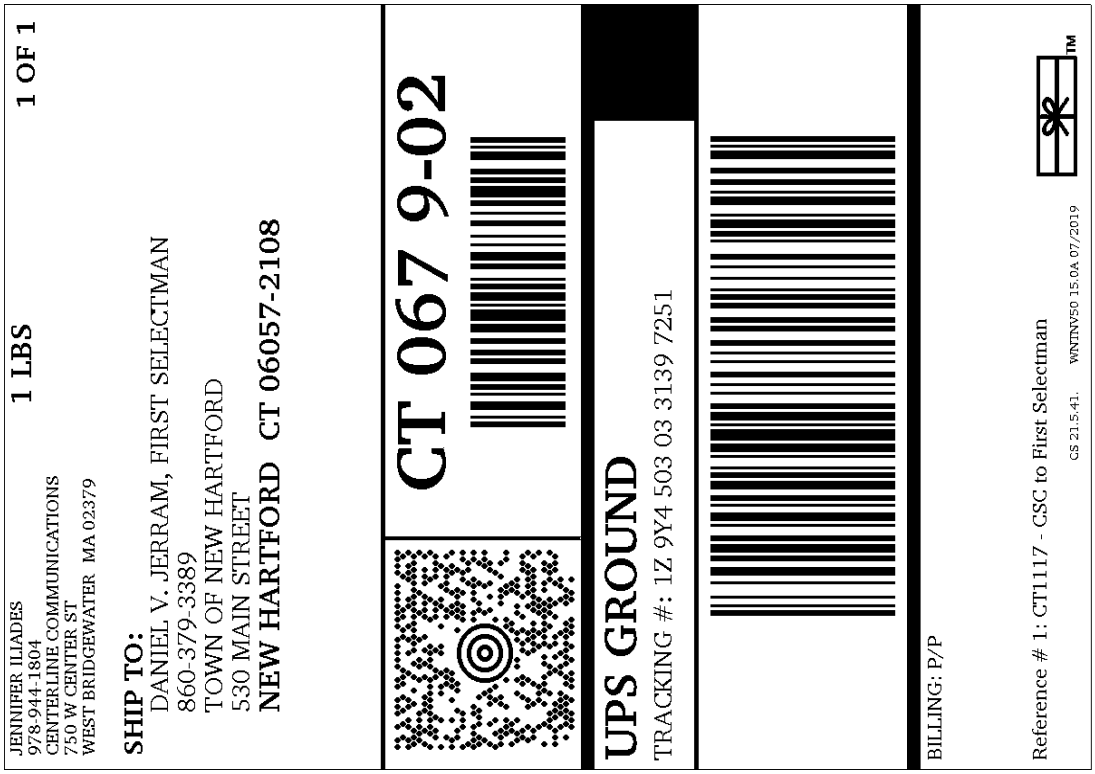

Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Thursday, October 17, 2019 11:10 AM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030331397251

Your package has been delivered.

Delivery Date: Thursday, 10/17/2019
Delivery Time: 11:03 AM

At the request of CENTERLINE SITE ACQUISITION this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	1Z9Y45030331397251
Ship To:	Daniel V. Jerram, First Selectman Town of New Hartford 530 MAIN ST NEW HARTFORD, CT 06057 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	0.5 LBS
Delivery Location:	RECEIVER HAYWARD
Reference Number 1:	CT1117 - CSC to First Selectman

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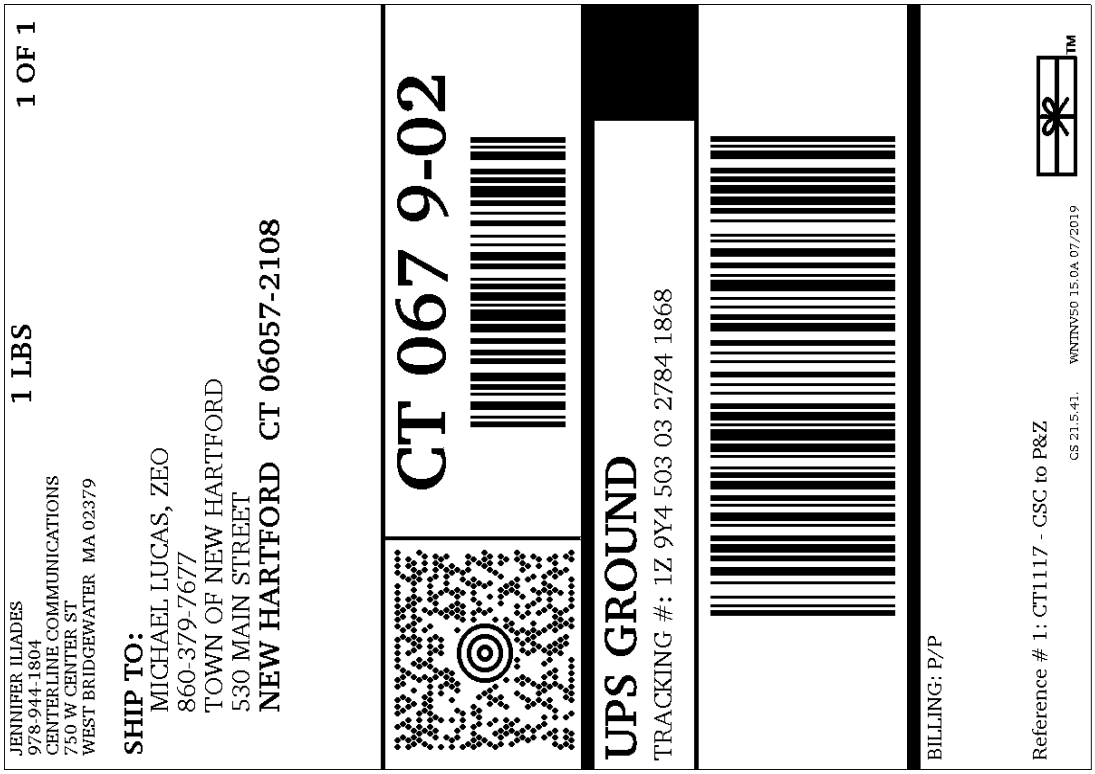

Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Thursday, October 17, 2019 11:10 AM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030327841868

Your package has been delivered.

Delivery Date: Thursday, 10/17/2019
Delivery Time: 11:03 AM

At the request of CENTERLINE SITE ACQUISITION this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	1Z9Y45030327841868
Ship To:	Michael Lucas, ZEO Town of New Hartford 530 MAIN ST NEW HARTFORD, CT 06057 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	0.5 LBS
Delivery Location:	RECEIVER HAYWARD
Reference Number 1:	CT1117 - CSC to P&Z

UPS CampusShip: View/Print Label

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

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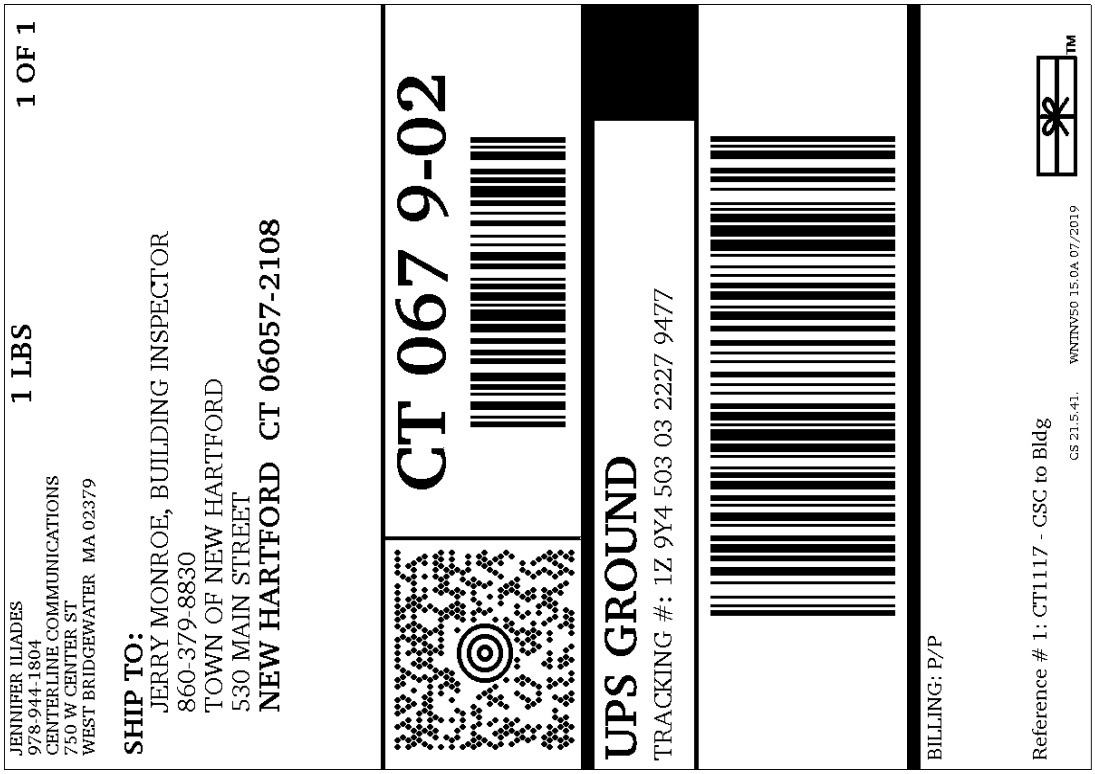

Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Thursday, October 17, 2019 11:10 AM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030322279477

Your package has been delivered.

Delivery Date: Thursday, 10/17/2019
Delivery Time: 11:03 AM

At the request of CENTERLINE SITE ACQUISITION this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	1Z9Y45030322279477
Ship To:	Jerry Monroe, Building Inspector Town of New Hartford 530 MAIN ST NEW HARTFORD, CT 06057 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	0.5 LBS
Delivery Location:	RECEIVER HAYWARD
Reference Number 1:	CT1117 - CSC to Bldg

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UPS CampusShip: View/Print Label

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

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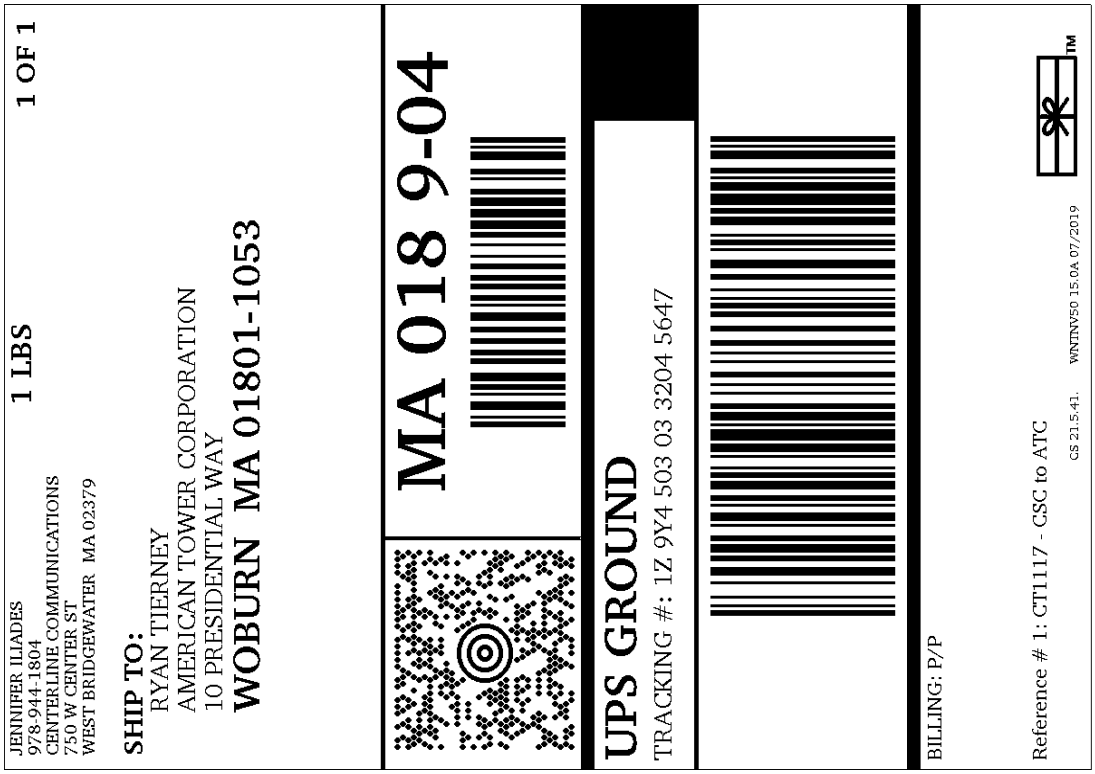

Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Thursday, October 17, 2019 10:39 AM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030332045647

Your package has been delivered.

Delivery Date: Thursday, 10/17/2019
Delivery Time: 10:35 AM

At the request of CENTERLINE SITE ACQUISITION this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	1Z9Y45030332045647
Ship To:	Ryan Tierney American Tower Corporation 10 PRESIDENTIAL WAY WOBURN, MA 01801 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	0.5 LBS
Delivery Location:	OFFICE HAY
Reference Number 1:	CT1117 - CSC to ATC

UPS CampusShip: View/Print Label

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

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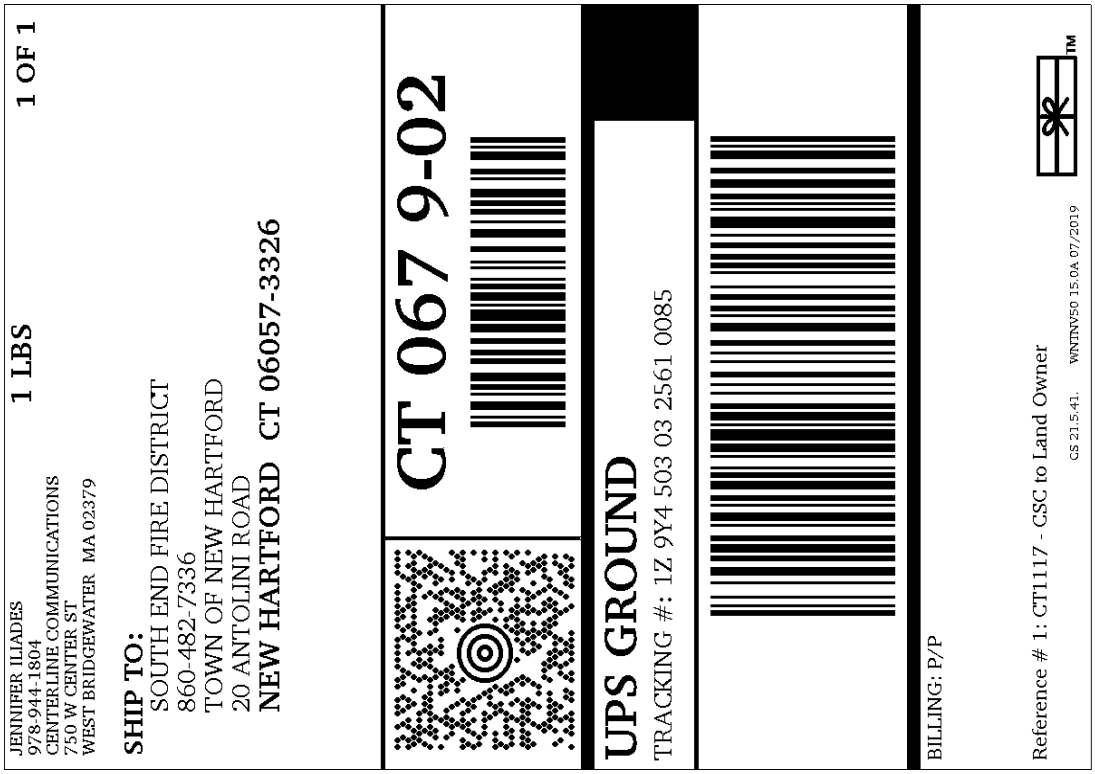

Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Thursday, October 17, 2019 2:27 PM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030325610085

Your package has been delivered.

Delivery Date: Thursday, 10/17/2019
Delivery Time: 02:20 PM

At the request of CENTERLINE SITE ACQUISITION this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	1Z9Y45030325610085
Ship To:	South End Fire District Town of New Hartford 20 ANTOLINI RD NEW HARTFORD, CT 06057 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	0.5 LBS
Delivery Location:	MAILBOX
	MAILBOX
Reference Number 1:	CT1117 - CSC to Land Owner

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October 15, 2019

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

Regarding: Notice of Exempt Modification – AT&T Site CT1117
Address: 20 Antolini Road, New Hartford, CT 06057

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains a wireless telecommunications facility on an existing a +/- 145' monopole tower at the above-referenced address, latitude 41.828100, longitude -73.015700. Said monopole tower is managed by American Tower Corporation.

AT&T desires to modify its existing telecommunications facility by swapping (6) antennas, swapping (3) remote radio heads, adding (6) remote radio heads, adding (1) surge arrestor and accompanying feedlines as more particularly detailed and described on the enclosed Construction Drawings prepared by Hudson Design Group LLC, dated September 3, 2019 and last revised September 23, 2019. The centerline height of the existing antennas is and will remain at 82 feet.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the following individuals: Daniel V. Jerram, First Selectman of the Town of New Hartford; Michael Lucas, Zoning Enforcement Officer of the Town of New Hartford, Jerry Monroe, Building Inspector of the Town of New Hartford; American Tower Corporation as manager of the above referenced tower; South End Fire District, as property owner of the above referenced address.

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

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

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

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

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

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

6. The existing structure and its foundation can support the proposed loading. *Please see the structural analysis dated August 26, 2019 and prepared by American Tower Corporation enclosed herewith.*

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

Sincerely,

Jennifer Iliades
Site Acquisition Consultant
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
jiliades@clinellc.com

Enclosures:
Exhibit 1 – Construction Drawings
Exhibit 2 – Property Card and GIS
Exhibit 3 – Structural Analysis
Exhibit 4 – Mount Analysis and Mount Modification Drawings
Exhibit 5 – RF Emissions Analysis Report Evaluation
Exhibit 6 – Original Tower Approval

cc:
Daniel V. Jerram, First Selectman of the Town of New Hartford
Michael Lucas, Zoning Enforcement Officer of the Town of New Hartford
Jerry Monroe, Building Inspector of the Town of New Hartford
American Tower Corporation, as tower manager
South End Fire District, as property owner

EXHIBIT 1

PROJECT INFORMATION

SCOPE OF WORK:	ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE: • NEW AT&T ANTENNAS: (DMP65R-BU8DA) @ POS. 3 & 4 (TOTAL OF 2 FOR ALPHA SECTOR). • NEW AT&T ANTENNAS: (DMP65R-BU6DA) @ POS. 3 & 4 (TYP. OF 2 PER BETA & GAMMA SECTORS, TOTAL OF 4). • NEW AT&T RRUS: B14 4478 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T RRUS: B5/B12 4449 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T RRUS: B2/B66A 8843 (AWS/PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T DC9/FIBER SURGE ARRESTOR: (TOTAL OF 1) WITH (3) DC POWER & (1) FIBER RUN. ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION: • REPLACE BB WITH 6630. • ADD RBS 6630 FOR 5G. • ADD (1) IDLe. • ADD (1) XMU. ITEMS TO REMAIN: • (3) ANTENNAS, (6) TMA'S, (1) SURGE ARRESTOR, (6) COAX CABLES (ACTIVE), (6) COAX CABLES (SPARE), (2) DC POWER & (1) FIBER.
SITE ADDRESS:	20 ANTOLINI ROAD NEW HARTFORD, CT 06057
LATITUDE:	41.828048° N, 41° 49' 40.97" N
LONGITUDE:	73.015666° W, 73° 00' 56.39" W
TYPE OF SITE:	MONOPOLE / INDOOR
STRUCTURE HEIGHT:	145'-0"±
RAD CENTER:	82'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

SITE NUMBER: CT1117

SITE NAME: NEW HARTFORD NEPAUG

FA CODE: 10035305

PACE ID: MRCTB041421, MRCTB041446, MRCTB041709, MRCTB041541, MRCTB041476

PROJECT: LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

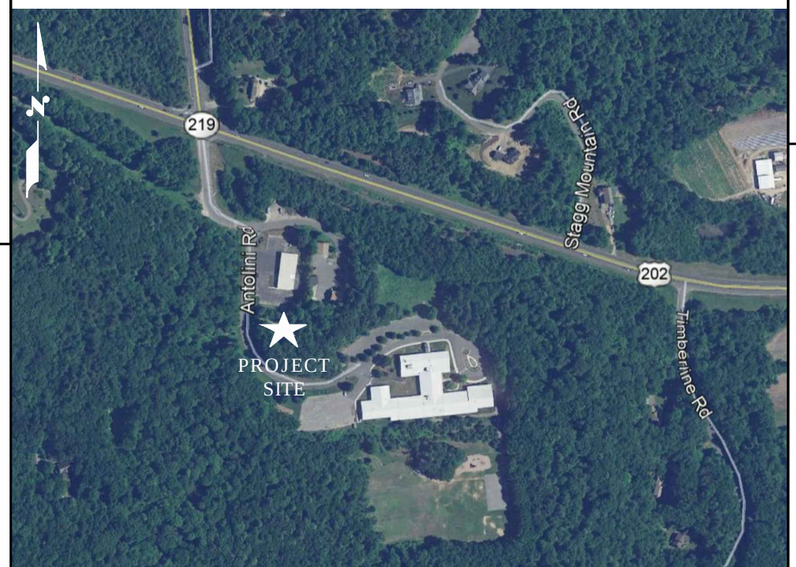
DRAWING INDEX

ATC SITE NAME: NEPAUG, CT
ATC SITE #: 411182

VICINITY MAP

DIRECTIONS TO SITE:

NEW HARTFORD CT-212/L16 TAKE THE GARDEN STATE PARKWAY NORTH TO THE TAPPAN ZEE BRIDGE. AFTER THE BRIDGE TAKE EXIT 8 (I-287) TO EXIT 1 WHICH IS THE SAW MILL RIVER PARKWAY NORTH. TAKE THE SAW MILL RIVER PARKWAY TO THE END WHERE IT WILL MERGE WITH I-684 NORTH



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

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

UNDERGROUND SERVICE ALERT

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

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

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

SITE NUMBER: CT1117
SITE NAME: NEW HARTFORD NEPAUG
ATC SITE # ID: 411182

20 ANTOLINI ROAD
NEW HARTFORD, CT 06057
LITCHFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/23/19	ISSUED FOR CONSTRUCTION	ET	AT	DPH
A	09/03/19	ISSUED FOR REVIEW	ET	AT	DPH

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

AT&T

TITLE SHEET
LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1117	T-1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

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

   CONTRACTOR – CENTERLINE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

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

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

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

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

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

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

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

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

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

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

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ABBREVIATIONS

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

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

SITE NUMBER: CT1117
SITE NAME: NEW HARTFORD NEPAUG
ATC SITE # ID: 411182

20 ANTOLINI ROAD
NEW HARTFORD, CT 06057
LITCHFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
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A	09/03/19	ISSUED FOR REVIEW	ET	AT	DPH

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

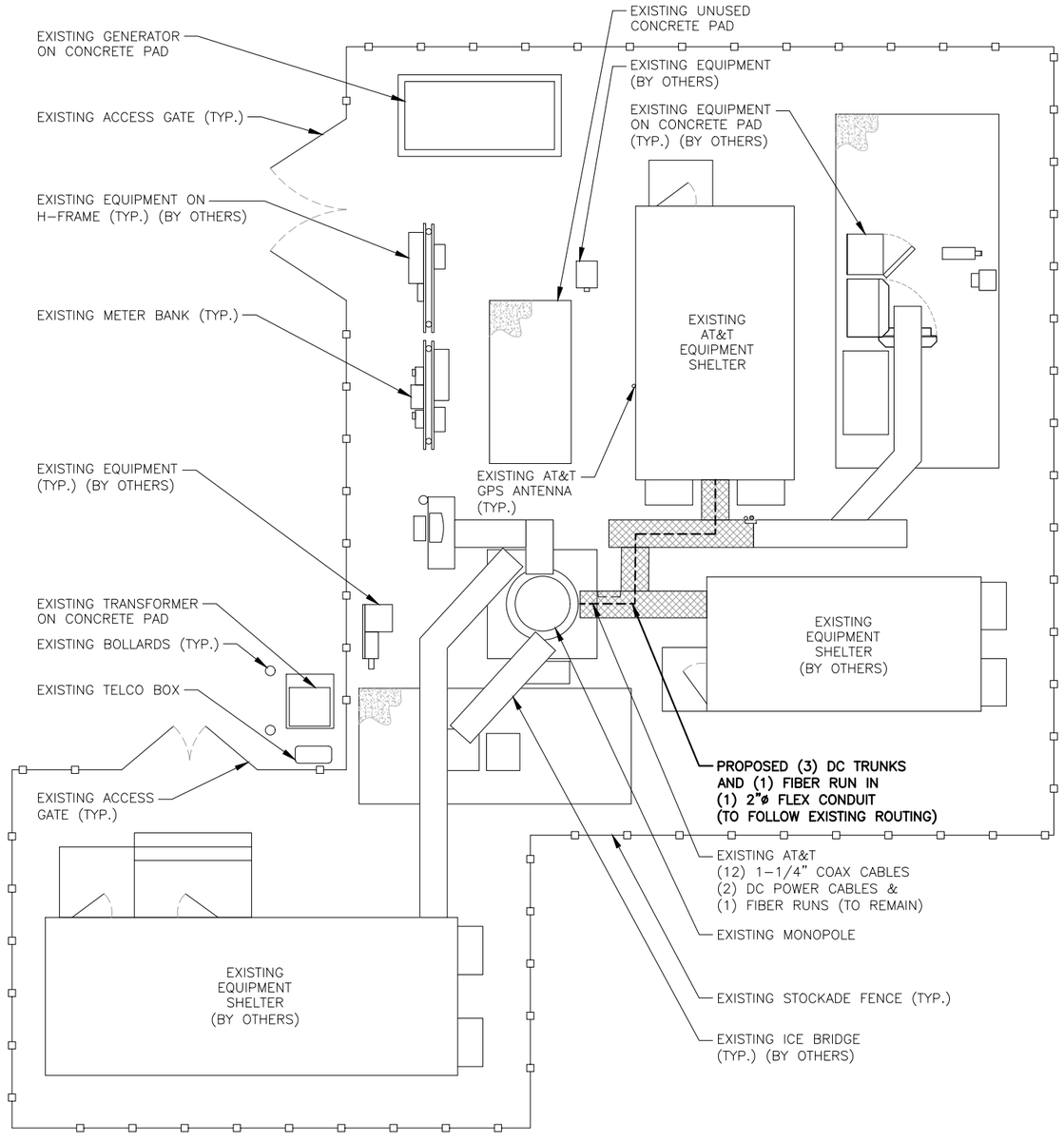
STATE OF CONNECTICUT · DANIEL P. HAMM · No.24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES

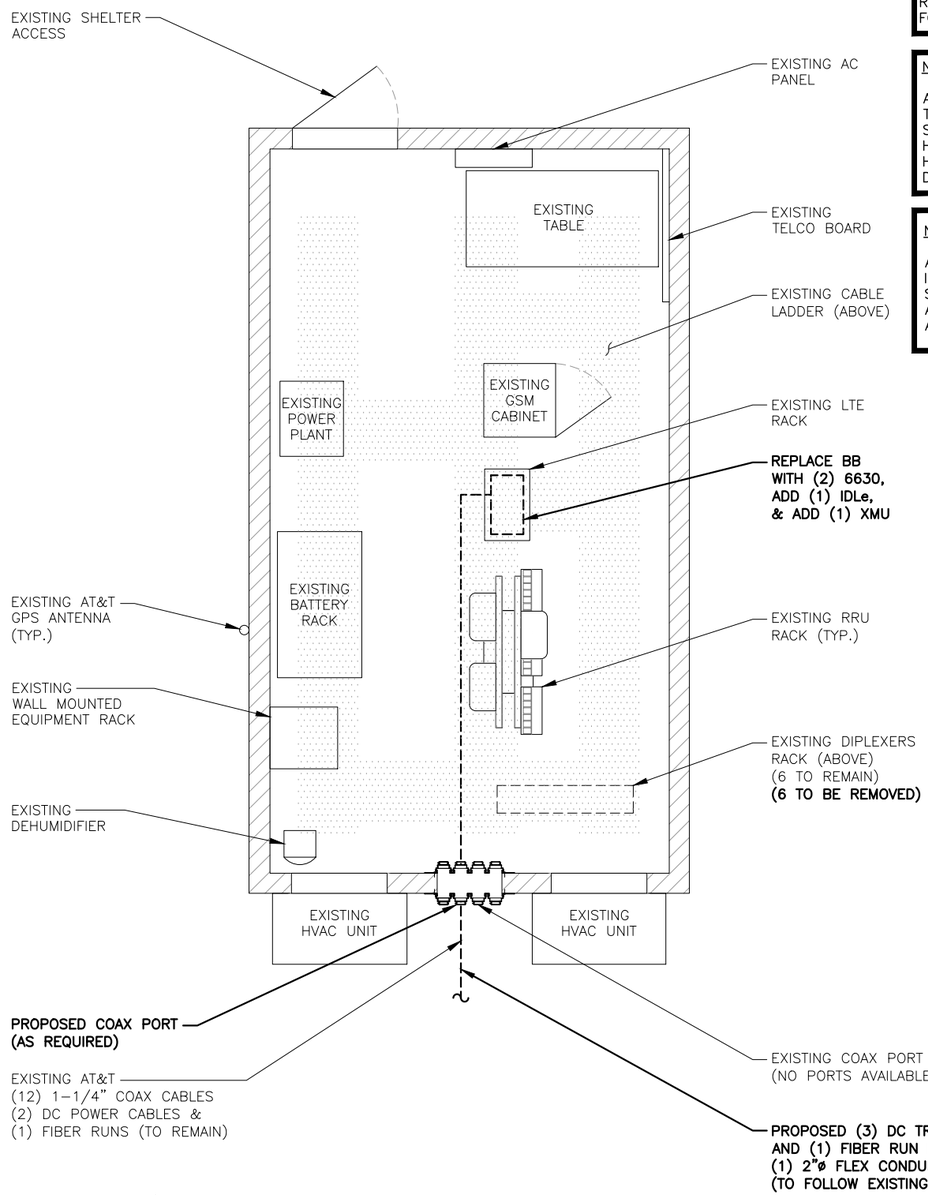
LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

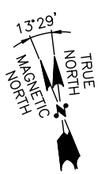
SITE NUMBER	DRAWING NUMBER	REV
CT1117	GN-1	1



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

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





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

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

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: AUGUST 28, 2019

NOTE:

ALL ANTENNAS AND LINES TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY AMERICAN TOWER CORP. AND FINAL AT&T RF DATA SHEET.

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

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

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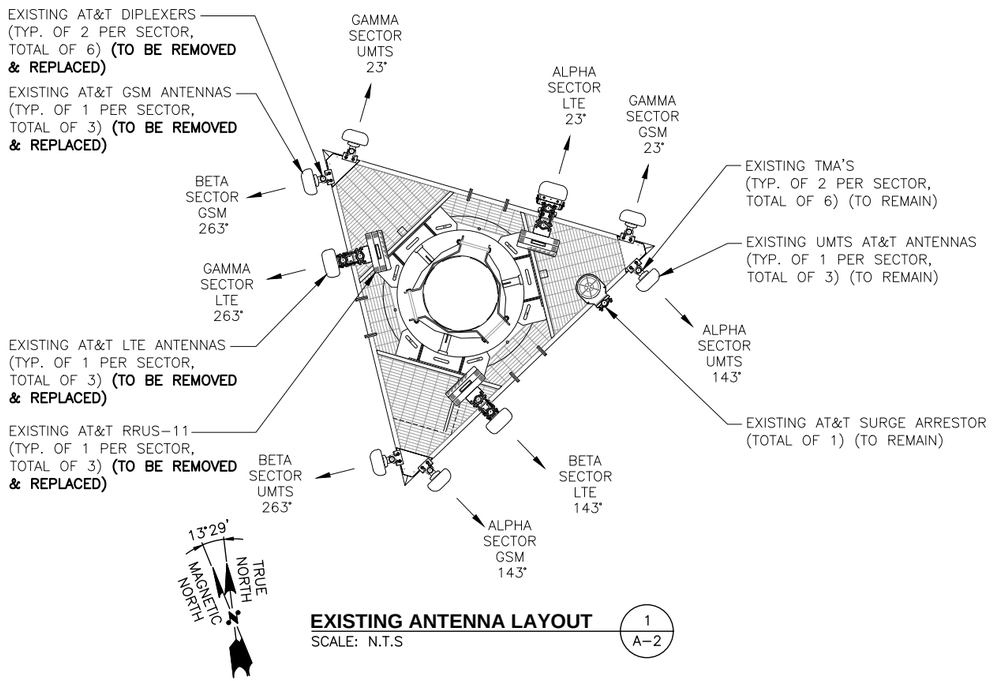
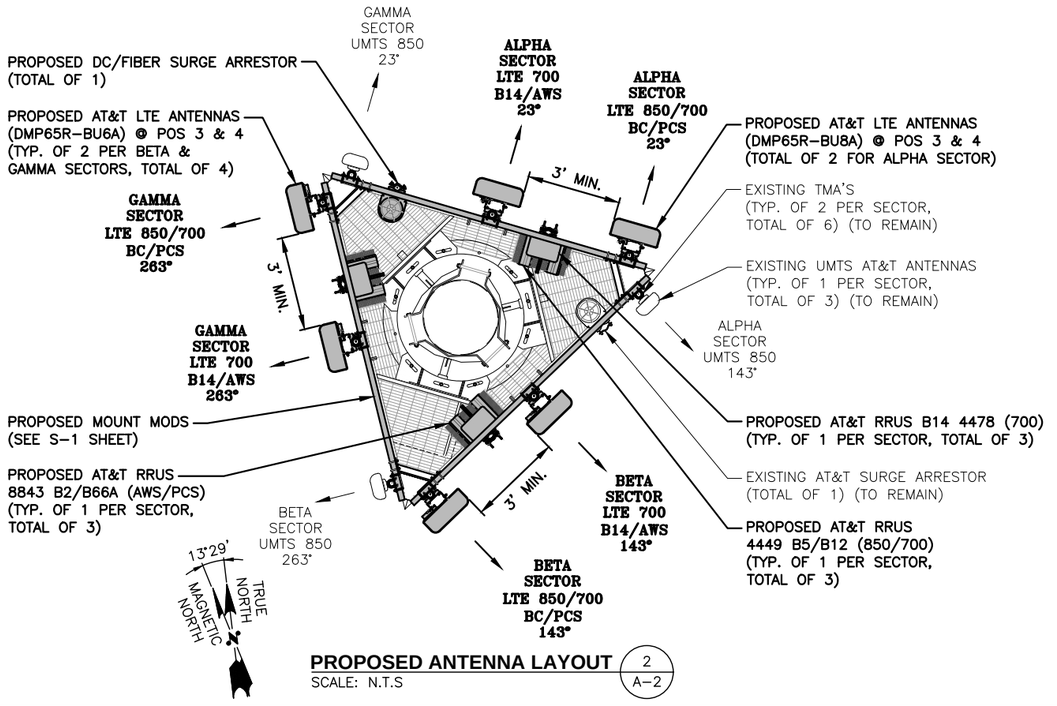
COMPOUND & EQUIPMENT PLANS
LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

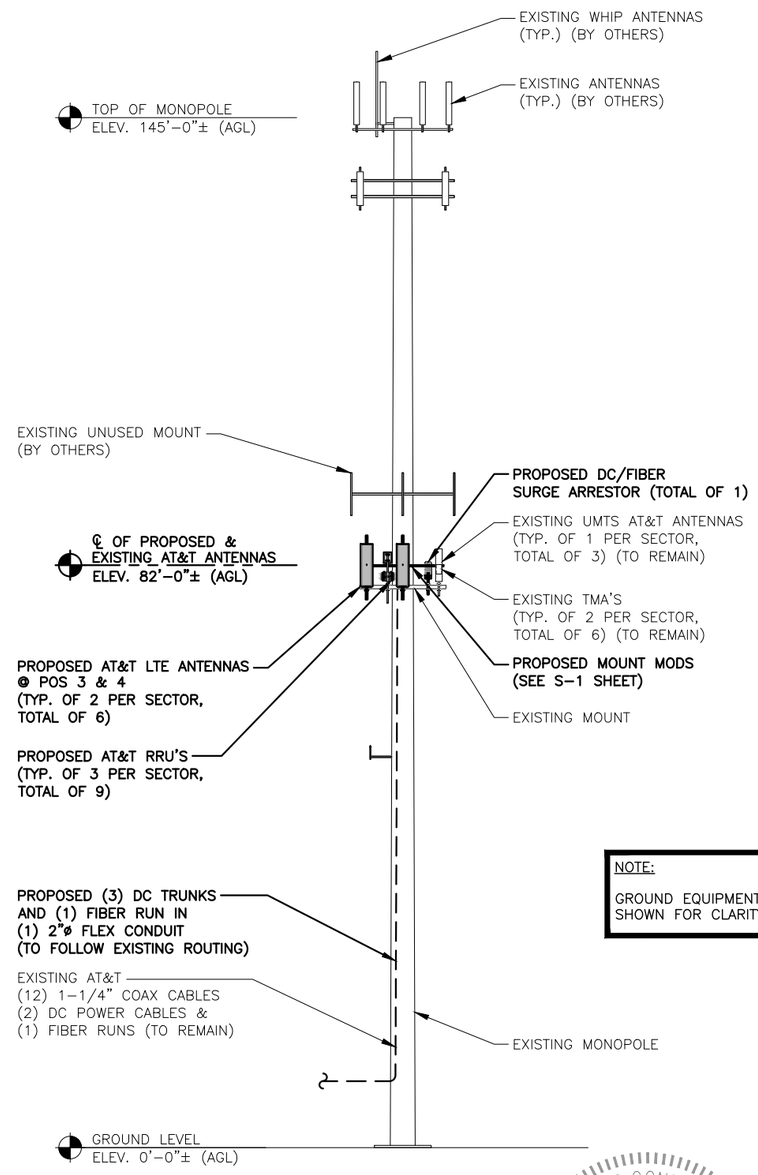
SITE NUMBER	DRAWING NUMBER	REV
CT1117	A-1	1



EXISTING ANTENNA LAYOUT (1 / A-2)
SCALE: N.T.S



PROPOSED ANTENNA LAYOUT (2 / A-2)
SCALE: N.T.S



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"

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: AUGUST 28, 2019

NOTE:
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NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

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

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

AT&T

ANTENNA LAYOUTS & ELEVATION
LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1117	A-2	1

ANTENNA SCHEDULE

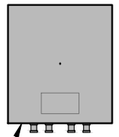
SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS 850	7770	55X11X5	82'-0"±	143°	(2)(E) LGP21401	–	–	(2)1-1/4 COAX	(E) (1) RAYCAP DC6-48-60-18-8F
A2	–	–	–	–	–	–	–	–	–	(2)1-1/4 COAX (SPARE)	
A3	**PROPOSED**	**LTE 700 B14/AWS**	**DMP65R-BU8A**	**96.0X20.7X7.7**	**82'-0"±**	**23°**	–	**(P)(1) B14 4478 (700)**	**18.1"x13.4"x8.3"**	–	
A4	**PROPOSED**	**LTE 850/700 BC/PCS**	**DMP65R-BU8A**	**96.0X20.7X7.7**	**82'-0"±**	**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	82'-0"±	263°	(2)(E) LGP21401	–	–	(2)1-1/4 COAX	(P) (1) RAYCAP DC9-48-60-24-8C-EV
B2	–	–	–	–	–	–	–	–	–	(2)1-1/4 COAX (SPARE)	
B3	**PROPOSED**	**LTE 700 B14/AWS**	**DMP65R-BU6A**	**71.2X20.7X7.7**	**82'-0"±**	**143°**	–	**(P)(1) B14 4478 (700)**	**18.1"x13.4"x8.3"**	–	
B4	**PROPOSED**	**LTE 850/700 BC/PCS**	**DMP65R-BU6A**	**71.2X20.7X7.7**	**82'-0"±**	**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	82'-0"±	23°	(2)(E) LGP21401	–	–	(2)1-1/4 COAX	
C2	–	–	–	–	–	–	–	–	–	(2)1-1/4 COAX (SPARE)	
C3	**PROPOSED**	**LTE 700 B14/AWS**	**DMP65R-BU6A**	**71.2X20.7X7.7**	**82'-0"±**	**263°**	–	**(P)(1) B14 4478 (700)**	**18.1"x13.4"x8.3"**	–	
C4	**PROPOSED**	**LTE 850/700 BC/PCS**	**DMP65R-BU6A**	**71.2X20.7X7.7**	**82'-0"±**	**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"**	–	

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.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: AUGUST 28, 2019

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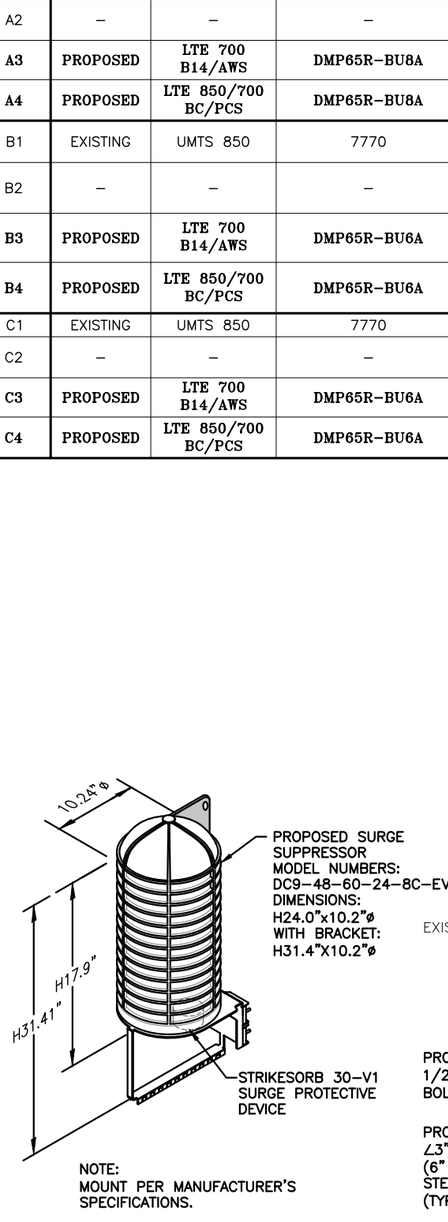
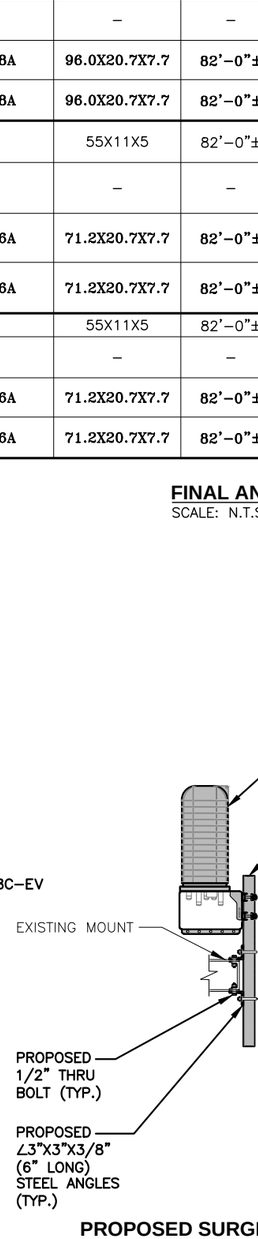
FINAL ANTENNA SCHEDULE (1 / A-3)
SCALE: N.T.S

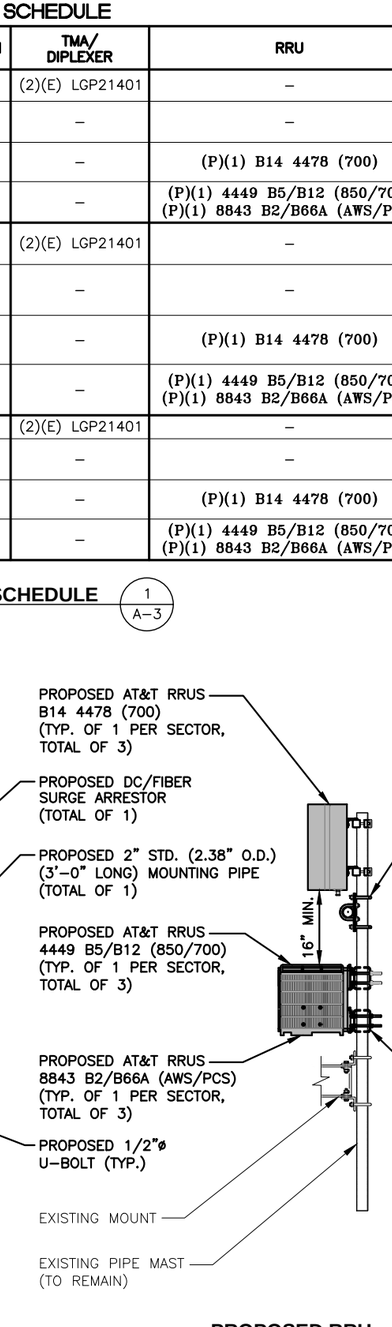


NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

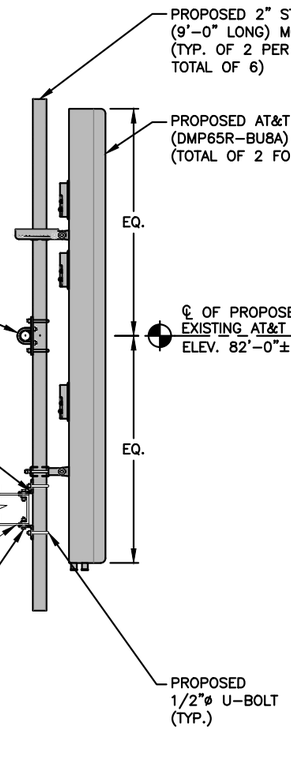
DC SURGE SUPPRESSOR DETAIL (3 / A-5)
SCALE: N.T.S

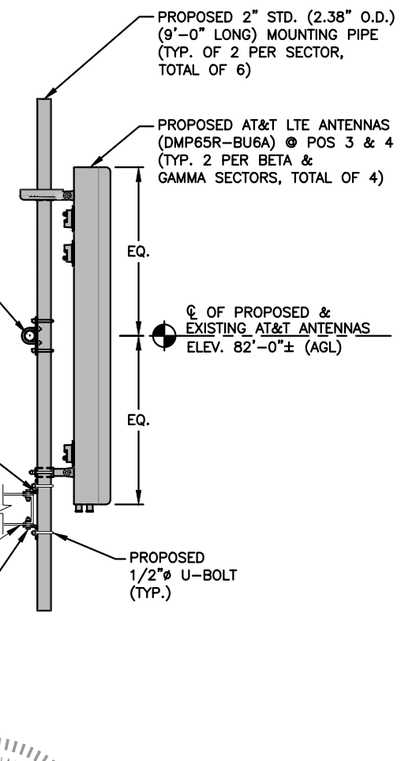


PROPOSED SURGE ARRESTOR MOUNTING DETAIL (4 / A-3)
SCALE: N.T.S



PROPOSED RRU MOUNTING DETAIL (5 / A-3)
SCALE: N.T.S





PROPOSED LTE ANTENNA MOUNTING DETAILS (6 / A-3)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

0 6" 1'-4" 2'-8" 4'-0"

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

AT&T

DETAILS

LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1117	A-3	1

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G 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:	

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

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

SITE NUMBER: CT1117
SITE NAME: NEW HARTFORD NEPAUG
ATC SITE # ID: 411182

20 ANTOLINI ROAD
NEW HARTFORD, CT 06057
LITCHFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/23/19	ISSUED FOR CONSTRUCTION	ET	AT	DPH
A	09/03/19	ISSUED FOR REVIEW	ET	AT	DPH

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

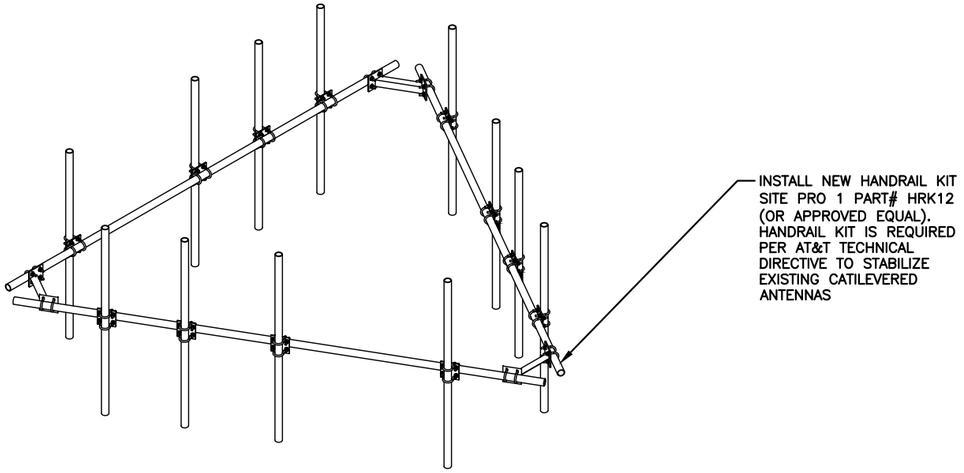
STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

STRUCTURAL NOTES

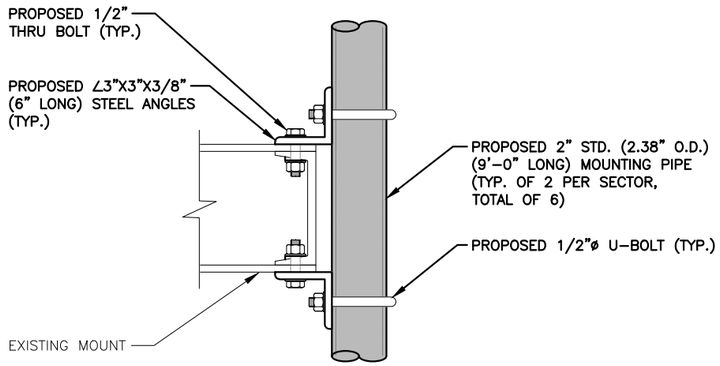
LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1117	SN-1	1



INSTALL NEW HANDRAIL KIT SITE PRO 1 PART# HRK12 (OR APPROVED EQUAL). HANDRAIL KIT IS REQUIRED PER AT&T TECHNICAL DIRECTIVE TO STABILIZE EXISTING CATILEVERED ANTENNAS

PROPOSED HRK12 DETAIL (1 / S-1)
SCALE: N.T.S



CONNECTION DETAIL (4 / S-1)
22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"

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

NOTE:

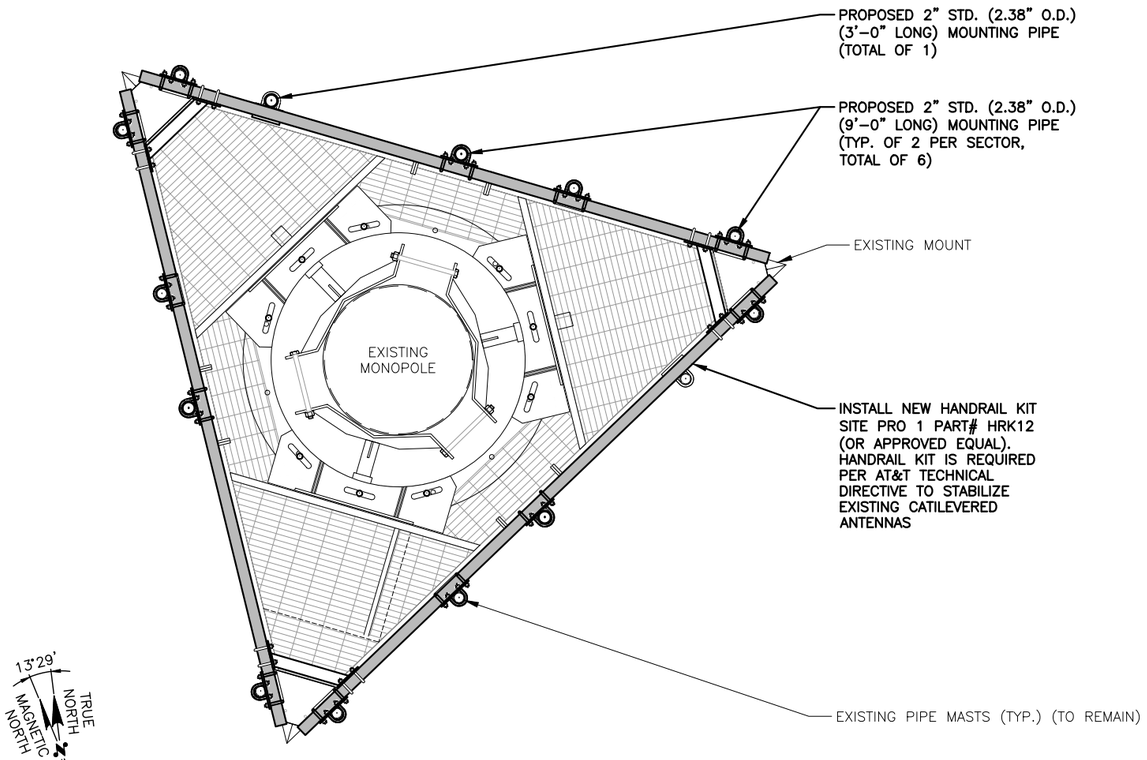
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

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: AUGUST 28, 2019

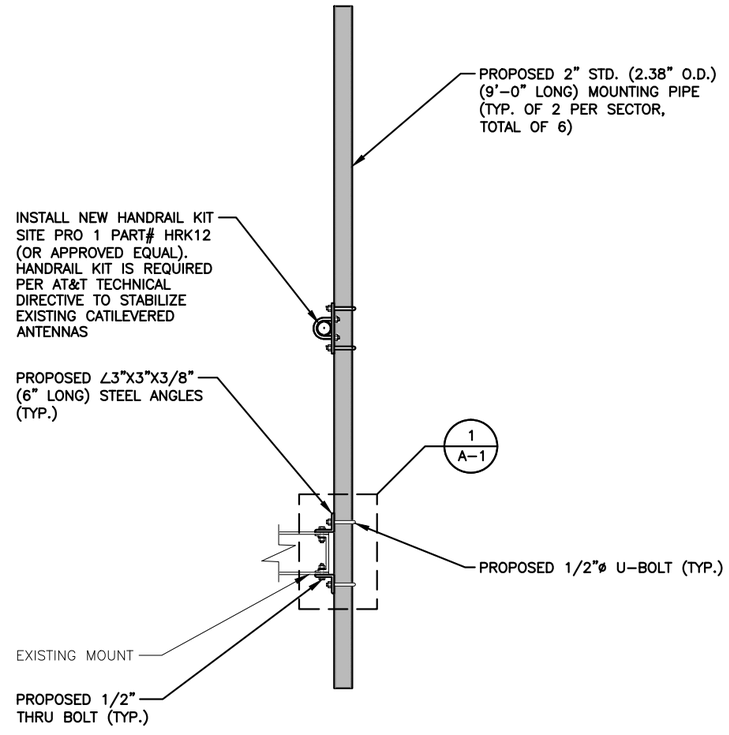
NOTE:

ALL ANTENNAS AND LINES TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY AMERICAN TOWER CORP. AND FINAL AT&T RF DATA SHEET.



PROPOSED MOUNT MODIFICATIONS PLAN (2 / S-1)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

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



PROPOSED MOUNT MODIFICATIONS DETAIL (3 / S-1)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

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

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ATC SITE # ID: 411182

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LITCHFIELD COUNTY

at&t
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ROCKY HILL, CT 06067

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A	09/03/19	ISSUED FOR REVIEW	ET	AT	DPH

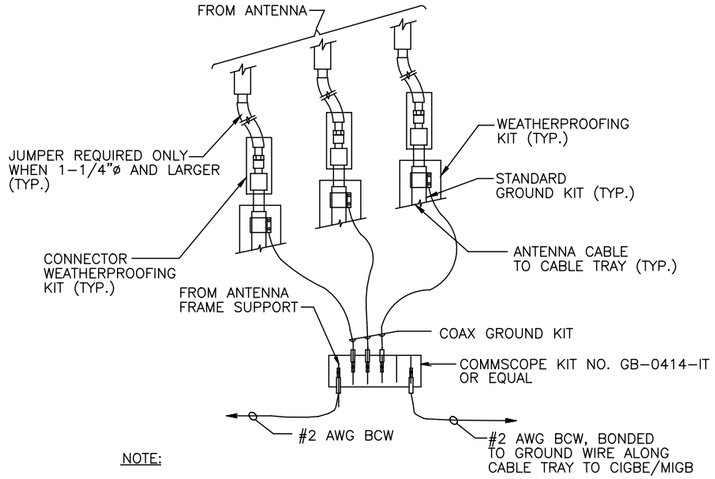
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: ET

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

AT&T

MOUNT MODIFICATION DESIGN
LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1117	S-1	1

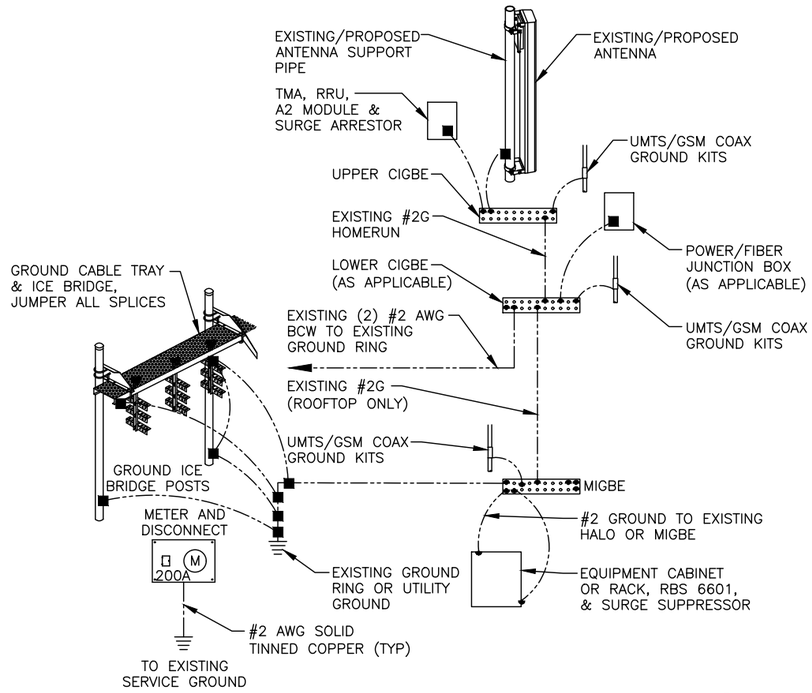


NOTE:

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

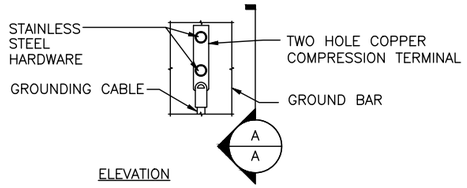
GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

SCALE: N.T.S



GROUNDING RISER DIAGRAM (2 / G-1)

SCALE: N.T.S



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

TYPICAL GROUND BAR CONNECTION DETAIL (3 / G-1)

SCALE: N.T.S

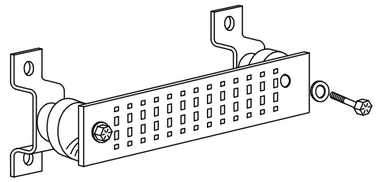
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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



GROUND BAR - DETAIL (4 / G-1)

SCALE: N.T.S

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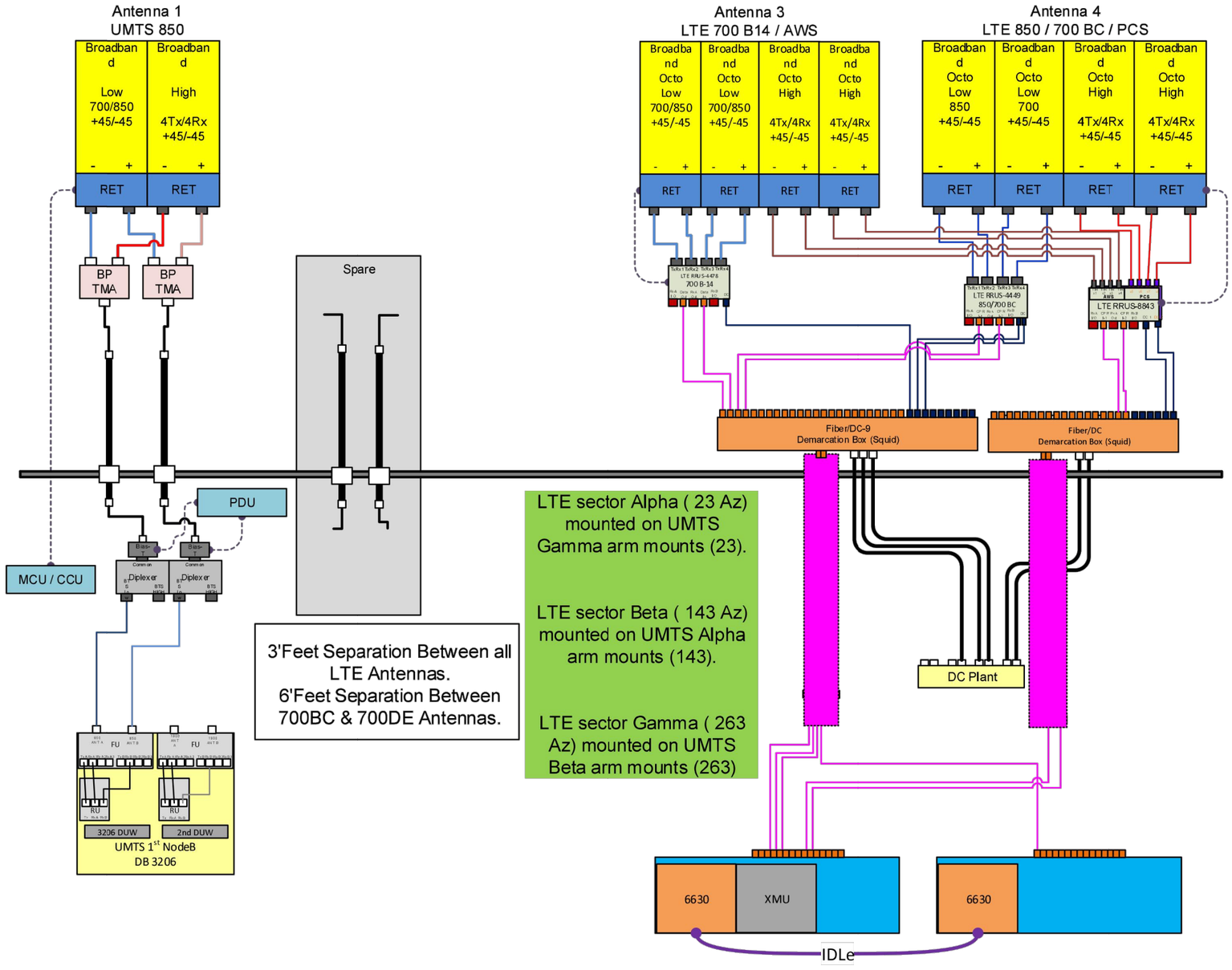
STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DETAILS

LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1117	G-1	1



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

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

NOTE:

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

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

AT&T

RF PLUMBING DIAGRAM
LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1117	RF–1	1

EXHIBIT 2

20 ANTOLINI ROAD

Location	20 ANTOLINI ROAD	**Mblu**	021/ 007/ 42BB/ /
Acct#	00247301	**Owner**	SOUTH END FIRE DISTRICT
PBN		**Assessment**	$363,020
Appraisal	$518,600	**PID**	5959
Building Count	1		

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$194,600	$324,000	$518,600
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$136,220	$226,800	$363,020

Owner of Record

Owner	SOUTH END FIRE DISTRICT	**Sale Price**	$0
Co-Owner	C/O VERIZON WIRELESS	**Certificate**	
Address	PO BOX 2549 ADDISON, TX 75001	**Book & Page**	103/ 417
		Sale Date	10/04/1984

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
SOUTH END FIRE DISTRICT	$0		103/ 417	10/04/1984

Building Information

Building 1 : Section 1

Year Built:	
Living Area:	0
Replacement Cost:	$0
Building Percent Good:	
Replacement Cost Less Depreciation:	$0

Building Attributes

Building Photo


Building Photo
(http://images.vgsi.com/photos/NewHartfordCTPhotos//\00\00\2

Field	Description
Style	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Full Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Extra Kitchens	
Fireplaces	
Extra Openings	
Basement Garage	
Whirlpool	

Building Layout


Building Layout
(http://images.vgsi.com/photos/NewHartfordCTPhotos//Sketches

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

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 3900
Description COM VACANT
Zone

Land Line Valuation

Size (Acres) 0.4
Frontage
Depth

Neighborhood	D	**Assessed Value**	$226,800
Alt Land Appr Category	No	**Appraised Value**	$324,000

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD8	Pre Cast Cell			240 S.F.	$42,000	1
SHD8	Pre Cast Cell			200 S.F.	$35,000	1
SHD8	Pre Cast Cell			312 S.F.	$54,600	1
SHD8	Pre Cast Cell			360 S.F.	$63,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$194,600	$660,000	$854,600
2016	$194,600	$660,000	$854,600
2015	$194,600	$660,000	$854,600

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$136,220	$462,000	$598,220
2016	$136,220	$462,000	$598,220
2015	$136,220	$462,000	$598,220

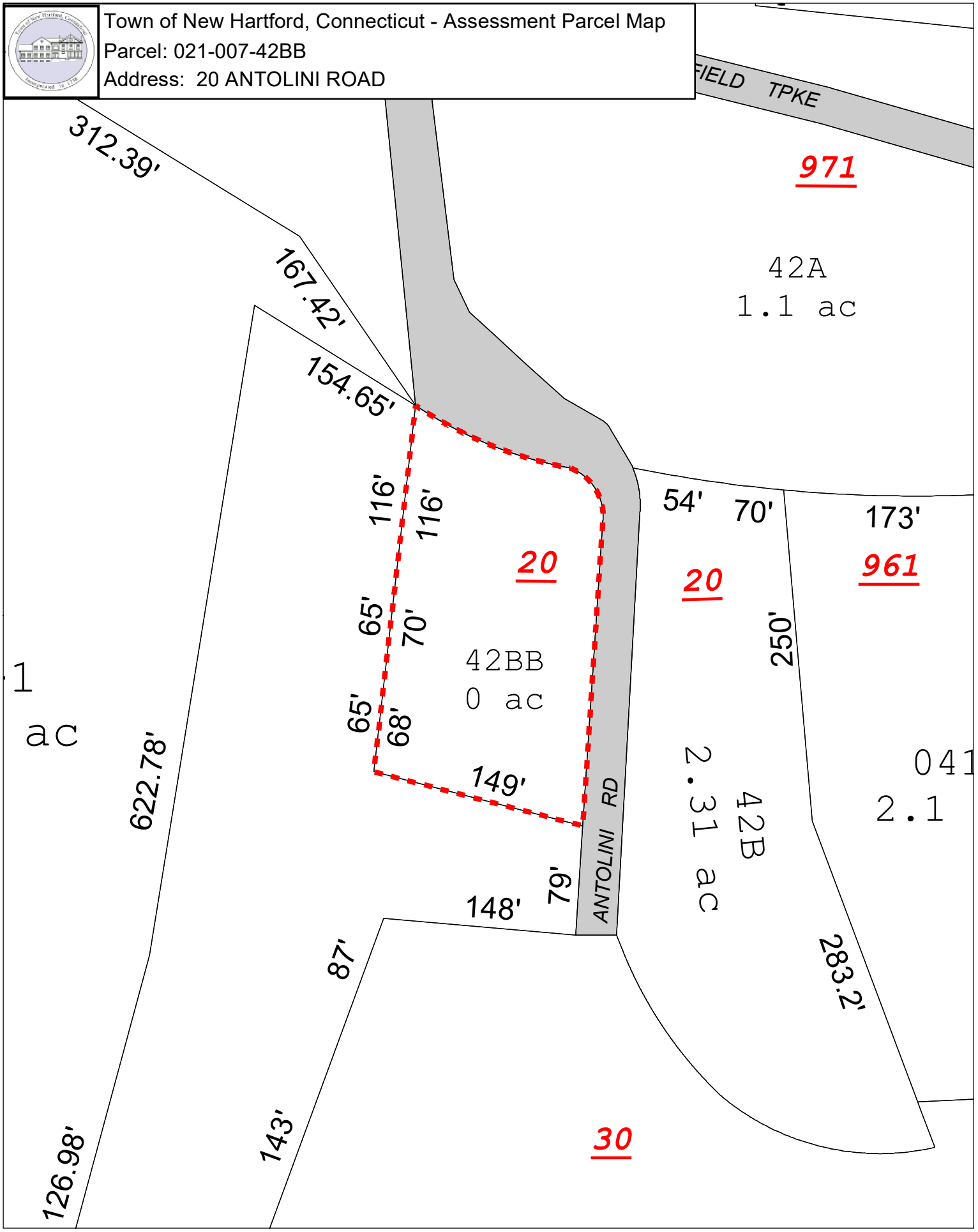

Town of New Hartford, Connecticut - Assessment Parcel Map
Parcel: 021-007-42BB
Address: 20 ANTOLINI ROAD
FIELD TPKE
971
42A
1.1 ac
312.39'
167.42'
154.65'
116'
116'
54'
70'
173'
961
20
20
65'
70'
42BB
0 ac
250'
65'
68'
149'
622.78'
ANTOLINI RD
42B
2.31 ac
041
2.1
148'
79'
87'
283.2'
143'
126.98'
30
Approximate Scale: 1 inch = 100 feet
0 40 80 120 160 Feet
Disclaimer: This map is for informational purposes only.
All information is subject to verification by any user.
The Town of New Hartford and its mapping contractors
assume no legal responsibility for the
information contained herein.
Map Produced July 2019

EXHIBIT 3

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**145 ft Monopole**
ATC Site Name	:	**Nepaug CT, CT**
ATC Asset Number	:	**411182**
Engineering Number	:	**OAA751878_C3_01**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**New Hartford Nepaug**
Carrier Site Number	:	**CT1117**
Site Location	:	**20 Antolini Road** **New Hartford, CT 06057-3326** **41.828100,-73.015700**
County	:	**Litchfield**
Date	:	**September 12, 2019**
Max Usage	:	**79%**
Result	:	**Pass**

Prepared By:
Mark Iakovenko
Engineer Intern

Mark Iakovenko

Reviewed By:

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 145 ft monopole to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	EEI Project #8859 Rev. 2, dated March 30, 2001
Foundation Drawing	URS Grenier Woodward Clyde Project #F301682.04, dated October 13, 2000
Geotechnical Report	Dr. Clarence Welti Site Location: 20 Antolini Road, New Hartford, CT., dated March 27, 2000

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:	93 mph (3-second gust, V_{ASD})/120 mph (3-second gust, V_{ULT})
Basic Wind Speed w/ Ice:	40 mph (3-Second Gust) w/ 1" 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 = 0.18, 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
160.0	1	RFS PD620-2	Low Profile Platform	(1) 7/8" Coax	OTHER
155.0	1	Generic 12' Omni	Low Profile Platform	(1) 7/8" Coax	
151.0	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	Low Profile Platform	(7) 1 1/4" Hybriflex Cable	SPRINT NEXTEL
	3	Alcatel-Lucent 1900MHz RRH			
	3	RFS APXVSPP18-C-A20			
	3	Commscope DT465B-2XR			
	3	Alcatel-Lucent 800 MHz RRH			
	3	Alcatel-Lucent ALU 800MHz External Notch Filter			
	3	Alcatel-Lucent RRH2x50-08			
145.0	1	Generic GPS	T-Arm	(1) 7/8" Coax (12) 1 5/8" Coax	VERIZON WIRELESS
142.0	3	Amphenol Antel BXA-70040/6CF			
	6	Amphenol Antel LPA-80040-4CF-EDIN-X			
140.0	3	Amphenol Antel BXA-171040-8CF			
	6	Generic TTA			
125.0	1	Generic E-911 GPS	T-Arm	(18) 1 5/8" Coax (1) 1/2" Coax	T-MOBILE
	3	Commscope LNX-6515DS-A1M (43.7 lb)			
	6	RFS APX16DWV-16DWV-S-E-ACU			
	3	RFS ATMAA1412D-1A20			
	3	RFS ATM1900D-1CWA			
82.0	3	Powerwave Allgon 7770.00	Low Profile Platform	(1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (1) 3" conduit (12) 7/8" Coax	AT&T MOBILITY
	3	Spinner 756529			
	1	Raycap DC6-48-60-18-8F(32.8 lbs)			
	6	Powerwave Allgon LGP21401			
	6	Powerwave Allgon LGP21901			
52.0	1	PCTEL GPS-TMG-HR-26N	Stand-Off	(2) 1/2" Coax	SPRINT NEXTEL
	1	PCTEL GPS-TMG-HR-26N	Low Profile Platform		

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
82.0	6	Ericsson RRUS 11 (Band 12)	-	-	AT&T MOBILITY
	1	Powerwave Allgon P65-17-XLH-RR (50 lbs)			
	2	KMW AM-X-CD-16-65-00T-RET			
	3	Powerwave Allgon 7770.00			

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
82.0	3	Ericsson RRUS 4478 B14	Low Profile Platform	(1) 0.45" (11.5mm) Fiber (3) 0.78" (19.7mm) 8 AWG 6 (2) 2" conduit	AT&T MOBILITY
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson Radio 8843 - B2 + B66A (w/ protruding items)			
	1	Raycap DC9-48-60-24-8C-EV			
	4	CCI DMP65R-BU6DA			

	2	CCI DMP65R-BU8D			

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

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	29%	Pass
Shaft	47%	Pass
Base Plate	79%	Pass
Flanges	59%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3,128.4	4,223.3	2,110.8	50%
Shear (Kips)	29.2	39.4	20.6	52%
* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1				

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
82.0	Ericsson RRUS 4478 B14	AT&T MOBILITY	0.419	0.615
	Ericsson RRUS 4449 B5, B12			
	Ericsson Radio 8843 - B2 + B66A (w/ protruding items)			
	Raycap DC9-48-60-24-8C-EV			
	CCI DMP65R-BU6DA			
	CCI DMP65R-BU8D			

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

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:

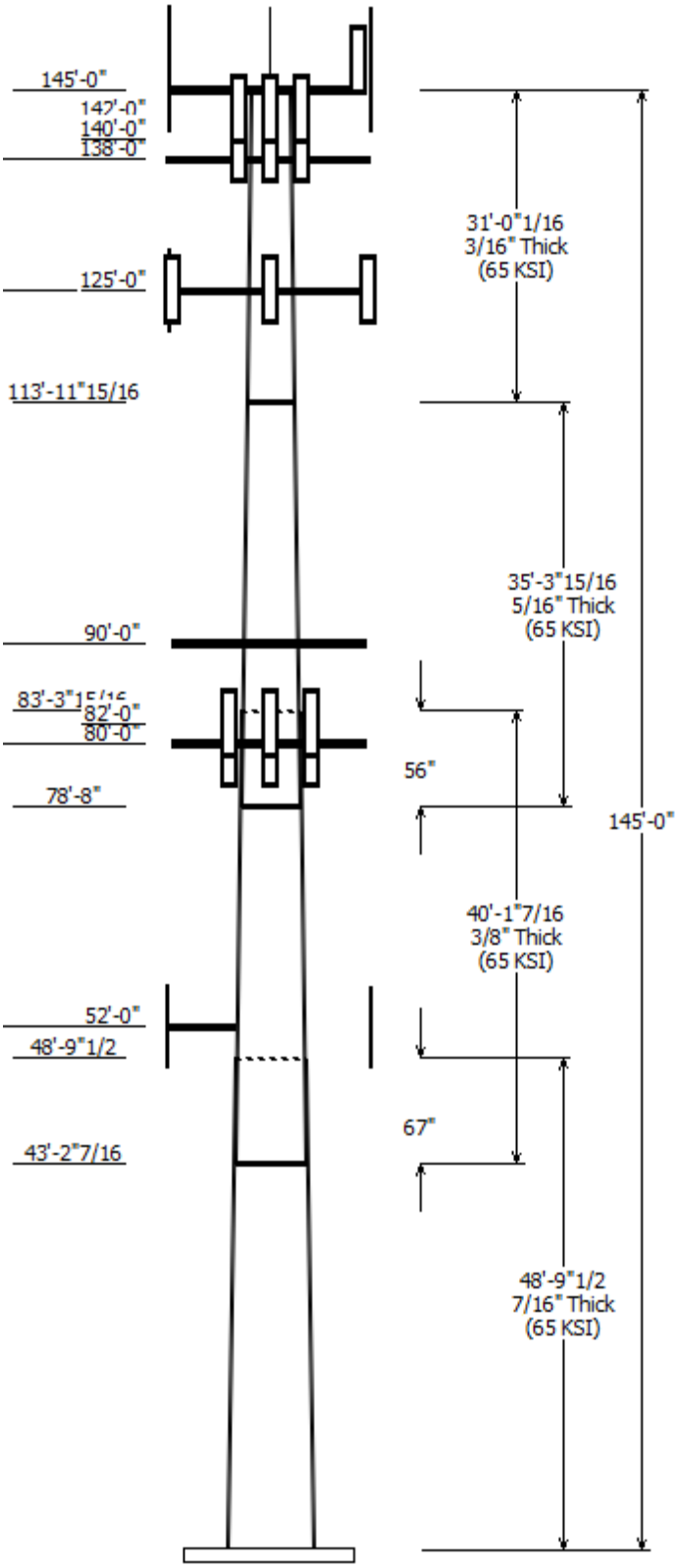
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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 :	411182	Code:	ANSI/TIA-222-G
Location :	Nepaug CT, CT		
Description :	145' EEI Monopole	Struct Class :	II
Shape :	18 Sides	Exposure :	B
Height :	145.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.228448 (in/ft)		

Sections Properties

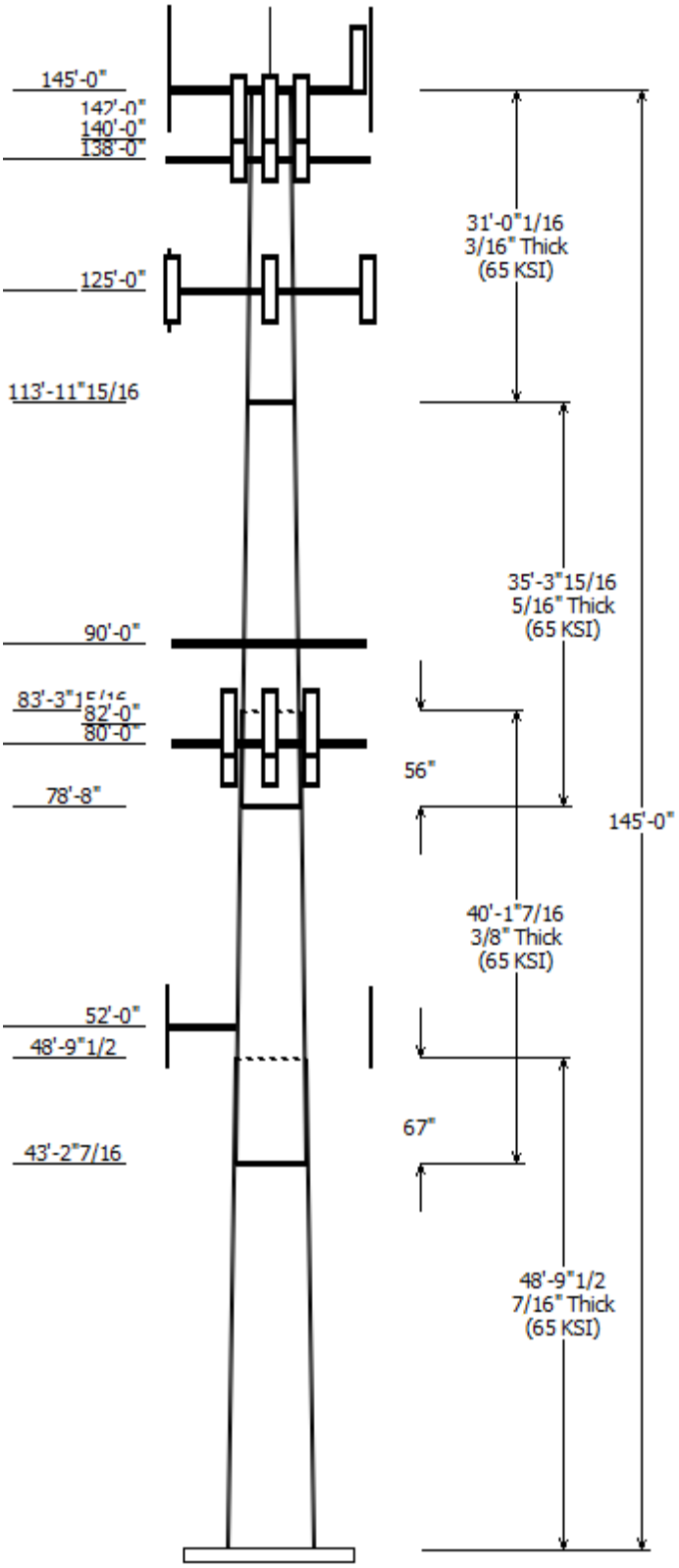
Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	48.794	38.60	49.75	0.438		0.000	18 Sides	65
2	40.122	31.46	40.63	0.375	Slip Joint	67.063	18 Sides	65
3	35.328	25.08	33.15	0.313	Slip Joint	55.906	18 Sides	65
4	31.003	18.00	25.08	0.188	Butt Joint	0.000	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
145.000	155.000	1	RFS PD620-2
145.000	150.000	1	Generic 12' Omni
145.000	151.000	3	Commscope DT465B-2XR
145.000	151.000	3	RFS APXVSPP18-C-A20
145.000	151.000	3	Alcatel-Lucent TD-RRH8x20-25
145.000	151.000	3	Alcatel-Lucent 1900MHz RRH
145.000	151.000	3	Alcatel-Lucent 800 MHz RRH
145.000	151.000	3	Alcatel-Lucent RRH2x50-08
145.000	151.000	3	Alcatel-Lucent ALU 800MHz
145.000	145.000	1	Generic GPS
145.000	145.000	1	Flat Low Profile Platform
142.000	141.000	3	Amphenol Antel BXA-
142.000	141.000	6	Amphenol Antel LPA-80040-
140.000	141.000	3	Amphenol Antel BXA-171040-
140.000	141.000	6	Generic TTA
138.000	138.000	3	Round T-Arm
125.000	125.000	3	Round T-Arm
125.000	125.000	1	Generic E-911 GPS
125.000	125.000	3	Commscope LNX-6515DS-A1M
125.000	125.000	6	RFS APX16DWV-16DWV-S-E-
125.000	125.000	3	RFS ATMAA1412D-1A20
125.000	125.000	3	RFS ATM1900D-1CWA
90.000	90.000	1	Empty Flat Low Profile Platfor
82.000	82.000	2	CCI DMP65R-BU8D
82.000	82.000	4	CCI DMP65R-BU6DA
82.000	80.000	3	Powerwave Allgon 7770.00
82.000	82.000	1	Raycap DC9-48-60-24-8C-EV
82.000	82.000	3	Ericsson Radio 8843 - B2 + B66
82.000	82.000	3	Ericsson RRUS 4449 B5, B12
82.000	82.000	3	Ericsson RRUS 4478 B14
82.000	80.000	1	Raycap DC6-48-60-18-8F(32.8 lb
82.000	80.000	6	Powerwave Allgon LGP21401
82.000	80.000	6	Powerwave Allgon LGP21901
82.000	80.000	3	Spinner 756529
80.000	80.000	1	Flat Low Profile Platform
52.000	52.000	1	Stand-Off
52.000	52.000	1	PCTEL GPS-TMG-HR-26N
52.000	52.000	1	PCTEL GPS-TMG-HR-26N

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind



0.000	52.000	1/2" Coax	No
0.000	52.000	1/2" Coax	Yes
0.000	82.000	0.39" (10mm)	No
0.000	82.000	0.45" (11.5mm)	No
0.000	82.000	0.78" (19.7mm) 8	No
0.000	82.000	0.78" (19.7mm) 8	No
0.000	82.000	2" conduit	No
0.000	82.000	3" conduit	No
0.000	82.000	7/8" Coax	No
0.000	125.0	1 5/8" Coax	No
0.000	125.0	1 5/8" Coax	Yes
0.000	125.0	1/2" Coax	No
0.000	140.0	1 5/8" Coax	No
0.000	142.0	1 5/8" Coax	No
0.000	145.0	7/8" Coax	No
0.000	151.0	1 1/4" Hybriflex	No
0.000	151.0	1 1/4" Hybriflex	No
0.000	155.0	7/8" Coax	No
0.000	160.0	7/8" Coax	No

Load Cases

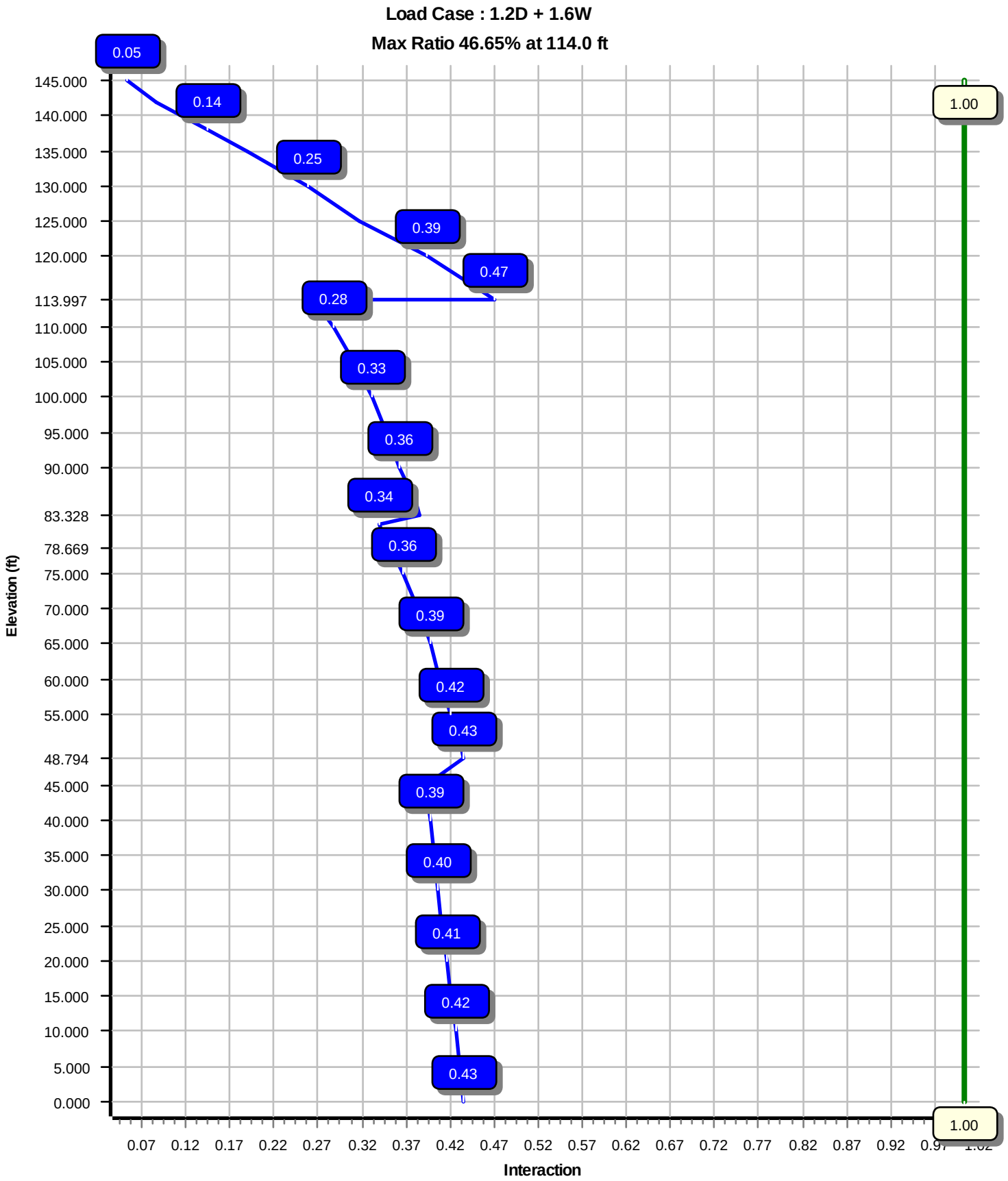
1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	40 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) 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	2108.29	20.55	43.51
0.9D + 1.6W	2086.88	20.53	32.63
1.2D + 1.0Di + 1.0Wi	480.09	4.72	71.71
(1.2 + 0.2Sds) * DL + E ELFM	172.52	1.55	43.17
(1.2 + 0.2Sds) * DL + E EMAM	225.47	1.97	43.17
(0.9 - 0.2Sds) * DL + E ELFM	170.42	1.55	30.02
(0.9 - 0.2Sds) * DL + E EMAM	222.39	1.97	30.02
1.0D + 1.0W	487.72	4.78	36.28

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 46.65% at 114.0 ft
0.05
0.14
0.25
0.39
0.47
0.28
0.33
0.36
0.34
0.36
0.39
0.42
0.43
0.39
0.40
0.41
0.42
0.43
1.00
1.00
145.000
140.000
135.000
130.000
125.000
120.000
113.997
110.000
105.000
100.000
95.000
90.000
83.328
78.669
75.000
70.000
65.000
60.000
55.000
48.794
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.07
0.12
0.17
0.22
0.27
0.32
0.37
0.42
0.47
0.52
0.57
0.62
0.67
0.72
0.77
0.82
0.87
0.92
Interaction

Site Number: 411182 | Code: ANSI/TIA-222-G |

Site Name: Nepaug CT, CT | Engineering Number:OAA751878_C3_01 | 9/12/2019 10:22:06 AM

Customer: AT&T MOBILITY

Analysis Parameters

Location :	Litchfield County, CT	Height (ft) :	145
Code :	ANSI/TIA-222-G	Base Diameter (in) :	49.75
Shape :	18 Sides	Top Diameter (in) :	18.00
Pole Type :	Taper	Taper (in/ft) :	0.228
Pole Manfacturer :	EEI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	93 mph
Exposure Category:	B	Design Wind Speed With Ice:	40 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	2.11				
T_L (sec):	6	p:	1.3	C_s:	0.033
S_s:	0.181	S_1:	0.065	C_s Max:	0.033
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.193	S_{d1}:	0.104		

Load Cases

1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	40 mph with 1.00 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

Site Number: 411182 Code: ANSI/TIA-222-G

Site Name: Nepaug CT, CT Engineering Number:OAA751878_C3_01 9/12/2019 10:22:06 AM

Customer: AT&T MOBILITY

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	48.794	0.4375	65		0.00	10,084	49.75	0.00	68.47	21037.5	18.29	113.71	38.60	48.79	53.00	9753.0	13.80	88.24	0.228448
2-18	40.122	0.3750	65	Slip	67.06	5,797	40.63	43.21	47.91	9809.0	17.34	108.35	31.46	83.33	37.00	4518.4	13.03	83.90	0.228448
3-18	35.328	0.3125	65	Slip	55.91	3,435	33.15	78.67	32.57	4438.4	16.94	106.09	25.08	114.00	24.57	1904.5	12.39	80.26	0.228448
4-18	31.003	0.1880	65	Butt	0.00	1,344	25.08	114.00	14.85	1163.1	21.76	133.42	18.00	145.00	10.63	426.0	15.12	95.74	0.228448
				Shaft Weight		20,659													

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
145.00	Alcatel-Lucent ALU 800MHz	3	0.80	6.000	8.80	0.670	0.50	32.22	1.408	0.50
145.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	48.92	1.751	1.00
145.00	Alcatel-Lucent RRH2x50-08	3	0.80	6.000	52.90	1.700	0.50	131.73	2.847	0.50
145.00	Alcatel-Lucent 800 MHz RRH	3	0.80	6.000	53.00	2.130	0.67	151.18	3.429	0.67
145.00	Alcatel-Lucent 1900MHz RRH	3	0.80	6.000	44.00	3.260	0.72	188.91	4.843	0.72
145.00	Generic 12' Omni	1	0.80	5.000	40.00	3.600	1.00	160.76	9.315	1.00
145.00	Alcatel-Lucent TD-RRH8x20-25	3	0.80	6.000	70.00	4.050	0.61	195.71	5.818	0.61
145.00	RFS PD620-2	1	0.80	10.000	53.00	7.170	1.00	287.47	16.837	1.00
145.00	RFS APXVSPP18-C-A20	3	0.80	6.000	57.00	8.020	0.69	286.45	11.729	0.69
145.00	Commscope DT465B-2XR	3	0.80	6.000	58.00	9.100	0.69	326.73	12.785	0.69
145.00	Flat Low Profile Platform	1	0.75	0.000	1,500.00	26.100	1.00	2,361.80	51.495	1.00
142.00	Amphenol Antel LPA-80040-4CF-	6	0.75	-1.000	18.00	4.990	0.74	201.04	7.441	0.74
142.00	Amphenol Antel BXA-70040/6CF	3	0.75	-1.000	37.50	14.250	0.62	416.69	18.007	0.62
140.00	Generic TTA	6	1.00	1.000	10.00	1.200	0.50	57.75	2.162	0.50
140.00	Amphenol Antel BXA-171040-8CF	3	1.00	1.000	13.00	5.090	0.64	151.74	7.605	0.64
138.00	Round T-Arm	3	0.75	0.000	250.00	9.700	0.67	526.61	20.611	0.67
125.00	Generic E-911 GPS	1	0.80	0.000	5.00	0.580	1.00	38.55	1.159	1.00
125.00	RFS ATM1900D-1CWA	3	0.80	0.000	8.40	0.720	0.50	31.54	1.469	0.50
125.00	RFS ATMAA1412D-1A20	3	0.80	0.000	13.00	1.000	0.50	47.73	1.874	0.50
125.00	RFS APX16DWV-16DWV-S-E-ACU	6	0.80	0.000	39.60	6.080	0.60	146.98	8.775	0.60
125.00	Round T-Arm	3	0.75	0.000	250.00	9.700	0.67	523.64	20.494	0.67
125.00	Commscope LNX-6515DS-A1M	3	0.80	0.000	43.70	11.450	0.70	344.08	15.690	0.70
90.00	Empty Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,320.20	50.270	1.00
82.00	Spinner 756529	3	0.80	-2.000	1.50	0.140	0.50	8.31	0.499	0.50
82.00	Powerwave Allgon LGP21901	6	0.80	-2.000	5.50	0.200	0.50	15.14	0.601	0.50
82.00	Powerwave Allgon LGP21401	6	0.80	-2.000	14.10	1.100	0.50	45.44	1.993	0.50
82.00	Raycap DC6-48-60-18-8F(32.8	1	0.80	-2.000	32.80	1.470	1.00	110.30	2.347	1.00
82.00	Ericsson RRUS 4478 B14	3	0.80	0.000	59.90	1.840	0.50	129.36	2.966	0.50
82.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.970	0.50	151.96	3.142	0.50
82.00	Ericsson Radio 8843 - B2 + B66A	3	0.80	0.000	75.00	1.980	0.50	164.86	3.155	0.50
82.00	Raycap DC9-48-60-24-8C-EV	1	0.80	0.000	16.00	4.790	1.00	178.18	6.639	1.00
82.00	Powerwave Allgon 7770.00	3	0.80	-2.000	35.00	5.510	0.65	214.36	6.858	0.65
82.00	CCI DMP65R-BU6DA	4	0.80	0.000	79.40	12.710	0.63	403.00	16.214	0.63
82.00	CCI DMP65R-BU8D	2	0.80	0.000	95.70	17.870	0.72	522.67	22.499	0.72
80.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,312.21	50.034	1.00
52.00	PCTEL GPS-TMG-HR-26N	1	1.00	0.000	0.60	0.090	1.00	6.41	0.306	1.00
52.00	PCTEL GPS-TMG-HR-26N	1	1.00	0.000	0.60	0.090	1.00	6.41	0.306	1.00
52.00	Stand-Off	1	1.00	0.000	100.00	3.000	1.00	158.49	4.880	1.00
Totals	Num Loadings:38	105			9,395.30			25,516.63		

Linear Appurtenance Properties

Load Case Azimuth (deg) :

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	160.00	1	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	Other
0.00	155.00	1	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	Other
0.00	151.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	151.00	3	1 1/4" Hybriflex Cable	1.54	1.00	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	145.00	1	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	142.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	140.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	125.00	12	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	125.00	6	1 5/8" Coax	1.98	0.82	N	6	0.00	0.00	90	0.00	Y	T-MOBILE
0.00	125.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	82.00	1	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	82.00	1	0.45" (11.5mm) Fiber	0.45	0.08	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	82.00	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	82.00	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	82.00	2	2" conduit	2.38	3.65	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	82.00	1	3" conduit	3.50	7.58	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	82.00	12	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	52.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	52.00	1	1/2" Coax	0.63	0.15	N	1	0.00	0.00	90	0.00	Y	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	49.750	68.474	21,037.5	18.29	113.71	79.9	832.9	0.0	0.0
5.00		0.4375	48.608	66.888	19,609.2	17.83	111.10	80.4	794.6	0.0	1,151.5
10.00		0.4375	47.466	65.302	18,247.0	17.37	108.49	81.0	757.2	0.0	1,124.5
15.00		0.4375	46.323	63.716	16,949.5	16.91	105.88	81.5	720.7	0.0	1,097.5
20.00		0.4375	45.181	62.130	15,715.0	16.45	103.27	82.1	685.1	0.0	1,070.6
25.00		0.4375	44.039	60.544	14,541.9	15.99	100.66	82.6	650.4	0.0	1,043.6
30.00		0.4375	42.897	58.958	13,428.7	15.53	98.05	82.6	616.6	0.0	1,016.6
35.00		0.4375	41.754	57.371	12,373.8	15.07	95.44	82.6	583.7	0.0	989.6
40.00		0.4375	40.612	55.785	11,375.6	14.60	92.83	82.6	551.7	0.0	962.6
43.21	Bot - Section 2	0.4375	39.880	54.768	10,764.8	14.31	91.15	82.6	531.7	0.0	603.0
45.00		0.4375	39.470	54.199	10,432.7	14.14	90.22	82.6	520.6	0.0	623.7
48.79	Top - Section 1	0.3750	39.353	46.392	8,905.0	16.74	104.94	81.7	445.7	0.0	1,297.6
50.00		0.3750	39.078	46.064	8,717.6	16.61	104.21	81.9	439.4	0.0	189.7
52.00		0.3750	38.621	45.520	8,412.5	16.40	102.99	82.1	429.0	0.0	311.6
55.00		0.3750	37.935	44.705	7,968.3	16.07	101.16	82.5	413.7	0.0	460.5
60.00		0.3750	36.793	43.345	7,263.2	15.54	98.11	82.6	388.8	0.0	749.0
65.00		0.3750	35.651	41.986	6,601.0	15.00	95.07	82.6	364.7	0.0	725.9
70.00		0.3750	34.509	40.626	5,980.3	14.46	92.02	82.6	341.3	0.0	702.8
75.00		0.3750	33.366	39.267	5,399.8	13.93	88.98	82.6	318.7	0.0	679.6
78.67	Bot - Section 3	0.3750	32.528	38.269	4,998.6	13.53	86.74	82.6	302.7	0.0	484.0
80.00		0.3750	32.224	37.907	4,858.1	13.39	85.93	82.6	296.9	0.0	319.3
82.00		0.3750	31.767	37.363	4,652.0	13.17	84.71	82.6	288.4	0.0	474.2
83.33	Top - Section 2	0.3125	32.089	31.517	4,020.7	16.34	102.68	82.2	246.8	0.0	311.2
85.00		0.3125	31.707	31.138	3,877.5	16.13	101.46	82.4	240.9	0.0	178.2
90.00		0.3125	30.565	30.005	3,469.5	15.48	97.81	82.6	223.6	0.0	520.1
95.00		0.3125	29.422	28.872	3,091.1	14.84	94.15	82.6	206.9	0.0	500.9
100.0		0.3125	28.280	27.739	2,741.3	14.19	90.50	82.6	190.9	0.0	481.6
105.0		0.3125	27.138	26.607	2,419.0	13.55	86.84	82.6	175.6	0.0	462.3
110.0		0.3125	25.996	25.474	2,123.0	12.90	83.19	82.6	160.9	0.0	443.0
114.0	Top - Section 3	0.3125	25.082	24.568	1,904.5	12.39	80.26	82.6	149.5	0.0	340.3
114.0	Bot - Section 4	0.1880	25.082	14.854	1,163.1	21.76	133.42	75.8	91.3	0.0	
115.0		0.1880	24.853	14.718	1,131.3	21.55	132.20	76.1	89.7	0.0	50.4
120.0		0.1880	23.711	14.036	981.3	20.48	126.12	77.3	81.5	0.0	244.6
125.0		0.1880	22.569	13.355	845.2	19.40	120.05	78.6	73.8	0.0	233.0
130.0		0.1880	21.427	12.673	722.2	18.33	113.97	79.8	66.4	0.0	221.4
135.0		0.1880	20.284	11.991	611.9	17.26	107.90	81.1	59.4	0.0	209.8
138.0		0.1880	19.599	11.582	551.4	16.62	104.25	81.9	55.4	0.0	120.3
140.0		0.1880	19.142	11.310	513.4	16.19	101.82	82.4	52.8	0.0	77.9
142.0		0.1880	18.685	11.037	477.1	15.76	99.39	82.6	50.3	0.0	76.0
145.0		0.1880	18.000	10.628	426.0	15.12	95.74	82.6	46.6	0.0	110.6
											20,659.4

Load Case: 1.2D + 1.6W — 93 mph with No Ice — 24 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

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		175.2	0.0					0.0	0.0	175.2	0.0	0.0	0.0
5.00		346.4	1,381.8					0.0	329.8	346.4	1,711.6	0.0	0.0
10.00		338.3	1,349.4					0.0	329.8	338.3	1,679.3	0.0	0.0
15.00		330.1	1,317.1					0.0	329.8	330.1	1,646.9	0.0	0.0
20.00		322.0	1,284.7					0.0	329.8	322.0	1,614.5	0.0	0.0
25.00		313.9	1,252.3					0.0	329.8	313.9	1,582.1	0.0	0.0
30.00		309.3	1,219.9					0.0	329.8	309.3	1,549.7	0.0	0.0
35.00		311.0	1,187.5					0.0	329.8	311.0	1,517.3	0.0	0.0
40.00		257.6	1,155.1					0.0	329.8	257.6	1,485.0	0.0	0.0
43.21	Bot - Section 2	158.8	723.6					0.0	211.5	158.8	935.0	0.0	0.0
45.00		180.1	748.4					0.0	118.4	180.1	866.8	0.0	0.0
48.79	Top - Section 1	161.2	1,557.2					0.0	250.3	161.2	1,807.4	0.0	0.0
50.00		103.4	227.6					0.0	79.5	103.4	307.1	0.0	0.0
52.00	Appurtenance(s)	161.1	374.0	96.5	0.0	0.0	121.4	0.0	131.9	257.6	627.3	0.0	0.0
55.00		257.1	552.6					0.0	196.8	257.1	749.4	0.0	0.0
60.00		319.8	898.8					0.0	328.0	319.8	1,226.9	0.0	0.0
65.00		317.0	871.1					0.0	328.0	317.0	1,199.1	0.0	0.0
70.00		313.5	843.3					0.0	328.0	313.5	1,171.3	0.0	0.0
75.00		268.6	815.6					0.0	328.0	268.6	1,143.6	0.0	0.0
78.67	Bot - Section 3	154.2	580.9					0.0	240.7	154.2	821.6	0.0	0.0
80.00	Appurtenance(s)	103.2	383.1	895.9	0.0	0.0	1,800.0	0.0	87.3	999.0	2,270.4	0.0	0.0
82.00	Appurtenance(s)	102.6	569.1	2,418.3	0.0	-896.5	1,683.1	0.0	131.2	2,520.9	2,383.4	0.0	0.0
83.33	Top - Section 2	91.9	373.4					0.0	52.2	91.9	425.6	0.0	0.0
85.00		201.8	213.9					0.0	65.7	201.8	279.6	0.0	0.0
90.00	Appurtenance(s)	298.3	624.2	926.5	0.0	0.0	1,800.0	0.0	196.4	1,224.9	2,620.6	0.0	0.0
95.00		291.7	601.0					0.0	196.4	291.7	797.5	0.0	0.0
100.00		284.5	577.9					0.0	196.4	284.5	774.4	0.0	0.0
105.00		276.8	554.8					0.0	196.4	276.8	751.2	0.0	0.0
110.00		242.5	531.7					0.0	196.4	242.5	728.1	0.0	0.0
114.00	Top - Section 3	132.3	408.4					0.0	157.0	132.3	565.5	0.0	0.0
115.00		154.1	60.5					0.0	39.4	154.1	99.9	0.0	0.0
120.00		251.3	293.5					0.0	196.4	251.3	490.0	0.0	0.0
125.00	Appurtenance(s)	242.0	279.6	2,101.6	0.0	0.0	1,425.5	0.0	196.4	2,343.6	1,901.5	0.0	0.0
130.00		232.3	265.7					0.0	107.0	232.3	372.7	0.0	0.0
135.00		179.5	251.8					0.0	107.0	179.5	358.8	0.0	0.0
138.00	Appurtenance(s)	108.6	144.4	586.5	0.0	0.0	900.0	0.0	64.2	695.1	1,108.6	0.0	0.0
140.00	Appurtenance(s)	84.8	93.5	539.7	0.0	539.7	118.8	0.0	42.8	624.5	255.1	0.0	0.0
142.00	Appurtenance(s)	103.4	91.3	1,472.9	0.0	-1,472.9	264.6	0.0	31.0	1,576.3	386.8	0.0	0.0
145.00	Appurtenance(s)	61.4	132.7	3,089.8	0.0	14,374.1	3,160.9	0.0	28.8	3,151.2	3,322.4	0.0	0.0
								Totals:		20,669.2	43,533.9	0.00	0.00

Load Case: 1.2D + 1.6W 93 mph with No Ice 24 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	-43.51	-20.55	0.00	-2,108.29	0.00	2,108.29	4,923.42	2,461.71	9,966.12	4,990.47	0.00	0.00	0.431
5.00	-41.75	-20.30	0.00	-2,005.55	0.00	2,005.55	4,841.97	2,420.99	9,572.23	4,793.23	0.07	-0.14	0.427
10.00	-40.02	-20.06	0.00	-1,904.05	0.00	1,904.05	4,758.98	2,379.49	9,183.06	4,598.35	0.30	-0.28	0.423
15.00	-38.32	-19.81	0.00	-1,803.77	0.00	1,803.77	4,674.44	2,337.22	8,798.83	4,405.95	0.67	-0.43	0.418
20.00	-36.66	-19.57	0.00	-1,704.70	0.00	1,704.70	4,588.36	2,294.18	8,419.76	4,216.14	1.19	-0.57	0.412
25.00	-35.03	-19.33	0.00	-1,606.83	0.00	1,606.83	4,498.09	2,249.05	8,041.37	4,026.66	1.87	-0.72	0.407
30.00	-33.44	-19.09	0.00	-1,510.16	0.00	1,510.16	4,380.25	2,190.13	7,623.52	3,817.43	2.71	-0.87	0.403
35.00	-31.87	-18.84	0.00	-1,414.70	0.00	1,414.70	4,262.42	2,131.21	7,216.83	3,613.78	3.71	-1.03	0.399
40.00	-30.35	-18.63	0.00	-1,320.48	0.00	1,320.48	4,144.58	2,072.29	6,821.28	3,415.71	4.87	-1.19	0.394
43.21	-29.39	-18.49	0.00	-1,260.77	0.00	1,260.77	4,069.03	2,034.51	6,573.54	3,291.66	5.71	-1.29	0.390
45.00	-28.50	-18.33	0.00	-1,227.60	0.00	1,227.60	4,026.74	2,013.37	6,436.88	3,223.22	6.20	-1.35	0.388
48.79	-26.67	-18.17	0.00	-1,158.04	0.00	1,158.04	3,411.63	1,705.82	5,454.59	2,731.35	7.33	-1.47	0.432
50.00	-26.35	-18.08	0.00	-1,136.13	0.00	1,136.13	3,393.84	1,696.92	5,387.43	2,697.72	7.70	-1.51	0.429
52.00	-25.70	-17.85	0.00	-1,099.97	0.00	1,099.97	3,364.13	1,682.06	5,276.62	2,642.23	8.35	-1.59	0.424
55.00	-24.92	-17.63	0.00	-1,046.43	0.00	1,046.43	3,319.09	1,659.55	5,111.79	2,559.69	9.39	-1.70	0.416
60.00	-23.65	-17.35	0.00	-958.27	0.00	958.27	3,220.32	1,610.16	4,807.35	2,407.25	11.26	-1.87	0.406
65.00	-22.41	-17.06	0.00	-871.53	0.00	871.53	3,119.32	1,559.66	4,509.03	2,257.87	13.32	-2.05	0.393
70.00	-21.19	-16.77	0.00	-786.22	0.00	786.22	3,018.31	1,509.16	4,220.27	2,113.27	15.56	-2.23	0.379
75.00	-20.02	-16.51	0.00	-702.38	0.00	702.38	2,917.31	1,458.66	3,941.06	1,973.46	18.00	-2.41	0.363
78.67	-19.18	-16.35	0.00	-641.81	0.00	641.81	2,843.19	1,421.59	3,742.24	1,873.90	19.90	-2.54	0.349
80.00	-16.94	-15.27	0.00	-620.05	0.00	620.05	2,816.31	1,408.15	3,671.40	1,838.43	20.61	-2.59	0.343
82.00	-14.66	-12.65	0.00	-589.52	0.00	589.52	2,775.90	1,387.95	3,566.22	1,785.76	21.71	-2.66	0.335
83.33	-14.23	-12.56	0.00	-572.71	0.00	572.71	2,331.02	1,165.51	3,037.65	1,521.08	22.46	-2.70	0.383
85.00	-13.93	-12.37	0.00	-551.72	0.00	551.72	2,310.11	1,155.05	2,973.86	1,489.14	23.42	-2.76	0.377
90.00	-11.34	-11.05	0.00	-489.87	0.00	489.87	2,229.24	1,114.62	2,764.32	1,384.22	26.41	-2.96	0.359
95.00	-10.52	-10.76	0.00	-434.59	0.00	434.59	2,145.07	1,072.54	2,558.49	1,281.15	29.61	-3.14	0.344
100.00	-9.73	-10.46	0.00	-380.82	0.00	380.82	2,060.90	1,030.45	2,360.62	1,182.06	33.00	-3.33	0.327
105.00	-8.97	-10.17	0.00	-328.52	0.00	328.52	1,976.73	988.37	2,170.71	1,086.97	36.59	-3.52	0.307
110.00	-8.23	-9.90	0.00	-277.68	0.00	277.68	1,892.56	946.28	1,988.77	995.86	40.37	-3.69	0.283
114.00	-7.66	-9.74	0.00	-238.10	0.00	238.10	1,825.27	912.63	1,849.04	925.89	43.52	-3.83	0.261
114.00	-7.66	-9.74	0.00	-238.10	0.00	238.10	1,013.43	506.71	1,036.97	519.26	43.52	-3.83	0.466
115.00	-7.54	-9.60	0.00	-228.33	0.00	228.33	1,007.45	503.72	1,021.30	511.41	44.32	-3.87	0.454
120.00	-7.03	-9.35	0.00	-180.32	0.00	180.32	976.71	488.36	943.94	472.67	48.51	-4.12	0.389
125.00	-5.28	-6.89	0.00	-133.57	0.00	133.57	944.43	472.21	868.07	434.68	52.96	-4.35	0.313
130.00	-4.91	-6.65	0.00	-99.12	0.00	99.12	910.60	455.30	793.90	397.54	57.62	-4.55	0.255
135.00	-4.55	-6.45	0.00	-65.90	0.00	65.90	875.23	437.61	721.66	361.37	62.47	-4.71	0.188
138.00	-3.50	-5.67	0.00	-46.56	0.00	46.56	853.26	426.63	679.33	340.17	65.45	-4.79	0.141
140.00	-3.30	-5.02	0.00	-34.69	0.00	34.69	838.31	419.15	651.57	326.27	67.47	-4.83	0.110
142.00	-3.04	-3.42	0.00	-24.64	0.00	24.64	820.01	410.00	621.83	311.38	69.50	-4.86	0.083
145.00	0.00	-3.15	0.00	-14.37	0.00	14.37	789.63	394.81	576.38	288.62	72.56	-4.90	0.050

Load Case: 0.9D + 1.6W — 93 mph with No Ice (Reduced DL) — 24 Iterations

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

Wind Importance Factor 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		175.2	0.0					0.0	0.0	175.2	0.0	0.0	0.0
5.00		346.4	1,036.4					0.0	247.4	346.4	1,283.7	0.0	0.0
10.00		338.3	1,012.1					0.0	247.4	338.3	1,259.4	0.0	0.0
15.00		330.1	987.8					0.0	247.4	330.1	1,235.2	0.0	0.0
20.00		322.0	963.5					0.0	247.4	322.0	1,210.9	0.0	0.0
25.00		313.9	939.2					0.0	247.4	313.9	1,186.6	0.0	0.0
30.00		309.3	914.9					0.0	247.4	309.3	1,162.3	0.0	0.0
35.00		311.0	890.6					0.0	247.4	311.0	1,138.0	0.0	0.0
40.00		257.6	866.4					0.0	247.4	257.6	1,113.7	0.0	0.0
43.21	Bot - Section 2	158.8	542.7					0.0	158.6	158.8	701.3	0.0	0.0
45.00		180.1	561.3					0.0	88.8	180.1	650.1	0.0	0.0
48.79	Top - Section 1	161.2	1,167.9					0.0	187.7	161.2	1,355.6	0.0	0.0
50.00		103.4	170.7					0.0	59.7	103.4	230.4	0.0	0.0
52.00	Appurtenance(s)	161.1	280.5	96.5	0.0	0.0	91.1	0.0	98.9	257.6	470.5	0.0	0.0
55.00		257.1	414.5					0.0	147.6	257.1	562.1	0.0	0.0
60.00		319.8	674.1					0.0	246.0	319.8	920.1	0.0	0.0
65.00		317.0	653.3					0.0	246.0	317.0	899.3	0.0	0.0
70.00		313.5	632.5					0.0	246.0	313.5	878.5	0.0	0.0
75.00		268.6	611.7					0.0	246.0	268.6	857.7	0.0	0.0
78.67	Bot - Section 3	154.2	435.6					0.0	180.5	154.2	616.2	0.0	0.0
80.00	Appurtenance(s)	103.2	287.4	895.9	0.0	0.0	1,350.0	0.0	65.5	999.0	1,702.8	0.0	0.0
82.00	Appurtenance(s)	102.6	426.8	2,418.3	0.0	-896.5	1,262.3	0.0	98.4	2,520.9	1,787.5	0.0	0.0
83.33	Top - Section 2	91.9	280.0					0.0	39.1	91.9	319.2	0.0	0.0
85.00		201.8	160.4					0.0	49.3	201.8	209.7	0.0	0.0
90.00	Appurtenance(s)	298.3	468.1	926.5	0.0	0.0	1,350.0	0.0	147.3	1,224.9	1,965.5	0.0	0.0
95.00		291.7	450.8					0.0	147.3	291.7	598.1	0.0	0.0
100.00		284.5	433.4					0.0	147.3	284.5	580.8	0.0	0.0
105.00		276.8	416.1					0.0	147.3	276.8	563.4	0.0	0.0
110.00		242.5	398.7					0.0	147.3	242.5	546.1	0.0	0.0
114.00	Top - Section 3	132.3	306.3					0.0	117.8	132.3	424.1	0.0	0.0
115.00		154.1	45.4					0.0	29.5	154.1	74.9	0.0	0.0
120.00		251.3	220.1					0.0	147.3	251.3	367.5	0.0	0.0
125.00	Appurtenance(s)	242.0	209.7	2,101.6	0.0	0.0	1,069.1	0.0	147.3	2,343.6	1,426.1	0.0	0.0
130.00		232.3	199.3					0.0	80.2	232.3	279.5	0.0	0.0
135.00		179.5	188.8					0.0	80.2	179.5	269.1	0.0	0.0
138.00	Appurtenance(s)	108.6	108.3	586.5	0.0	0.0	675.0	0.0	48.1	695.1	831.4	0.0	0.0
140.00	Appurtenance(s)	84.8	70.1	539.7	0.0	539.7	89.1	0.0	32.1	624.5	191.3	0.0	0.0
142.00	Appurtenance(s)	103.4	68.4	1,472.9	0.0	-1,472.9	198.4	0.0	23.2	1,576.3	290.1	0.0	0.0
145.00	Appurtenance(s)	61.4	99.5	3,089.8	0.0	14,374.1	2,370.7	0.0	21.6	3,151.2	2,491.8	0.0	0.0
								Totals:		20,669.2	32,650.4	0.00	0.00

Site Number: 411182 Code: ANSI/TIA-222-G

Site Name: Nepaug CT, CT Engineering Number:OAA751878_C3_01 9/12/2019 10:22:14 AM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W 93 mph with No Ice (Reduced DL) 24 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	-32.63	-20.53	0.00	-2,086.88	0.00	2,086.88	4,923.42	2,461.71	9,966.12	4,990.47	0.00	0.00	0.425
5.00	-31.29	-20.26	0.00	-1,984.21	0.00	1,984.21	4,841.97	2,420.99	9,572.23	4,793.23	0.07	-0.14	0.420
10.00	-29.99	-19.99	0.00	-1,882.90	0.00	1,882.90	4,758.98	2,379.49	9,183.06	4,598.35	0.29	-0.28	0.416
15.00	-28.70	-19.73	0.00	-1,782.94	0.00	1,782.94	4,674.44	2,337.22	8,798.83	4,405.95	0.66	-0.42	0.411
20.00	-27.44	-19.47	0.00	-1,684.30	0.00	1,684.30	4,588.36	2,294.18	8,419.76	4,216.14	1.18	-0.57	0.406
25.00	-26.21	-19.21	0.00	-1,586.98	0.00	1,586.98	4,498.09	2,249.05	8,041.37	4,026.66	1.85	-0.71	0.400
30.00	-25.00	-18.95	0.00	-1,490.95	0.00	1,490.95	4,380.25	2,190.13	7,623.52	3,817.43	2.68	-0.86	0.396
35.00	-23.82	-18.68	0.00	-1,396.21	0.00	1,396.21	4,262.42	2,131.21	7,216.83	3,613.78	3.67	-1.02	0.392
40.00	-22.67	-18.45	0.00	-1,302.80	0.00	1,302.80	4,144.58	2,072.29	6,821.28	3,415.71	4.82	-1.17	0.387
43.21	-21.95	-18.31	0.00	-1,243.64	0.00	1,243.64	4,069.03	2,034.51	6,573.54	3,291.66	5.64	-1.28	0.383
45.00	-21.27	-18.15	0.00	-1,210.79	0.00	1,210.79	4,026.74	2,013.37	6,436.88	3,223.22	6.13	-1.33	0.381
48.79	-19.90	-17.98	0.00	-1,141.92	0.00	1,141.92	3,411.63	1,705.82	5,454.59	2,731.35	7.24	-1.45	0.424
50.00	-19.65	-17.89	0.00	-1,120.24	0.00	1,120.24	3,393.84	1,696.92	5,387.43	2,697.72	7.61	-1.49	0.421
52.00	-19.16	-17.65	0.00	-1,084.46	0.00	1,084.46	3,364.13	1,682.06	5,276.62	2,642.23	8.26	-1.57	0.416
55.00	-18.56	-17.43	0.00	-1,031.50	0.00	1,031.50	3,319.09	1,659.55	5,111.79	2,559.69	9.28	-1.67	0.409
60.00	-17.60	-17.13	0.00	-944.36	0.00	944.36	3,220.32	1,610.16	4,807.35	2,407.25	11.12	-1.85	0.398
65.00	-16.66	-16.84	0.00	-858.70	0.00	858.70	3,119.32	1,559.66	4,509.03	2,257.87	13.16	-2.03	0.386
70.00	-15.74	-16.54	0.00	-774.52	0.00	774.52	3,018.31	1,509.16	4,220.27	2,113.27	15.37	-2.20	0.372
75.00	-14.85	-16.28	0.00	-691.82	0.00	691.82	2,917.31	1,458.66	3,941.06	1,973.46	17.77	-2.38	0.356
78.67	-14.22	-16.12	0.00	-632.10	0.00	632.10	2,843.19	1,421.59	3,742.24	1,873.90	19.65	-2.51	0.342
80.00	-12.55	-15.06	0.00	-610.65	0.00	610.65	2,816.31	1,408.15	3,671.40	1,838.43	20.36	-2.55	0.337
82.00	-10.86	-12.47	0.00	-580.54	0.00	580.54	2,775.90	1,387.95	3,566.22	1,785.76	21.44	-2.62	0.329
83.33	-10.54	-12.37	0.00	-563.98	0.00	563.98	2,331.02	1,165.51	3,037.65	1,521.08	22.18	-2.67	0.375
85.00	-10.31	-12.18	0.00	-543.29	0.00	543.29	2,310.11	1,155.05	2,973.86	1,489.14	23.12	-2.73	0.369
90.00	-8.37	-10.89	0.00	-482.38	0.00	482.38	2,229.24	1,114.62	2,764.32	1,384.22	26.08	-2.92	0.352
95.00	-7.76	-10.59	0.00	-427.93	0.00	427.93	2,145.07	1,072.54	2,558.49	1,281.15	29.23	-3.10	0.338
100.00	-7.16	-10.30	0.00	-374.97	0.00	374.97	2,060.90	1,030.45	2,360.62	1,182.06	32.58	-3.29	0.321
105.00	-6.58	-10.01	0.00	-323.47	0.00	323.47	1,976.73	988.37	2,170.71	1,086.97	36.12	-3.47	0.301
110.00	-6.03	-9.75	0.00	-273.42	0.00	273.42	1,892.56	946.28	1,988.77	995.86	39.84	-3.64	0.278
114.00	-5.60	-9.60	0.00	-234.44	0.00	234.44	1,825.27	912.63	1,849.04	925.89	42.95	-3.78	0.256
114.00	-5.60	-9.60	0.00	-234.44	0.00	234.44	1,013.43	506.71	1,036.97	519.26	42.95	-3.78	0.457
115.00	-5.51	-9.46	0.00	-224.82	0.00	224.82	1,007.45	503.72	1,021.30	511.41	43.75	-3.81	0.445
120.00	-5.12	-9.20	0.00	-177.54	0.00	177.54	976.71	488.36	943.94	472.67	47.88	-4.07	0.381
125.00	-3.85	-6.77	0.00	-131.54	0.00	131.54	944.43	472.21	868.07	434.68	52.26	-4.29	0.307
130.00	-3.56	-6.53	0.00	-97.67	0.00	97.67	910.60	455.30	793.90	397.54	56.85	-4.48	0.250
135.00	-3.30	-6.34	0.00	-65.02	0.00	65.02	875.23	437.61	721.66	361.37	61.63	-4.64	0.184
138.00	-2.52	-5.58	0.00	-46.01	0.00	46.01	853.26	426.63	679.33	340.17	64.58	-4.72	0.138
140.00	-2.38	-4.94	0.00	-34.31	0.00	34.31	838.31	419.15	651.57	326.27	66.56	-4.76	0.108
142.00	-2.22	-3.35	0.00	-24.42	0.00	24.42	820.01	410.00	621.83	311.38	68.56	-4.80	0.081
145.00	0.00	-3.15	0.00	-14.37	0.00	14.37	789.63	394.81	576.38	288.62	71.58	-4.83	0.050

Load Case: 1.2D + 1.0Di + 1.0Wi — 40 mph with 1.00 in Radial Ice — 23 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

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		39.7	0.0					0.0	0.0	39.7	0.0	0.0	0.0
5.00		78.8	1,867.2					12.8	403.1	91.6	2,270.4	0.0	0.0
10.00		77.5	1,880.8					13.7	412.2	91.2	2,293.0	0.0	0.0
15.00		76.0	1,864.3					14.2	416.9	90.2	2,281.1	0.0	0.0
20.00		74.4	1,837.9					14.5	420.1	88.9	2,258.0	0.0	0.0
25.00		72.8	1,806.4					14.7	422.7	87.6	2,229.1	0.0	0.0
30.00		72.0	1,771.6					14.9	424.8	87.0	2,196.4	0.0	0.0
35.00		72.7	1,734.7					15.5	426.6	88.2	2,161.2	0.0	0.0
40.00		60.4	1,696.0					16.3	428.2	76.7	2,124.2	0.0	0.0
43.21	Bot - Section 2	37.3	1,068.1					10.8	275.2	48.1	1,343.4	0.0	0.0
45.00		42.4	944.0					6.2	154.3	48.5	1,098.3	0.0	0.0
48.79	Top - Section 1	38.0	1,964.9					13.4	326.8	51.3	2,291.7	0.0	0.0
50.00		24.4	357.0					4.3	104.0	28.7	461.0	0.0	0.0
52.00	Appurtenance(s)	38.1	587.0	19.3	0.0	0.0	168.0	7.3	172.7	64.6	927.6	0.0	0.0
55.00		60.9	868.3					8.2	251.8	69.1	1,120.1	0.0	0.0
60.00		76.0	1,413.9					14.0	420.3	90.0	1,834.2	0.0	0.0
65.00		75.7	1,375.4					14.4	421.2	90.1	1,796.6	0.0	0.0
70.00		75.1	1,336.4					14.8	422.0	90.0	1,758.4	0.0	0.0
75.00		64.6	1,296.9					15.2	422.7	79.8	1,719.6	0.0	0.0
78.67	Bot - Section 3	37.2	927.9					11.4	310.6	48.6	1,238.5	0.0	0.0
80.00	Appurtenance(s)	24.9	510.6	198.6	0.0	0.0	2,312.2	4.2	112.7	227.7	2,935.5	0.0	0.0
82.00	Appurtenance(s)	24.8	758.5	376.9	0.0	-154.0	4,820.4	6.3	169.5	408.0	5,748.5	0.0	0.0
83.33	Top - Section 2	22.3	498.4					4.2	77.7	26.5	576.1	0.0	0.0
85.00		49.1	369.7					5.4	97.9	54.4	467.6	0.0	0.0
90.00	Appurtenance(s)	72.8	1,076.5	206.3	0.0	0.0	2,320.2	16.3	293.1	295.3	3,689.8	0.0	0.0
95.00		71.5	1,040.2					16.6	293.7	88.1	1,333.8	0.0	0.0
100.00		70.2	1,003.6					16.9	294.2	87.1	1,297.8	0.0	0.0
105.00		68.7	966.7					17.2	294.8	85.9	1,261.5	0.0	0.0
110.00		60.6	929.6					17.5	295.3	78.1	1,224.8	0.0	0.0
114.00	Top - Section 3	33.2	717.6					14.2	236.4	47.4	954.0	0.0	0.0
115.00		38.9	137.6					3.6	59.3	42.5	197.0	0.0	0.0
120.00		63.8	662.8					18.1	296.3	81.8	959.0	0.0	0.0
125.00	Appurtenance(s)	62.0	634.2	394.3	0.0	0.0	3,416.6	18.3	296.7	474.6	4,347.5	0.0	0.0
130.00		60.0	605.5					0.0	107.0	60.0	712.4	0.0	0.0
135.00		46.8	576.5					0.0	107.0	46.8	683.5	0.0	0.0
138.00	Appurtenance(s)	28.5	333.9	144.1	0.0	0.0	1,579.8	0.0	64.2	172.6	1,978.0	0.0	0.0
140.00	Appurtenance(s)	22.4	217.4	98.4	0.0	98.4	669.4	0.0	42.8	120.8	929.6	0.0	0.0
142.00	Appurtenance(s)	27.5	212.8	232.8	0.0	-232.8	2,017.0	0.0	31.0	260.3	2,260.8	0.0	0.0
145.00	Appurtenance(s)	16.4	309.4	613.9	0.0	2,767.0	6,412.4	0.0	28.8	630.3	6,750.5	0.0	0.0
								Totals:		4,738.31	71,710.4	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph with 1.00 in Radial Ice 23 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	-71.71	-4.72	0.00	-480.09	0.00	480.09	4,923.42	2,461.71	9,966.12	4,990.47	0.00	0.00	0.111
5.00	-69.44	-4.66	0.00	-456.50	0.00	456.50	4,841.97	2,420.99	9,572.23	4,793.23	0.02	-0.03	0.110
10.00	-67.14	-4.61	0.00	-433.18	0.00	433.18	4,758.98	2,379.49	9,183.06	4,598.35	0.07	-0.06	0.108
15.00	-64.86	-4.55	0.00	-410.13	0.00	410.13	4,674.44	2,337.22	8,798.83	4,405.95	0.15	-0.10	0.107
20.00	-62.60	-4.50	0.00	-387.36	0.00	387.36	4,588.36	2,294.18	8,419.76	4,216.14	0.27	-0.13	0.106
25.00	-60.37	-4.44	0.00	-364.87	0.00	364.87	4,498.09	2,249.05	8,041.37	4,026.66	0.43	-0.16	0.104
30.00	-58.17	-4.38	0.00	-342.67	0.00	342.67	4,380.25	2,190.13	7,623.52	3,817.43	0.62	-0.20	0.103
35.00	-56.00	-4.32	0.00	-320.76	0.00	320.76	4,262.42	2,131.21	7,216.83	3,613.78	0.84	-0.23	0.102
40.00	-53.88	-4.26	0.00	-299.17	0.00	299.17	4,144.58	2,072.29	6,821.28	3,415.71	1.11	-0.27	0.101
43.21	-52.53	-4.22	0.00	-285.50	0.00	285.50	4,069.03	2,034.51	6,573.54	3,291.66	1.30	-0.29	0.100
45.00	-51.43	-4.19	0.00	-277.93	0.00	277.93	4,026.74	2,013.37	6,436.88	3,223.22	1.41	-0.31	0.099
48.79	-49.14	-4.14	0.00	-262.04	0.00	262.04	3,411.63	1,705.82	5,454.59	2,731.35	1.67	-0.33	0.110
50.00	-48.68	-4.12	0.00	-257.04	0.00	257.04	3,393.84	1,696.92	5,387.43	2,697.72	1.75	-0.34	0.110
52.00	-47.75	-4.07	0.00	-248.81	0.00	248.81	3,364.13	1,682.06	5,276.62	2,642.23	1.90	-0.36	0.108
55.00	-46.63	-4.02	0.00	-236.61	0.00	236.61	3,319.09	1,659.55	5,111.79	2,559.69	2.13	-0.38	0.106
60.00	-44.79	-3.94	0.00	-216.53	0.00	216.53	3,220.32	1,610.16	4,807.35	2,407.25	2.56	-0.43	0.104
65.00	-42.99	-3.87	0.00	-196.80	0.00	196.80	3,119.32	1,559.66	4,509.03	2,257.87	3.02	-0.47	0.101
70.00	-41.23	-3.80	0.00	-177.45	0.00	177.45	3,018.31	1,509.16	4,220.27	2,113.27	3.53	-0.51	0.098
75.00	-39.51	-3.72	0.00	-158.47	0.00	158.47	2,917.31	1,458.66	3,941.06	1,973.46	4.09	-0.55	0.094
78.67	-38.27	-3.68	0.00	-144.81	0.00	144.81	2,843.19	1,421.59	3,742.24	1,873.90	4.52	-0.58	0.091
80.00	-35.34	-3.43	0.00	-139.92	0.00	139.92	2,816.31	1,408.15	3,671.40	1,838.43	4.68	-0.59	0.089
82.00	-29.59	-2.97	0.00	-133.07	0.00	133.07	2,775.90	1,387.95	3,566.22	1,785.76	4.93	-0.60	0.085
83.33	-29.02	-2.94	0.00	-129.13	0.00	129.13	2,331.02	1,165.51	3,037.65	1,521.08	5.10	-0.61	0.097
85.00	-28.55	-2.89	0.00	-124.21	0.00	124.21	2,310.11	1,155.05	2,973.86	1,489.14	5.31	-0.63	0.096
90.00	-24.86	-2.58	0.00	-109.74	0.00	109.74	2,229.24	1,114.62	2,764.32	1,384.22	5.99	-0.67	0.090
95.00	-23.53	-2.49	0.00	-96.87	0.00	96.87	2,145.07	1,072.54	2,558.49	1,281.15	6.72	-0.71	0.087
100.00	-22.23	-2.40	0.00	-84.42	0.00	84.42	2,060.90	1,030.45	2,360.62	1,182.06	7.48	-0.75	0.082
105.00	-20.97	-2.31	0.00	-72.42	0.00	72.42	1,976.73	988.37	2,170.71	1,086.97	8.29	-0.79	0.077
110.00	-19.74	-2.23	0.00	-60.85	0.00	60.85	1,892.56	946.28	1,988.77	995.86	9.15	-0.83	0.072
114.00	-18.79	-2.17	0.00	-51.94	0.00	51.94	1,825.27	912.63	1,849.04	925.89	9.86	-0.86	0.066
114.00	-18.79	-2.17	0.00	-51.94	0.00	51.94	1,013.43	506.71	1,036.97	519.26	9.86	-0.86	0.119
115.00	-18.59	-2.14	0.00	-49.76	0.00	49.76	1,007.45	503.72	1,021.30	511.41	10.04	-0.87	0.116
120.00	-17.63	-2.06	0.00	-39.06	0.00	39.06	976.71	488.36	943.94	472.67	10.98	-0.93	0.101
125.00	-13.29	-1.52	0.00	-28.77	0.00	28.77	944.43	472.21	868.07	434.68	11.98	-0.98	0.080
130.00	-12.58	-1.46	0.00	-21.16	0.00	21.16	910.60	455.30	793.90	397.54	13.02	-1.02	0.067
135.00	-11.89	-1.40	0.00	-13.87	0.00	13.87	875.23	437.61	721.66	361.37	14.11	-1.05	0.052
138.00	-9.92	-1.20	0.00	-9.66	0.00	9.66	853.26	426.63	679.33	340.17	14.78	-1.07	0.040
140.00	-8.99	-1.06	0.00	-7.16	0.00	7.16	838.31	419.15	651.57	326.27	15.23	-1.08	0.033
142.00	-6.74	-0.76	0.00	-5.04	0.00	5.04	820.01	410.00	621.83	311.38	15.68	-1.08	0.024
145.00	0.00	-0.63	0.00	-2.77	0.00	2.77	789.63	394.81	576.38	288.62	16.36	-1.09	0.010

Load Case: 1.0D + 1.0W Serviceability 60 mph 23 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

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		40.8	0.0					0.0	0.0	40.8	0.0	0.0	0.0
5.00		80.6	1,151.5					0.0	274.9	80.6	1,426.4	0.0	0.0
10.00		78.7	1,124.5					0.0	274.9	78.7	1,399.4	0.0	0.0
15.00		76.8	1,097.5					0.0	274.9	76.8	1,372.4	0.0	0.0
20.00		74.9	1,070.6					0.0	274.9	74.9	1,345.4	0.0	0.0
25.00		73.1	1,043.6					0.0	274.9	73.1	1,318.4	0.0	0.0
30.00		72.0	1,016.6					0.0	274.9	72.0	1,291.4	0.0	0.0
35.00		72.4	989.6					0.0	274.9	72.4	1,264.5	0.0	0.0
40.00		60.0	962.6					0.0	274.9	60.0	1,237.5	0.0	0.0
43.21	Bot - Section 2	37.0	603.0					0.0	176.2	37.0	779.2	0.0	0.0
45.00		41.9	623.7					0.0	98.6	41.9	722.3	0.0	0.0
48.79	Top - Section 1	37.5	1,297.6					0.0	208.6	37.5	1,506.2	0.0	0.0
50.00		24.1	189.7					0.0	66.3	24.1	255.9	0.0	0.0
52.00	Appurtenance(s)	37.5	311.6	22.5	0.0	0.0	101.2	0.0	109.9	60.0	522.8	0.0	0.0
55.00		59.8	460.5					0.0	164.0	59.8	624.5	0.0	0.0
60.00		74.4	749.0					0.0	273.4	74.4	1,022.4	0.0	0.0
65.00		73.8	725.9					0.0	273.4	73.8	999.3	0.0	0.0
70.00		73.0	702.8					0.0	273.4	73.0	976.1	0.0	0.0
75.00		62.5	679.6					0.0	273.4	62.5	953.0	0.0	0.0
78.67	Bot - Section 3	35.9	484.0					0.0	200.6	35.9	684.6	0.0	0.0
80.00	Appurtenance(s)	24.0	319.3	208.5	0.0	0.0	1,500.0	0.0	72.8	232.5	1,892.0	0.0	0.0
82.00	Appurtenance(s)	23.9	474.2	562.9	0.0	-208.7	1,402.6	0.0	109.3	586.8	1,986.1	0.0	0.0
83.33	Top - Section 2	21.4	311.2					0.0	43.5	21.4	354.6	0.0	0.0
85.00		47.0	178.2					0.0	54.7	47.0	233.0	0.0	0.0
90.00	Appurtenance(s)	69.4	520.1	215.7	0.0	0.0	1,500.0	0.0	163.7	285.1	2,183.8	0.0	0.0
95.00		67.9	500.9					0.0	163.7	67.9	664.6	0.0	0.0
100.00		66.2	481.6					0.0	163.7	66.2	645.3	0.0	0.0
105.00		64.4	462.3					0.0	163.7	64.4	626.0	0.0	0.0
110.00		56.5	443.0					0.0	163.7	56.5	606.7	0.0	0.0
114.00	Top - Section 3	30.8	340.3					0.0	130.9	30.8	471.2	0.0	0.0
115.00		35.9	50.4					0.0	32.8	35.9	83.3	0.0	0.0
120.00		58.5	244.6					0.0	163.7	58.5	408.3	0.0	0.0
125.00	Appurtenance(s)	56.3	233.0	489.2	0.0	0.0	1,187.9	0.0	163.7	545.5	1,584.6	0.0	0.0
130.00		54.1	221.4					0.0	89.2	54.1	310.6	0.0	0.0
135.00		41.8	209.8					0.0	89.2	41.8	299.0	0.0	0.0
138.00	Appurtenance(s)	25.3	120.3	136.5	0.0	0.0	750.0	0.0	53.5	161.8	923.8	0.0	0.0
140.00	Appurtenance(s)	19.7	77.9	125.6	0.0	125.6	99.0	0.0	35.7	145.4	212.6	0.0	0.0
142.00	Appurtenance(s)	24.1	76.0	342.8	0.0	-342.8	220.5	0.0	25.8	366.9	322.4	0.0	0.0
145.00	Appurtenance(s)	14.3	110.6	719.2	0.0	3,345.7	2,634.1	0.0	24.0	733.5	2,768.7	0.0	0.0
								Totals:		4,811.02	36,278.2	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 23 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	-36.28	-4.78	0.00	-487.72	0.00	487.72	4,923.42	2,461.71	9,966.12	4,990.47	0.00	0.00	0.105
5.00	-34.85	-4.72	0.00	-463.82	0.00	463.82	4,841.97	2,420.99	9,572.23	4,793.23	0.02	-0.03	0.104
10.00	-33.45	-4.66	0.00	-440.23	0.00	440.23	4,758.98	2,379.49	9,183.06	4,598.35	0.07	-0.06	0.103
15.00	-32.07	-4.60	0.00	-416.93	0.00	416.93	4,674.44	2,337.22	8,798.83	4,405.95	0.15	-0.10	0.101
20.00	-30.72	-4.54	0.00	-393.94	0.00	393.94	4,588.36	2,294.18	8,419.76	4,216.14	0.28	-0.13	0.100
25.00	-29.40	-4.48	0.00	-371.25	0.00	371.25	4,498.09	2,249.05	8,041.37	4,026.66	0.43	-0.17	0.099
30.00	-28.11	-4.42	0.00	-348.85	0.00	348.85	4,380.25	2,190.13	7,623.52	3,817.43	0.63	-0.20	0.098
35.00	-26.84	-4.36	0.00	-326.74	0.00	326.74	4,262.42	2,131.21	7,216.83	3,613.78	0.86	-0.24	0.097
40.00	-25.60	-4.31	0.00	-304.93	0.00	304.93	4,144.58	2,072.29	6,821.28	3,415.71	1.13	-0.27	0.095
43.21	-24.82	-4.28	0.00	-291.12	0.00	291.12	4,069.03	2,034.51	6,573.54	3,291.66	1.32	-0.30	0.095
45.00	-24.10	-4.24	0.00	-283.44	0.00	283.44	4,026.74	2,013.37	6,436.88	3,223.22	1.43	-0.31	0.094
48.79	-22.59	-4.20	0.00	-267.36	0.00	267.36	3,411.63	1,705.82	5,454.59	2,731.35	1.69	-0.34	0.105
50.00	-22.33	-4.18	0.00	-262.29	0.00	262.29	3,393.84	1,696.92	5,387.43	2,697.72	1.78	-0.35	0.104
52.00	-21.81	-4.13	0.00	-253.93	0.00	253.93	3,364.13	1,682.06	5,276.62	2,642.23	1.93	-0.37	0.103
55.00	-21.18	-4.07	0.00	-241.56	0.00	241.56	3,319.09	1,659.55	5,111.79	2,559.69	2.17	-0.39	0.101
60.00	-20.16	-4.01	0.00	-221.19	0.00	221.19	3,220.32	1,610.16	4,807.35	2,407.25	2.60	-0.43	0.098
65.00	-19.16	-3.94	0.00	-201.16	0.00	201.16	3,119.32	1,559.66	4,509.03	2,257.87	3.08	-0.47	0.095
70.00	-18.18	-3.87	0.00	-181.46	0.00	181.46	3,018.31	1,509.16	4,220.27	2,113.27	3.60	-0.52	0.092
75.00	-17.22	-3.81	0.00	-162.11	0.00	162.11	2,917.31	1,458.66	3,941.06	1,973.46	4.16	-0.56	0.088
78.67	-16.54	-3.77	0.00	-148.14	0.00	148.14	2,843.19	1,421.59	3,742.24	1,873.90	4.60	-0.59	0.085
80.00	-14.65	-3.52	0.00	-143.12	0.00	143.12	2,816.31	1,408.15	3,671.40	1,838.43	4.76	-0.60	0.083
82.00	-12.67	-2.92	0.00	-136.07	0.00	136.07	2,775.90	1,387.95	3,566.22	1,785.76	5.02	-0.61	0.081
83.33	-12.31	-2.90	0.00	-132.19	0.00	132.19	2,331.02	1,165.51	3,037.65	1,521.08	5.19	-0.62	0.092
85.00	-12.08	-2.85	0.00	-127.35	0.00	127.35	2,310.11	1,155.05	2,973.86	1,489.14	5.41	-0.64	0.091
90.00	-9.90	-2.55	0.00	-113.08	0.00	113.08	2,229.24	1,114.62	2,764.32	1,384.22	6.10	-0.68	0.086
95.00	-9.23	-2.48	0.00	-100.33	0.00	100.33	2,145.07	1,072.54	2,558.49	1,281.15	6.84	-0.73	0.083
100.00	-8.58	-2.41	0.00	-87.92	0.00	87.92	2,060.90	1,030.45	2,360.62	1,182.06	7.63	-0.77	0.079
105.00	-7.96	-2.35	0.00	-75.85	0.00	75.85	1,976.73	988.37	2,170.71	1,086.97	8.45	-0.81	0.074
110.00	-7.35	-2.29	0.00	-64.12	0.00	64.12	1,892.56	946.28	1,988.77	995.86	9.33	-0.85	0.068
114.00	-6.88	-2.25	0.00	-54.99	0.00	54.99	1,825.27	912.63	1,849.04	925.89	10.06	-0.89	0.063
114.00	-6.88	-2.25	0.00	-54.99	0.00	54.99	1,013.43	506.71	1,036.97	519.26	10.06	-0.89	0.113
115.00	-6.79	-2.22	0.00	-52.73	0.00	52.73	1,007.45	503.72	1,021.30	511.41	10.24	-0.89	0.110
120.00	-6.39	-2.16	0.00	-41.65	0.00	41.65	976.71	488.36	943.94	472.67	11.21	-0.95	0.095
125.00	-4.81	-1.59	0.00	-30.86	0.00	30.86	944.43	472.21	868.07	434.68	12.24	-1.01	0.076
130.00	-4.50	-1.53	0.00	-22.91	0.00	22.91	910.60	455.30	793.90	397.54	13.31	-1.05	0.063
135.00	-4.20	-1.49	0.00	-15.24	0.00	15.24	875.23	437.61	721.66	361.37	14.44	-1.09	0.047
138.00	-3.28	-1.31	0.00	-10.77	0.00	10.77	853.26	426.63	679.33	340.17	15.13	-1.11	0.036
140.00	-3.07	-1.16	0.00	-8.03	0.00	8.03	838.31	419.15	651.57	326.27	15.59	-1.12	0.028
142.00	-2.75	-0.79	0.00	-5.71	0.00	5.71	820.01	410.00	621.83	311.38	16.06	-1.12	0.022
145.00	0.00	-0.73	0.00	-3.35	0.00	3.35	789.63	394.81	576.38	288.62	16.77	-1.13	0.012

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.18	
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}):	0.19	
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):	2.11	
Redundancy Factor (p):	1.30	
Seismic Force Distribution Exponent (k):	1.80	
Total Unfactored Dead Load:	36.28	k
Seismic Base Shear (E):	1.55	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)
38	143.50	135	1,049	0.011	17	167
37	141.00	102	769	0.008	12	126
36	139.00	114	836	0.009	13	141
35	136.50	174	1,238	0.013	20	215
34	132.50	299	2,018	0.021	32	370
33	127.50	311	1,956	0.020	31	385
32	122.50	397	2,325	0.024	37	491
31	117.50	408	2,219	0.023	35	506
30	114.50	83	432	0.004	7	103
29	112.00	471	2,349	0.024	37	584
28	107.50	607	2,809	0.029	45	752
27	102.50	626	2,659	0.027	42	775
26	97.50	645	2,505	0.026	40	799
25	92.50	665	2,346	0.024	37	823
24	87.50	684	2,183	0.022	35	847
23	84.16	233	693	0.007	11	289
22	82.66	355	1,022	0.010	16	439
21	81.00	584	1,621	0.017	26	723
20	79.33	392	1,049	0.011	17	486
19	76.83	685	1,729	0.018	27	848
18	72.50	953	2,167	0.022	34	1,180
17	67.50	976	1,951	0.020	31	1,209
16	62.50	999	1,739	0.018	28	1,238

15	57.50	1,022	1,530	0.016	24	1,266
14	53.50	625	821	0.008	13	774
13	51.00	422	508	0.005	8	522
12	49.40	256	291	0.003	5	317
11	46.90	1,506	1,561	0.016	25	1,866
10	44.10	722	670	0.007	11	895
9	41.60	779	650	0.007	10	965
8	37.50	1,237	857	0.009	14	1,533
7	32.50	1,264	676	0.007	11	1,566
6	27.50	1,291	511	0.005	8	1,600
5	22.50	1,318	363	0.004	6	1,633
4	17.50	1,345	235	0.002	4	1,666
3	12.50	1,372	131	0.001	2	1,700
2	7.50	1,399	53	0.001	1	1,733
1	2.50	1,426	7	0.000	0	1,767
Alcatel-Lucent ALU 8	145.00	26	210	0.002	3	33
Generic GPS	145.00	10	79	0.001	1	12
Alcatel-Lucent RRH2x	145.00	159	1,261	0.013	20	197
Alcatel-Lucent 800 M	145.00	159	1,263	0.013	20	197
Alcatel-Lucent 1900M	145.00	132	1,049	0.011	17	163
Generic 12' Omni	145.00	40	318	0.003	5	50
Alcatel-Lucent TD-RR	145.00	210	1,668	0.017	26	260
RFS PD620-2	145.00	53	421	0.004	7	66
RFS APXVSPP18-C-A20	145.00	171	1,358	0.014	22	212
Commscope DT465B-2XR	145.00	174	1,382	0.014	22	216
Flat Low Profile Pla	145.00	1,500	11,915	0.122	189	1,858
Amphenol Antel LPA-8	142.00	108	826	0.008	13	134
Amphenol Antel BXA-7	142.00	112	861	0.009	14	139
Generic TTA	140.00	60	447	0.005	7	74
Amphenol Antel BXA-1	140.00	39	291	0.003	5	48
Round T-Arm	138.00	750	5,449	0.056	86	929
Generic E-911 GPS	125.00	5	30	0.000	0	6
RFS ATM1900D-1CWA	125.00	25	153	0.002	2	31
RFS ATMAA1412D-1A20	125.00	39	237	0.002	4	48
RFS APX16DWV-16DWV-S	125.00	238	1,444	0.015	23	294
Round T-Arm	125.00	750	4,558	0.047	72	929
Commscope LNX-6515DS	125.00	131	797	0.008	13	162
Empty Flat Low Profi	90.00	1,500	5,039	0.052	80	1,858
Spinner 756529	82.00	4	13	0.000	0	6
Powerwave Allgon LGP	82.00	33	94	0.001	1	41
Powerwave Allgon LGP	82.00	85	240	0.002	4	105
Raycap DC6-48-60-18-	82.00	33	93	0.001	1	41
Ericsson RRUS 4478 B	82.00	180	510	0.005	8	223
Ericsson RRUS 4449 B	82.00	213	605	0.006	10	264
Ericsson Radio 8843	82.00	225	639	0.007	10	279
Raycap DC9-48-60-24-	82.00	16	45	0.000	1	20
Powerwave Allgon 777	82.00	105	298	0.003	5	130
CCI DMP65R-BU6DA	82.00	318	902	0.009	14	393
CCI DMP65R-BU8D	82.00	191	544	0.006	9	237
Flat Low Profile Pla	80.00	1,500	4,074	0.042	65	1,858
PCTEL GPS-TMG-HR-26N	52.00	1	1	0.000	0	1
PCTEL GPS-TMG-HR-26N	52.00	1	1	0.000	0	1
Stand-Off	52.00	100	125	0.001	2	124
		36,278	97,768	1.000	1,551	44,935

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)
38	143.50	135	1,049	0.011	17	116

37	141.00	102	769	0.008	12	88
36	139.00	114	836	0.009	13	98
35	136.50	174	1,238	0.013	20	150
34	132.50	299	2,018	0.021	32	258
33	127.50	311	1,956	0.020	31	268
32	122.50	397	2,325	0.024	37	342
31	117.50	408	2,219	0.023	35	352
30	114.50	83	432	0.004	7	72
29	112.00	471	2,349	0.024	37	406
28	107.50	607	2,809	0.029	45	523
27	102.50	626	2,659	0.027	42	539
26	97.50	645	2,505	0.026	40	556
25	92.50	665	2,346	0.024	37	572
24	87.50	684	2,183	0.022	35	589
23	84.16	233	693	0.007	11	201
22	82.66	355	1,022	0.010	16	305
21	81.00	584	1,621	0.017	26	503
20	79.33	392	1,049	0.011	17	338
19	76.83	685	1,729	0.018	27	590
18	72.50	953	2,167	0.022	34	821
17	67.50	976	1,951	0.020	31	841
16	62.50	999	1,739	0.018	28	861
15	57.50	1,022	1,530	0.016	24	881
14	53.50	625	821	0.008	13	538
13	51.00	422	508	0.005	8	363
12	49.40	256	291	0.003	5	220
11	46.90	1,506	1,561	0.016	25	1,297
10	44.10	722	670	0.007	11	622
9	41.60	779	650	0.007	10	671
8	37.50	1,237	857	0.009	14	1,066
7	32.50	1,264	676	0.007	11	1,089
6	27.50	1,291	511	0.005	8	1,112
5	22.50	1,318	363	0.004	6	1,136
4	17.50	1,345	235	0.002	4	1,159
3	12.50	1,372	131	0.001	2	1,182
2	7.50	1,399	53	0.001	1	1,205
1	2.50	1,426	7	0.000	0	1,229
Alcatel-Lucent ALU 8	145.00	26	210	0.002	3	23
Generic GPS	145.00	10	79	0.001	1	9
Alcatel-Lucent RRH2x	145.00	159	1,261	0.013	20	137
Alcatel-Lucent 800 M	145.00	159	1,263	0.013	20	137
Alcatel-Lucent 1900M	145.00	132	1,049	0.011	17	114
Generic 12' Omni	145.00	40	318	0.003	5	34
Alcatel-Lucent TD-RR	145.00	210	1,668	0.017	26	181
RFS PD620-2	145.00	53	421	0.004	7	46
RFS APXVSPP18-C-A20	145.00	171	1,358	0.014	22	147
Commscope DT465B-2XR	145.00	174	1,382	0.014	22	150
Flat Low Profile Pla	145.00	1,500	11,915	0.122	189	1,292
Amphenol Antel LPA-8	142.00	108	826	0.008	13	93
Amphenol Antel BXA-7	142.00	112	861	0.009	14	97
Generic TTA	140.00	60	447	0.005	7	52
Amphenol Antel BXA-1	140.00	39	291	0.003	5	34
Round T-Arm	138.00	750	5,449	0.056	86	646
Generic E-911 GPS	125.00	5	30	0.000	0	4
RFS ATM1900D-1CWA	125.00	25	153	0.002	2	22
RFS ATMAA1412D-1A20	125.00	39	237	0.002	4	34
RFS APX16DWV-16DWV-S	125.00	238	1,444	0.015	23	205
Round T-Arm	125.00	750	4,558	0.047	72	646
Commscope LNX-6515DS	125.00	131	797	0.008	13	113
Empty Flat Low Profi	90.00	1,500	5,039	0.052	80	1,292
Spinner 756529	82.00	4	13	0.000	0	4
Powerwave Allgon LGP	82.00	33	94	0.001	1	28
Powerwave Allgon LGP	82.00	85	240	0.002	4	73
Raycap DC6-48-60-18-	82.00	33	93	0.001	1	28

Ericsson RRUS 4478 B	82.00	180	510	0.005	8	155
Ericsson RRUS 4449 B	82.00	213	605	0.006	10	183
Ericsson Radio 8843	82.00	225	639	0.007	10	194
Raycap DC9-48-60-24-	82.00	16	45	0.000	1	14
Powerwave Allgon 777	82.00	105	298	0.003	5	90
CCI DMP65R-BU6DA	82.00	318	902	0.009	14	274
CCI DMP65R-BU8D	82.00	191	544	0.006	9	165
Flat Low Profile Pla	80.00	1,500	4,074	0.042	65	1,292
PCTEL GPS-TMG-HR-26N	52.00	1	1	0.000	0	1
PCTEL GPS-TMG-HR-26N	52.00	1	1	0.000	0	1
Stand-Off	52.00	100	125	0.001	2	86
		36,278	97,768	1.000	1,551	31,250

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	-43.17	-1.55	0.00	-172.52	0.00	172.52	4,923.42	2,461.71	9,966.12	4,990.47	0.00	0.00	0.043
5.00	-41.43	-1.56	0.00	-164.75	0.00	164.75	4,841.97	2,420.99	9,572.23	4,793.23	0.01	-0.01	0.043
10.00	-39.73	-1.57	0.00	-156.94	0.00	156.94	4,758.98	2,379.49	9,183.06	4,598.35	0.02	-0.02	0.042
15.00	-38.07	-1.57	0.00	-149.11	0.00	149.11	4,674.44	2,337.22	8,798.83	4,405.95	0.05	-0.04	0.042
20.00	-36.43	-1.57	0.00	-141.25	0.00	141.25	4,588.36	2,294.18	8,419.76	4,216.14	0.10	-0.05	0.041
25.00	-34.83	-1.57	0.00	-133.40	0.00	133.40	4,498.09	2,249.05	8,041.37	4,026.66	0.15	-0.06	0.041
30.00	-33.27	-1.56	0.00	-125.55	0.00	125.55	4,380.25	2,190.13	7,623.52	3,817.43	0.22	-0.07	0.040
35.00	-31.73	-1.56	0.00	-117.73	0.00	117.73	4,262.42	2,131.21	7,216.83	3,613.78	0.31	-0.09	0.040
40.00	-30.77	-1.55	0.00	-109.95	0.00	109.95	4,144.58	2,072.29	6,821.28	3,415.71	0.40	-0.10	0.040
43.21	-29.87	-1.54	0.00	-104.98	0.00	104.98	4,069.03	2,034.51	6,573.54	3,291.66	0.47	-0.11	0.039
45.00	-28.01	-1.52	0.00	-102.21	0.00	102.21	4,026.74	2,013.37	6,436.88	3,223.22	0.51	-0.11	0.039
48.79	-27.69	-1.51	0.00	-96.46	0.00	96.46	3,411.63	1,705.82	5,454.59	2,731.35	0.61	-0.12	0.043
50.00	-27.17	-1.51	0.00	-94.63	0.00	94.63	3,393.84	1,696.92	5,387.43	2,697.72	0.64	-0.13	0.043
52.00	-26.27	-1.49	0.00	-91.62	0.00	91.62	3,364.13	1,682.06	5,276.62	2,642.23	0.69	-0.13	0.042
55.00	-25.00	-1.47	0.00	-87.14	0.00	87.14	3,319.09	1,659.55	5,111.79	2,559.69	0.78	-0.14	0.042
60.00	-23.77	-1.45	0.00	-79.78	0.00	79.78	3,220.32	1,610.16	4,807.35	2,407.25	0.93	-0.16	0.041
65.00	-22.56	-1.42	0.00	-72.54	0.00	72.54	3,119.32	1,559.66	4,509.03	2,257.87	1.10	-0.17	0.039
70.00	-21.38	-1.39	0.00	-65.44	0.00	65.44	3,018.31	1,509.16	4,220.27	2,113.27	1.29	-0.19	0.038
75.00	-20.53	-1.36	0.00	-58.51	0.00	58.51	2,917.31	1,458.66	3,941.06	1,973.46	1.49	-0.20	0.037
78.67	-20.04	-1.35	0.00	-53.52	0.00	53.52	2,843.19	1,421.59	3,742.24	1,873.90	1.65	-0.21	0.036
80.00	-17.46	-1.25	0.00	-51.73	0.00	51.73	2,816.31	1,408.15	3,671.40	1,838.43	1.71	-0.21	0.034
82.00	-15.28	-1.16	0.00	-49.23	0.00	49.23	2,775.90	1,387.95	3,566.22	1,785.76	1.80	-0.22	0.033
83.33	-15.00	-1.15	0.00	-47.69	0.00	47.69	2,331.02	1,165.51	3,037.65	1,521.08	1.86	-0.22	0.038
85.00	-14.15	-1.11	0.00	-45.77	0.00	45.77	2,310.11	1,155.05	2,973.86	1,489.14	1.94	-0.23	0.037
90.00	-11.47	-0.99	0.00	-40.20	0.00	40.20	2,229.24	1,114.62	2,764.32	1,384.22	2.19	-0.25	0.034
95.00	-10.67	-0.95	0.00	-35.26	0.00	35.26	2,145.07	1,072.54	2,558.49	1,281.15	2.46	-0.26	0.032
100.00	-9.89	-0.91	0.00	-30.52	0.00	30.52	2,060.90	1,030.45	2,360.62	1,182.06	2.74	-0.28	0.031
105.00	-9.14	-0.86	0.00	-25.99	0.00	25.99	1,976.73	988.37	2,170.71	1,086.97	3.03	-0.29	0.029
110.00	-8.56	-0.82	0.00	-21.69	0.00	21.69	1,892.56	946.28	1,988.77	995.86	3.35	-0.30	0.026
114.00	-8.46	-0.81	0.00	-18.41	0.00	18.41	1,825.27	912.63	1,849.04	925.89	3.61	-0.32	0.025
114.00	-8.46	-0.81	0.00	-18.41	0.00	18.41	1,013.43	506.71	1,036.97	519.26	3.61	-0.32	0.044
115.00	-7.95	-0.78	0.00	-17.60	0.00	17.60	1,007.45	503.72	1,021.30	511.41	3.67	-0.32	0.042
120.00	-7.46	-0.74	0.00	-13.71	0.00	13.71	976.71	488.36	943.94	472.67	4.02	-0.34	0.037
125.00	-5.60	-0.59	0.00	-10.00	0.00	10.00	944.43	472.21	868.07	434.68	4.38	-0.35	0.029
130.00	-5.23	-0.55	0.00	-7.07	0.00	7.07	910.60	455.30	793.90	397.54	4.76	-0.37	0.024
135.00	-5.02	-0.53	0.00	-4.31	0.00	4.31	875.23	437.61	721.66	361.37	5.15	-0.38	0.018
138.00	-3.95	-0.43	0.00	-2.71	0.00	2.71	853.26	426.63	679.33	340.17	5.39	-0.39	0.013
140.00	-3.70	-0.40	0.00	-1.86	0.00	1.86	838.31	419.15	651.57	326.27	5.56	-0.39	0.010
142.00	-3.26	-0.35	0.00	-1.06	0.00	1.06	820.01	410.00	621.83	311.38	5.72	-0.39	0.007
145.00	0.00	-0.33	0.00	0.00	0.00	0.00	789.63	394.81	576.38	288.62	5.96	-0.39	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	-30.02	-1.55	0.00	-170.42	0.00	170.42	4,923.42	2,461.71	9,966.12	4,990.47	0.00	0.00	0.040
5.00	-28.82	-1.56	0.00	-162.65	0.00	162.65	4,841.97	2,420.99	9,572.23	4,793.23	0.01	-0.01	0.040
10.00	-27.63	-1.56	0.00	-154.86	0.00	154.86	4,758.98	2,379.49	9,183.06	4,598.35	0.02	-0.02	0.039
15.00	-26.47	-1.56	0.00	-147.06	0.00	147.06	4,674.44	2,337.22	8,798.83	4,405.95	0.05	-0.03	0.039
20.00	-25.34	-1.56	0.00	-139.25	0.00	139.25	4,588.36	2,294.18	8,419.76	4,216.14	0.10	-0.05	0.039
25.00	-24.22	-1.56	0.00	-131.45	0.00	131.45	4,498.09	2,249.05	8,041.37	4,026.66	0.15	-0.06	0.038
30.00	-23.14	-1.55	0.00	-123.66	0.00	123.66	4,380.25	2,190.13	7,623.52	3,817.43	0.22	-0.07	0.038
35.00	-22.07	-1.54	0.00	-115.91	0.00	115.91	4,262.42	2,131.21	7,216.83	3,613.78	0.30	-0.08	0.037
40.00	-21.40	-1.53	0.00	-108.21	0.00	108.21	4,144.58	2,072.29	6,821.28	3,415.71	0.40	-0.10	0.037
43.21	-20.78	-1.52	0.00	-103.30	0.00	103.30	4,069.03	2,034.51	6,573.54	3,291.66	0.46	-0.11	0.036
45.00	-19.48	-1.50	0.00	-100.56	0.00	100.56	4,026.74	2,013.37	6,436.88	3,223.22	0.51	-0.11	0.036
48.79	-19.26	-1.50	0.00	-94.88	0.00	94.88	3,411.63	1,705.82	5,454.59	2,731.35	0.60	-0.12	0.040
50.00	-18.89	-1.49	0.00	-93.07	0.00	93.07	3,393.84	1,696.92	5,387.43	2,697.72	0.63	-0.12	0.040
52.00	-18.27	-1.47	0.00	-90.10	0.00	90.10	3,364.13	1,682.06	5,276.62	2,642.23	0.68	-0.13	0.040
55.00	-17.39	-1.45	0.00	-85.67	0.00	85.67	3,319.09	1,659.55	5,111.79	2,559.69	0.77	-0.14	0.039
60.00	-16.53	-1.43	0.00	-78.42	0.00	78.42	3,220.32	1,610.16	4,807.35	2,407.25	0.92	-0.15	0.038
65.00	-15.69	-1.40	0.00	-71.28	0.00	71.28	3,119.32	1,559.66	4,509.03	2,257.87	1.09	-0.17	0.037
70.00	-14.86	-1.36	0.00	-64.30	0.00	64.30	3,018.31	1,509.16	4,220.27	2,113.27	1.27	-0.18	0.035
75.00	-14.27	-1.34	0.00	-57.48	0.00	57.48	2,917.31	1,458.66	3,941.06	1,973.46	1.47	-0.20	0.034
78.67	-13.94	-1.32	0.00	-52.57	0.00	52.57	2,843.19	1,421.59	3,742.24	1,873.90	1.62	-0.21	0.033
80.00	-12.14	-1.23	0.00	-50.81	0.00	50.81	2,816.31	1,408.15	3,671.40	1,838.43	1.68	-0.21	0.032
82.00	-10.63	-1.14	0.00	-48.36	0.00	48.36	2,775.90	1,387.95	3,566.22	1,785.76	1.77	-0.22	0.031
83.33	-10.43	-1.13	0.00	-46.85	0.00	46.85	2,331.02	1,165.51	3,037.65	1,521.08	1.83	-0.22	0.035
85.00	-9.84	-1.10	0.00	-44.96	0.00	44.96	2,310.11	1,155.05	2,973.86	1,489.14	1.91	-0.23	0.034
90.00	-7.97	-0.97	0.00	-39.48	0.00	39.48	2,229.24	1,114.62	2,764.32	1,384.22	2.16	-0.24	0.032
95.00	-7.42	-0.93	0.00	-34.62	0.00	34.62	2,145.07	1,072.54	2,558.49	1,281.15	2.42	-0.26	0.030
100.00	-6.88	-0.89	0.00	-29.95	0.00	29.95	2,060.90	1,030.45	2,360.62	1,182.06	2.70	-0.27	0.029
105.00	-6.36	-0.84	0.00	-25.50	0.00	25.50	1,976.73	988.37	2,170.71	1,086.97	2.99	-0.29	0.027
110.00	-5.95	-0.81	0.00	-21.28	0.00	21.28	1,892.56	946.28	1,988.77	995.86	3.29	-0.30	0.025
114.00	-5.88	-0.80	0.00	-18.06	0.00	18.06	1,825.27	912.63	1,849.04	925.89	3.55	-0.31	0.023
114.00	-5.88	-0.80	0.00	-18.06	0.00	18.06	1,013.43	506.71	1,036.97	519.26	3.55	-0.31	0.041
115.00	-5.53	-0.76	0.00	-17.26	0.00	17.26	1,007.45	503.72	1,021.30	511.41	3.62	-0.31	0.039
120.00	-5.19	-0.73	0.00	-13.44	0.00	13.44	976.71	488.36	943.94	472.67	3.95	-0.33	0.034
125.00	-3.90	-0.57	0.00	-9.81	0.00	9.81	944.43	472.21	868.07	434.68	4.31	-0.35	0.027
130.00	-3.64	-0.54	0.00	-6.93	0.00	6.93	910.60	455.30	793.90	397.54	4.68	-0.36	0.021
135.00	-3.49	-0.52	0.00	-4.22	0.00	4.22	875.23	437.61	721.66	361.37	5.07	-0.37	0.016
138.00	-2.75	-0.42	0.00	-2.66	0.00	2.66	853.26	426.63	679.33	340.17	5.31	-0.38	0.011
140.00	-2.57	-0.39	0.00	-1.83	0.00	1.83	838.31	419.15	651.57	326.27	5.47	-0.38	0.009
142.00	-2.27	-0.35	0.00	-1.04	0.00	1.04	820.01	410.00	621.83	311.38	5.63	-0.38	0.006
145.00	0.00	-0.33	0.00	0.00	0.00	0.00	789.63	394.81	576.38	288.62	5.87	-0.38	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):	0.18
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}):	0.19
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.11
Redundancy Factor (p):	1.30

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)
38	143.50	135	1.851	1.781	1.068	0.345	40	167
37	141.00	102	1.787	1.481	0.955	0.305	27	126
36	139.00	114	1.737	1.267	0.872	0.275	27	141
35	136.50	174	1.675	1.029	0.777	0.240	36	215
34	132.50	299	1.578	0.713	0.641	0.187	49	370
33	127.50	311	1.461	0.410	0.498	0.130	35	385
32	122.50	397	1.349	0.194	0.381	0.082	28	491
31	117.50	408	1.241	0.047	0.287	0.042	15	506
30	114.50	83	1.178	-0.015	0.239	0.022	2	103
29	112.00	471	1.128	-0.053	0.204	0.008	3	584
28	107.50	607	1.039	-0.098	0.151	-0.013	-7	752
27	102.50	626	0.944	-0.120	0.106	-0.027	-15	775
26	97.50	645	0.855	-0.120	0.071	-0.033	-19	799
25	92.50	665	0.769	-0.106	0.045	-0.032	-18	823
24	87.50	684	0.688	-0.083	0.028	-0.024	-14	847
23	84.16	233	0.637	-0.066	0.019	-0.016	-3	289
22	82.66	355	0.614	-0.058	0.016	-0.012	-4	439
21	81.00	584	0.590	-0.049	0.013	-0.007	-4	723
20	79.33	392	0.566	-0.040	0.011	-0.002	-1	486
19	76.83	685	0.531	-0.027	0.009	0.005	3	848
18	72.50	953	0.472	-0.006	0.006	0.018	15	1,180
17	67.50	976	0.410	0.015	0.006	0.030	26	1,209
16	62.50	999	0.351	0.032	0.009	0.039	34	1,238
15	57.50	1,022	0.297	0.046	0.012	0.045	40	1,266
14	53.50	625	0.257	0.054	0.016	0.048	26	774
13	51.00	422	0.234	0.058	0.019	0.049	18	522
12	49.40	256	0.219	0.060	0.021	0.049	11	317
11	46.90	1,506	0.198	0.063	0.023	0.049	64	1,866
10	44.10	722	0.175	0.066	0.027	0.049	31	895
9	41.60	779	0.156	0.067	0.029	0.049	33	965
8	37.50	1,237	0.126	0.070	0.034	0.048	51	1,533
7	32.50	1,264	0.095	0.071	0.038	0.047	51	1,566
6	27.50	1,291	0.068	0.072	0.041	0.045	51	1,600
5	22.50	1,318	0.046	0.071	0.042	0.044	50	1,633

4	17.50	1,345	0.028	0.067	0.040	0.041	48	1,666
3	12.50	1,372	0.014	0.060	0.035	0.037	44	1,700
2	7.50	1,399	0.005	0.045	0.025	0.029	35	1,733
1	2.50	1,426	0.001	0.019	0.010	0.013	16	1,767
Alcatel-Lucent ALU 8	145.00	26	1.890	1.980	1.140	0.370	8	33
Generic GPS	145.00	10	1.890	1.980	1.140	0.370	3	12
Alcatel-Lucent RRH2x	145.00	159	1.890	1.980	1.140	0.370	51	197
Alcatel-Lucent 800 M	145.00	159	1.890	1.980	1.140	0.370	51	197
Alcatel-Lucent 1900M	145.00	132	1.890	1.980	1.140	0.370	42	163
Generic 12' Omni	145.00	40	1.890	1.980	1.140	0.370	13	50
Alcatel-Lucent TD-RR	145.00	210	1.890	1.980	1.140	0.370	67	260
RFS PD620-2	145.00	53	1.890	1.980	1.140	0.370	17	66
RFS APXVSPP18-C-A20	145.00	171	1.890	1.980	1.140	0.370	55	212
Commscope DT465B-	145.00	174	1.890	1.980	1.140	0.370	56	216
Flat Low Profile Pla	145.00	1,500	1.890	1.980	1.140	0.370	481	1,858
Amphenol Antel LPA-8	142.00	108	1.813	1.596	0.999	0.321	30	134
Amphenol Antel BXA-7	142.00	112	1.813	1.596	0.999	0.321	31	139
Generic TTA	140.00	60	1.762	1.371	0.913	0.290	15	74
Amphenol Antel BXA-1	140.00	39	1.762	1.371	0.913	0.290	10	48
Round T-Arm	138.00	750	1.712	1.168	0.833	0.261	169	929
Generic E-911 GPS	125.00	5	1.405	0.293	0.437	0.105	0	6
RFS ATM1900D-1CWA	125.00	25	1.405	0.293	0.437	0.105	2	31
RFS ATMAA1412D-1A20	125.00	39	1.405	0.293	0.437	0.105	4	48
RFS APX16DWV-16DWV-	125.00	238	1.405	0.293	0.437	0.105	22	294
Round T-Arm	125.00	750	1.405	0.293	0.437	0.105	68	929
Commscope LNX-	125.00	131	1.405	0.293	0.437	0.105	12	162
Empty Flat Low Profi	90.00	1,500	0.728	-0.095	0.036	-0.029	-38	1,858
Spinner 756529	82.00	4	0.604	-0.055	0.015	-0.010	0	6
Powerwave Allgon LGP	82.00	33	0.604	-0.055	0.015	-0.010	0	41
Powerwave Allgon LGP	82.00	85	0.604	-0.055	0.015	-0.010	-1	105
Raycap DC6-48-60-18-	82.00	33	0.604	-0.055	0.015	-0.010	0	41
Ericsson RRUS 4478 B	82.00	180	0.604	-0.055	0.015	-0.010	-2	223
Ericsson RRUS 4449 B	82.00	213	0.604	-0.055	0.015	-0.010	-2	264
Ericsson Radio 8843	82.00	225	0.604	-0.055	0.015	-0.010	-2	279
Raycap DC9-48-60-24-	82.00	16	0.604	-0.055	0.015	-0.010	0	20
Powerwave Allgon 777	82.00	105	0.604	-0.055	0.015	-0.010	-1	130
CCI DMP65R-BU6DA	82.00	318	0.604	-0.055	0.015	-0.010	-3	393
CCI DMP65R-BU8D	82.00	191	0.604	-0.055	0.015	-0.010	-2	237
Flat Low Profile Pla	80.00	1,500	0.575	-0.044	0.012	-0.004	-6	1,858
PCTEL GPS-TMG-HR-	52.00	1	0.243	0.056	0.018	0.048	0	1
PCTEL GPS-TMG-HR-	52.00	1	0.243	0.056	0.018	0.048	0	1
Stand-Off	52.00	100	0.243	0.056	0.018	0.048	4	124
		36,278	72.129	37.085	26.908	8.379	1,979	44,935

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)
38	143.50	135	1.851	1.781	1.068	0.345	40	116
37	141.00	102	1.787	1.481	0.955	0.305	27	88
36	139.00	114	1.737	1.267	0.872	0.275	27	98
35	136.50	174	1.675	1.029	0.777	0.240	36	150
34	132.50	299	1.578	0.713	0.641	0.187	49	258
33	127.50	311	1.461	0.410	0.498	0.130	35	268
32	122.50	397	1.349	0.194	0.381	0.082	28	342
31	117.50	408	1.241	0.047	0.287	0.042	15	352
30	114.50	83	1.178	-0.015	0.239	0.022	2	72
29	112.00	471	1.128	-0.053	0.204	0.008	3	406
28	107.50	607	1.039	-0.098	0.151	-0.013	-7	523

27	102.50	626	0.944	-0.120	0.106	-0.027	-15	539
26	97.50	645	0.855	-0.120	0.071	-0.033	-19	556
25	92.50	665	0.769	-0.106	0.045	-0.032	-18	572
24	87.50	684	0.688	-0.083	0.028	-0.024	-14	589
23	84.16	233	0.637	-0.066	0.019	-0.016	-3	201
22	82.66	355	0.614	-0.058	0.016	-0.012	-4	305
21	81.00	584	0.590	-0.049	0.013	-0.007	-4	503
20	79.33	392	0.566	-0.040	0.011	-0.002	-1	338
19	76.83	685	0.531	-0.027	0.009	0.005	3	590
18	72.50	953	0.472	-0.006	0.006	0.018	15	821
17	67.50	976	0.410	0.015	0.006	0.030	26	841
16	62.50	999	0.351	0.032	0.009	0.039	34	861
15	57.50	1,022	0.297	0.046	0.012	0.045	40	881
14	53.50	625	0.257	0.054	0.016	0.048	26	538
13	51.00	422	0.234	0.058	0.019	0.049	18	363
12	49.40	256	0.219	0.060	0.021	0.049	11	220
11	46.90	1,506	0.198	0.063	0.023	0.049	64	1,297
10	44.10	722	0.175	0.066	0.027	0.049	31	622
9	41.60	779	0.156	0.067	0.029	0.049	33	671
8	37.50	1,237	0.126	0.070	0.034	0.048	51	1,066
7	32.50	1,264	0.095	0.071	0.038	0.047	51	1,089
6	27.50	1,291	0.068	0.072	0.041	0.045	51	1,112
5	22.50	1,318	0.046	0.071	0.042	0.044	50	1,136
4	17.50	1,345	0.028	0.067	0.040	0.041	48	1,159
3	12.50	1,372	0.014	0.060	0.035	0.037	44	1,182
2	7.50	1,399	0.005	0.045	0.025	0.029	35	1,205
1	2.50	1,426	0.001	0.019	0.010	0.013	16	1,229
Alcatel-Lucent ALU 8	145.00	26	1.890	1.980	1.140	0.370	8	23
Generic GPS	145.00	10	1.890	1.980	1.140	0.370	3	9
Alcatel-Lucent RRH2x	145.00	159	1.890	1.980	1.140	0.370	51	137
Alcatel-Lucent 800 M	145.00	159	1.890	1.980	1.140	0.370	51	137
Alcatel-Lucent 1900M	145.00	132	1.890	1.980	1.140	0.370	42	114
Generic 12' Omni	145.00	40	1.890	1.980	1.140	0.370	13	34
Alcatel-Lucent TD-RR	145.00	210	1.890	1.980	1.140	0.370	67	181
RFS PD620-2	145.00	53	1.890	1.980	1.140	0.370	17	46
RFS APXVSPP18-C-A20	145.00	171	1.890	1.980	1.140	0.370	55	147
Commscope DT465B-	145.00	174	1.890	1.980	1.140	0.370	56	150
Flat Low Profile Pla	145.00	1,500	1.890	1.980	1.140	0.370	481	1,292
Amphenol Antel LPA-8	142.00	108	1.813	1.596	0.999	0.321	30	93
Amphenol Antel BXA-7	142.00	112	1.813	1.596	0.999	0.321	31	97
Generic TTA	140.00	60	1.762	1.371	0.913	0.290	15	52
Amphenol Antel BXA-1	140.00	39	1.762	1.371	0.913	0.290	10	34
Round T-Arm	138.00	750	1.712	1.168	0.833	0.261	169	646
Generic E-911 GPS	125.00	5	1.405	0.293	0.437	0.105	0	4
RFS ATM1900D-1CWA	125.00	25	1.405	0.293	0.437	0.105	2	22
RFS ATMAA1412D-1A20	125.00	39	1.405	0.293	0.437	0.105	4	34
RFS APX16DWV-16DWV-	125.00	238	1.405	0.293	0.437	0.105	22	205
Round T-Arm	125.00	750	1.405	0.293	0.437	0.105	68	646
Commscope LNX-	125.00	131	1.405	0.293	0.437	0.105	12	113
Empty Flat Low Profi	90.00	1,500	0.728	-0.095	0.036	-0.029	-38	1,292
Spinner 756529	82.00	4	0.604	-0.055	0.015	-0.010	0	4
Powerwave Allgon LGP	82.00	33	0.604	-0.055	0.015	-0.010	0	28
Powerwave Allgon LGP	82.00	85	0.604	-0.055	0.015	-0.010	-1	73
Raycap DC6-48-60-18-	82.00	33	0.604	-0.055	0.015	-0.010	0	28
Ericsson RRUS 4478 B	82.00	180	0.604	-0.055	0.015	-0.010	-2	155
Ericsson RRUS 4449 B	82.00	213	0.604	-0.055	0.015	-0.010	-2	183
Ericsson Radio 8843	82.00	225	0.604	-0.055	0.015	-0.010	-2	194
Raycap DC9-48-60-24-	82.00	16	0.604	-0.055	0.015	-0.010	0	14
Powerwave Allgon 777	82.00	105	0.604	-0.055	0.015	-0.010	-1	90
CCI DMP65R-BU6DA	82.00	318	0.604	-0.055	0.015	-0.010	-3	274
CCI DMP65R-BU8D	82.00	191	0.604	-0.055	0.015	-0.010	-2	165
Flat Low Profile Pla	80.00	1,500	0.575	-0.044	0.012	-0.004	-6	1,292
PCTEL GPS-TMG-HR-	52.00	1	0.243	0.056	0.018	0.048	0	1
PCTEL GPS-TMG-HR-	52.00	1	0.243	0.056	0.018	0.048	0	1

Stand-Off	52.00	100	0.243	0.056	0.018	0.048	4	86
		36,278	72.129	37.085	26.908	8.379	1,979	31,250

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	-43.17	-1.97	0.00	-225.47	0.00	225.47	4,923.42	2,461.71	9,966.12	4,990.47	0.00	0.00	0.054
5.00	-41.43	-1.94	0.00	-215.63	0.00	215.63	4,841.97	2,420.99	9,572.23	4,793.23	0.01	-0.01	0.054
10.00	-39.73	-1.91	0.00	-205.91	0.00	205.91	4,758.98	2,379.49	9,183.06	4,598.35	0.03	-0.03	0.053
15.00	-38.07	-1.87	0.00	-196.37	0.00	196.37	4,674.44	2,337.22	8,798.83	4,405.95	0.07	-0.05	0.053
20.00	-36.43	-1.83	0.00	-187.02	0.00	187.02	4,588.36	2,294.18	8,419.76	4,216.14	0.13	-0.06	0.052
25.00	-34.83	-1.79	0.00	-177.87	0.00	177.87	4,498.09	2,249.05	8,041.37	4,026.66	0.20	-0.08	0.052
30.00	-33.27	-1.74	0.00	-168.93	0.00	168.93	4,380.25	2,190.13	7,623.52	3,817.43	0.29	-0.10	0.052
35.00	-31.73	-1.70	0.00	-160.21	0.00	160.21	4,262.42	2,131.21	7,216.83	3,613.78	0.40	-0.11	0.052
40.00	-30.77	-1.67	0.00	-151.72	0.00	151.72	4,144.58	2,072.29	6,821.28	3,415.71	0.53	-0.13	0.052
43.21	-29.87	-1.64	0.00	-146.35	0.00	146.35	4,069.03	2,034.51	6,573.54	3,291.66	0.62	-0.14	0.052
45.00	-28.01	-1.58	0.00	-143.40	0.00	143.40	4,026.74	2,013.37	6,436.88	3,223.22	0.68	-0.15	0.051
48.79	-27.69	-1.57	0.00	-137.40	0.00	137.40	3,411.63	1,705.82	5,454.59	2,731.35	0.80	-0.16	0.058
50.00	-27.17	-1.56	0.00	-135.51	0.00	135.51	3,393.84	1,696.92	5,387.43	2,697.72	0.84	-0.17	0.058
52.00	-26.27	-1.53	0.00	-132.39	0.00	132.39	3,364.13	1,682.06	5,276.62	2,642.23	0.92	-0.18	0.058
55.00	-25.00	-1.49	0.00	-127.80	0.00	127.80	3,319.09	1,659.55	5,111.79	2,559.69	1.03	-0.19	0.057
60.00	-23.76	-1.46	0.00	-120.33	0.00	120.33	3,220.32	1,610.16	4,807.35	2,407.25	1.24	-0.21	0.057
65.00	-22.55	-1.44	0.00	-113.01	0.00	113.01	3,119.32	1,559.66	4,509.03	2,257.87	1.48	-0.24	0.057
70.00	-21.37	-1.43	0.00	-105.79	0.00	105.79	3,018.31	1,509.16	4,220.27	2,113.27	1.74	-0.26	0.057
75.00	-20.52	-1.43	0.00	-98.63	0.00	98.63	2,917.31	1,458.66	3,941.06	1,973.46	2.02	-0.28	0.057
78.67	-20.04	-1.44	0.00	-93.37	0.00	93.37	2,843.19	1,421.59	3,742.24	1,873.90	2.25	-0.30	0.057
80.00	-17.46	-1.43	0.00	-91.46	0.00	91.46	2,816.31	1,408.15	3,671.40	1,838.43	2.34	-0.31	0.056
82.00	-15.28	-1.44	0.00	-88.59	0.00	88.59	2,775.90	1,387.95	3,566.22	1,785.76	2.47	-0.32	0.055
83.33	-14.99	-1.44	0.00	-86.68	0.00	86.68	2,331.02	1,165.51	3,037.65	1,521.08	2.56	-0.33	0.063
85.00	-14.14	-1.46	0.00	-84.26	0.00	84.26	2,310.11	1,155.05	2,973.86	1,489.14	2.67	-0.34	0.063
90.00	-11.46	-1.50	0.00	-76.97	0.00	76.97	2,229.24	1,114.62	2,764.32	1,384.22	3.04	-0.37	0.061
95.00	-10.66	-1.52	0.00	-69.44	0.00	69.44	2,145.07	1,072.54	2,558.49	1,281.15	3.44	-0.40	0.059
100.00	-9.89	-1.54	0.00	-61.83	0.00	61.83	2,060.90	1,030.45	2,360.62	1,182.06	3.87	-0.43	0.057
105.00	-9.13	-1.54	0.00	-54.13	0.00	54.13	1,976.73	988.37	2,170.71	1,086.97	4.33	-0.46	0.054
110.00	-8.55	-1.54	0.00	-46.42	0.00	46.42	1,892.56	946.28	1,988.77	995.86	4.83	-0.49	0.051
114.00	-8.45	-1.54	0.00	-40.26	0.00	40.26	1,825.27	912.63	1,849.04	925.89	5.24	-0.51	0.048
114.00	-8.45	-1.54	0.00	-40.26	0.00	40.26	1,013.43	506.71	1,036.97	519.26	5.24	-0.51	0.086
115.00	-7.94	-1.52	0.00	-38.72	0.00	38.72	1,007.45	503.72	1,021.30	511.41	5.35	-0.51	0.084
120.00	-7.45	-1.50	0.00	-31.10	0.00	31.10	976.71	488.36	943.94	472.67	5.91	-0.56	0.073
125.00	-5.59	-1.34	0.00	-23.61	0.00	23.61	944.43	472.21	868.07	434.68	6.52	-0.60	0.060
130.00	-5.22	-1.29	0.00	-16.92	0.00	16.92	910.60	455.30	793.90	397.54	7.17	-0.63	0.048
135.00	-5.01	-1.25	0.00	-10.47	0.00	10.47	875.23	437.61	721.66	361.37	7.84	-0.66	0.035
138.00	-3.94	-1.04	0.00	-6.72	0.00	6.72	853.26	426.63	679.33	340.17	8.26	-0.67	0.024
140.00	-3.69	-0.99	0.00	-4.63	0.00	4.63	838.31	419.15	651.57	326.27	8.54	-0.68	0.019
142.00	-3.25	-0.88	0.00	-2.65	0.00	2.65	820.01	410.00	621.83	311.38	8.83	-0.68	0.012
145.00	0.00	-0.84	0.00	0.00	0.00	0.00	789.63	394.81	576.38	288.62	9.26	-0.68	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	-30.02	-1.97	0.00	-222.39	0.00	222.39	4,923.42	2,461.71	9,966.12	4,990.47	0.00	0.00	0.051
5.00	-28.81	-1.94	0.00	-212.57	0.00	212.57	4,841.97	2,420.99	9,572.23	4,793.23	0.01	-0.01	0.050
10.00	-27.63	-1.90	0.00	-202.88	0.00	202.88	4,758.98	2,379.49	9,183.06	4,598.35	0.03	-0.03	0.050
15.00	-26.47	-1.86	0.00	-193.37	0.00	193.37	4,674.44	2,337.22	8,798.83	4,405.95	0.07	-0.05	0.050
20.00	-25.34	-1.82	0.00	-184.08	0.00	184.08	4,588.36	2,294.18	8,419.76	4,216.14	0.13	-0.06	0.049
25.00	-24.22	-1.77	0.00	-175.00	0.00	175.00	4,498.09	2,249.05	8,041.37	4,026.66	0.20	-0.08	0.049
30.00	-23.13	-1.72	0.00	-166.15	0.00	166.15	4,380.25	2,190.13	7,623.52	3,817.43	0.29	-0.09	0.049
35.00	-22.07	-1.68	0.00	-157.52	0.00	157.52	4,262.42	2,131.21	7,216.83	3,613.78	0.40	-0.11	0.049
40.00	-21.40	-1.65	0.00	-149.13	0.00	149.13	4,144.58	2,072.29	6,821.28	3,415.71	0.52	-0.13	0.049
43.21	-20.77	-1.62	0.00	-143.84	0.00	143.84	4,069.03	2,034.51	6,573.54	3,291.66	0.61	-0.14	0.049
45.00	-19.48	-1.56	0.00	-140.93	0.00	140.93	4,026.74	2,013.37	6,436.88	3,223.22	0.67	-0.15	0.049
48.79	-19.26	-1.55	0.00	-135.03	0.00	135.03	3,411.63	1,705.82	5,454.59	2,731.35	0.79	-0.16	0.055
50.00	-18.89	-1.53	0.00	-133.16	0.00	133.16	3,393.84	1,696.92	5,387.43	2,697.72	0.83	-0.17	0.055
52.00	-18.27	-1.50	0.00	-130.10	0.00	130.10	3,364.13	1,682.06	5,276.62	2,642.23	0.90	-0.17	0.055
55.00	-17.39	-1.47	0.00	-125.59	0.00	125.59	3,319.09	1,659.55	5,111.79	2,559.69	1.02	-0.19	0.054
60.00	-16.52	-1.44	0.00	-118.26	0.00	118.26	3,220.32	1,610.16	4,807.35	2,407.25	1.23	-0.21	0.054
65.00	-15.68	-1.41	0.00	-111.08	0.00	111.08	3,119.32	1,559.66	4,509.03	2,257.87	1.46	-0.23	0.054
70.00	-14.86	-1.40	0.00	-104.02	0.00	104.02	3,018.31	1,509.16	4,220.27	2,113.27	1.71	-0.26	0.054
75.00	-14.27	-1.40	0.00	-97.02	0.00	97.02	2,917.31	1,458.66	3,941.06	1,973.46	1.99	-0.28	0.054
78.67	-13.93	-1.40	0.00	-91.88	0.00	91.88	2,843.19	1,421.59	3,742.24	1,873.90	2.21	-0.30	0.054
80.00	-12.14	-1.40	0.00	-90.01	0.00	90.01	2,816.31	1,408.15	3,671.40	1,838.43	2.30	-0.30	0.053
82.00	-10.63	-1.41	0.00	-87.20	0.00	87.20	2,775.90	1,387.95	3,566.22	1,785.76	2.43	-0.31	0.053
83.33	-10.42	-1.42	0.00	-85.33	0.00	85.33	2,331.02	1,165.51	3,037.65	1,521.08	2.52	-0.32	0.061
85.00	-9.83	-1.43	0.00	-82.96	0.00	82.96	2,310.11	1,155.05	2,973.86	1,489.14	2.63	-0.33	0.060
90.00	-7.97	-1.48	0.00	-75.80	0.00	75.80	2,229.24	1,114.62	2,764.32	1,384.22	2.99	-0.36	0.058
95.00	-7.41	-1.50	0.00	-68.39	0.00	68.39	2,145.07	1,072.54	2,558.49	1,281.15	3.38	-0.39	0.057
100.00	-6.87	-1.51	0.00	-60.90	0.00	60.90	2,060.90	1,030.45	2,360.62	1,182.06	3.81	-0.42	0.055
105.00	-6.35	-1.52	0.00	-53.33	0.00	53.33	1,976.73	988.37	2,170.71	1,086.97	4.26	-0.45	0.052
110.00	-5.94	-1.52	0.00	-45.72	0.00	45.72	1,892.56	946.28	1,988.77	995.86	4.75	-0.48	0.049
114.00	-5.87	-1.52	0.00	-39.66	0.00	39.66	1,825.27	912.63	1,849.04	925.89	5.16	-0.50	0.046
114.00	-5.87	-1.52	0.00	-39.66	0.00	39.66	1,013.43	506.71	1,036.97	519.26	5.16	-0.50	0.082
115.00	-5.52	-1.50	0.00	-38.14	0.00	38.14	1,007.45	503.72	1,021.30	511.41	5.26	-0.51	0.080
120.00	-5.18	-1.47	0.00	-30.64	0.00	30.64	976.71	488.36	943.94	472.67	5.82	-0.55	0.070
125.00	-3.89	-1.32	0.00	-23.28	0.00	23.28	944.43	472.21	868.07	434.68	6.42	-0.59	0.058
130.00	-3.63	-1.27	0.00	-16.68	0.00	16.68	910.60	455.30	793.90	397.54	7.05	-0.62	0.046
135.00	-3.48	-1.23	0.00	-10.33	0.00	10.33	875.23	437.61	721.66	361.37	7.72	-0.65	0.033
138.00	-2.74	-1.03	0.00	-6.62	0.00	6.62	853.26	426.63	679.33	340.17	8.13	-0.66	0.023
140.00	-2.56	-0.98	0.00	-4.56	0.00	4.56	838.31	419.15	651.57	326.27	8.41	-0.67	0.017
142.00	-2.26	-0.87	0.00	-2.61	0.00	2.61	820.01	410.00	621.83	311.38	8.69	-0.67	0.011
145.00	0.00	-0.84	0.00	0.00	0.00	0.00	789.63	394.81	576.38	288.62	9.11	-0.67	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	20.55	0.00	43.51	0.00	0.00	2108.29	114.00	0.47
0.9D + 1.6W	20.53	0.00	32.63	0.00	0.00	2086.88	114.00	0.46
1.2D + 1.0Di + 1.0Wi	4.72	0.00	71.71	0.00	0.00	480.09	114.00	0.12
(1.2 + 0.2Sds) * DL + E ELFM	1.55	0.00	43.17	0.00	0.00	172.52	114.00	0.04
(1.2 + 0.2Sds) * DL + E EMAM	1.97	0.00	43.17	0.00	0.00	225.47	114.00	0.09
(0.9 - 0.2Sds) * DL + E ELFM	1.55	0.00	30.02	0.00	0.00	170.42	114.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	1.97	0.00	30.02	0.00	0.00	222.39	114.00	0.08
1.0D + 1.0W	4.78	0.00	36.28	0.00	0.00	487.72	114.00	0.11

Base Plate & Anchor Rod Analysis

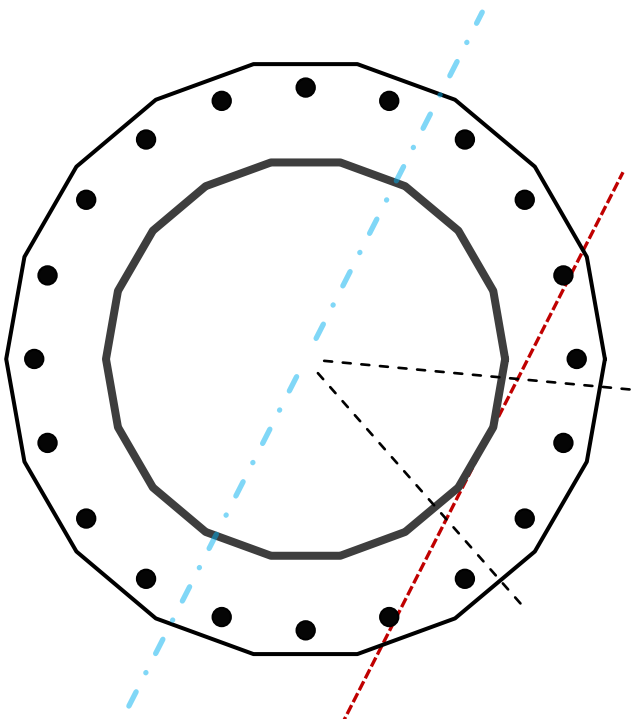
Pole Dimensions		
Number of Sides	18	-
Diameter	49.75	in
Thickness	0.4375	in
Orientation Offset		°

Base Reactions		
Moment, Mu	2108.3	k-ft
Axial, Pu	43.5	k
Shear, Vu	20.6	k
Neutral Axis	243	°

Report Capacities		
Component	Capacity	Result
Base Plate	79%	Pass
Anchor Rods	29%	Pass
Dwyidag	-	-

Base Plate		
Number of Sides	18	-
Diameter, ø	75	in
Thickness	2 3/4	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	2128.2	k
Bending Stress, ϕMn	2679.4	k

Original Anchor Rods		
Arrangement	Radial	-
Quantity	20	-
Diameter, ø	2 1/4	in
Bolt Circle	69	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	10.8	in
Orientation Offset		°
Applied Force, Pu	74.6	k
Anchor Rods, ϕPn	259.8	k



Flange Plate Analysis

Flange Plate			
	Plate Type	***Flange***	***@ 114 ft***
	Pole Diameter	25.125	in
	Pole Thickness	0.1875	in
	Plate Diameter	32	in
	Plate Thickness	1.5	in
	Plate Fy	65	ksi
	Weld Length	0.1875	in
	f_s Resistance	199.48	k-in
	Applied	38.22	k-in

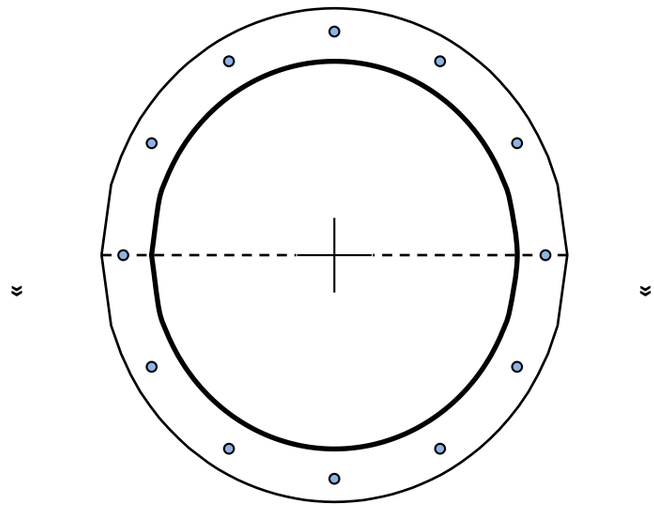
Code Rev.	***G***
Moment	238.1 k-ft
Axial	7.7 k

Required Flange Thickness:
0.66 in OK

Date	9/12/2019
Engineer	-
Site #	411182
Carrier	-

Stiffeners		
#		

Bolts			
	#	***12***	
	Bolt Circle	29	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	32.19	k



Reinforcement •		
#		

Plate Stress Ratio:
19% Pass

Bolt Stress Ratio:
59% Pass

Extra Bolts O		
#		

EXHIBIT 4

August 28, 2019

CENTERLINE COMMUNICATIONS at&t

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

RE:		
	Site Number:	CT1117 (LTE 2C/3C/4C)
	FA Number:	10035305
	PACE Number:	MRCTB041446
	PT Number:	2051A0QAGS
	Site Name:	NEW HARTFORD NEPAUG
	Site Address:	20 Antolini Road New Hartford, CT 06057

To Whom It May Concern:

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

- (3) 7770 Antennas (55.0"x11.0"x5.0" - Wt. = 35 lbs. /each)
- (6) LGP21401 TMA's (14.4"x9.0"x2.7" – Wt. = 19 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each) (Tower Mount)
- **(2) DMP65R-BU8DA Antennas (96.0"x20.7"x7.7"– Wt. = 96 lbs. /each)**
- **(4) DMP65R-BU6DA Antennas (71.2"x20.7"x7.7"– Wt. = 80 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 mount. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mount on May 14, 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 118 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.5 in. An escalated ice thickness of 1.64 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing monopole with a ring mount. The connection is considered OK by visual inspection.

Based on our evaluation, we have determined that the existing mount **IS CAPABLE** of supporting the proposed installation. HDG recommends the following modifications:

- **Install new handrail kit, SitePro1 P/N HRK12 (or approved equal). Handrail kit is required per AT&T Technical Directive to stabilize existing cantilevered antennas.**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (LTE 2C/3C/4C) Mount Rating	24	LC1	96%	**PASS**
Modified (LTE 2C/3C/4C) Mount Rating	52	LC1	96%	**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.

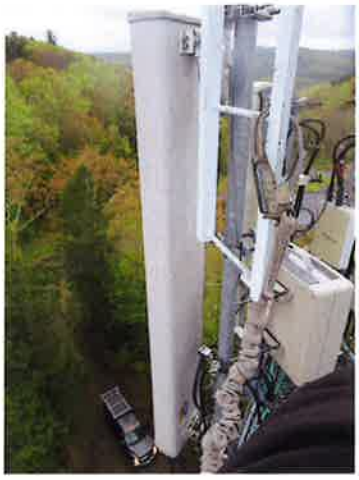
Respectfully Submitted,
Hudson Design Group LLC

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



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: 8/28/2019
Project Name: NEW HARTFORD NEWPAUG
Project No.: CT1117
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=	81	(ft)
z_g=	1200	(ft)
α=	7.0	

K_z= 0.930

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)
K_t=	0	(from Table 2-5)
f=	0	(from Table 2-5)
z=	81	
z_s=	790	(Mean elevation of base of structure above sea level)
H=	0	(Ht. of the crest above surrounding terrain)
K_{zt}=	1.00	(from 2.6.6.2.1)
K_e=	0.97	(from 2.6.8)

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

Category= 1

2.6.10 Design Ice Thickness

Max Ice Thickness =	t_i =	1.50 in
Importance Factor =	I=	1.0 (from Table 2-3)
	K_{iz} =	1.09 (from Sec. 2.6.10)

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

t_{iz} = 1.64 in

Date: 8/28/2019
Project Name: NEW HARTFORD NEWPAUG
Project No.: CT1117
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=	145	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=	0.930	(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=	31.67	K_e=	0.97	(from 2.6.8)
$q_{z\ (ice)}$=	5.50	K_d=	0.95	(from Table 2-2)
$q_{z\ (30)}$=	1.98	V_{max}=	120	mph (Ultimate Wind Speed)
		$V_{max\ (ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

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

Date: 8/28/2019
Project Name: NEW HARTFORD NEWPAUG
Project No.: CT1117
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 = **1.64** 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	**169**	**42**	**11**
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	**547**	**118**	**35**
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.44	1.24	**389**	**85**	**25**
B14 4478 RRH	18.1	13.4	8.3	1.68	1.35	1.20	**62**	**16**	**4**
B14 4478 RRH (Shielded)	18.1	0.0	8.3	0.00	0.00	1.20	**0**	**3**	**0**
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.13	1.20	**50**	**14**	**3**
B5/B12 4449 RRH (Side)	14.9	10.4	13.2	1.08	1.43	1.20	**40**	**11**	**3**
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.20	**50**	**14**	**3**
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.20	**41**	**12**	**3**
LGP21401 TMA	14.4	2.7	9.0	0.27	5.33	1.33	**11**	**5**	**1**
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	**35**	**9**	**2**
2" Pipe	2.4	12.0		0.20	0.20	1.20	**7**	**4**	**0**
7x5 Channel	7.0	12.0		0.58	0.58	2.00	**36**	**12**	**2**

Date: 8/28/2019
Project Name: NEW HARTFORD NEWPAUG
Project No.: CT1117
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	30	(deg)	Ice Thickness =	1.64	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	169	90	149
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	547	249	473
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	389	172	335
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	62	38	56
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	31	38	33
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	50	40	48
B5/B12 4449 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	25	50	31
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	50	41	48
B2/B66A 8843 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	25	50	31
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	11	33	16

WIND LOADS WITH ICE:

7770 Antenna	58.3	14.3	8.3	5.78	3.35	4.08	7.04	1.27	1.40	40	26	37
DMP65R-BU8DA Antenna	99.3	24.0	11.0	16.53	7.57	4.14	9.04	1.27	1.47	116	61	102
DMP65R-BU6DA Antenna	74.5	24.0	11.0	12.40	5.68	3.11	6.78	1.23	1.39	84	43	74
B14 4478 RRH	21.4	16.7	11.6	2.48	1.72	1.28	1.85	1.20	1.20	16	11	15
B14 4478 RRH (Shielded)	21.4	8.3	11.6	1.24	1.72	2.56	1.85	1.20	1.20	8	11	9
B5/B12 4449 RRH	18.2	16.5	13.7	2.08	1.73	1.10	1.33	1.20	1.20	14	11	13
B5/B12 4449 RRH (Side)	18.2	8.2	16.5	1.04	2.08	2.21	1.10	1.20	1.20	7	14	9
B2/B66A 8843 RRH	18.2	16.5	14.2	2.08	1.79	1.10	1.28	1.20	1.20	14	12	13
B2/B66A 8843 RRH (Side)	18.2	8.2	16.5	1.04	2.08	2.21	1.10	1.20	1.20	7	14	9
LGP21401 TMA	17.7	6.0	12.3	0.73	1.51	2.96	1.44	1.22	1.20	5	10	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	11	6	10
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	35	16	31
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	25	11	22
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	4	2	4
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	2	2	2
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	3	3	3
B5/B12 4449 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	2	3	2
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
B2/B66A 8843 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	2	3	2
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	2	1

Date: 8/28/2019
Project Name: NEW HARTFORD NEWPAUG
Project No.: CT1117
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	1.64	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	169	90	109
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	547	249	323
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	389	172	226
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	62	38	44
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	46	38	40
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	50	40	42
B5/B12 4449 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	38	50	47
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	50	41	44
B2/B66A 8843 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	38	50	47
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	11	33	28

WIND LOADS WITH ICE:

7770 Antenna	58.3	14.3	8.3	5.78	3.35	4.08	7.04	1.27	1.40	40	26	29
DMP65R-BU8DA Antenna	99.3	24.0	11.0	16.53	7.57	4.14	9.04	1.27	1.47	116	61	75
DMP65R-BU6DA Antenna	74.5	24.0	11.0	12.40	5.68	3.11	6.78	1.23	1.39	84	43	53
B14 4478 RRH	21.4	16.7	11.6	2.48	1.72	1.28	1.85	1.20	1.20	16	11	13
B14 4478 RRH (Shielded)	21.4	12.5	11.6	1.86	1.72	1.71	1.85	1.20	1.20	12	11	12
B5/B12 4449 RRH	18.2	16.5	13.7	2.08	1.73	1.10	1.33	1.20	1.20	14	11	12
B5/B12 4449 RRH (Side)	18.2	12.4	16.5	1.56	2.08	1.47	1.10	1.20	1.20	10	14	13
B2/B66A 8843 RRH	18.2	16.5	14.2	2.08	1.79	1.10	1.28	1.20	1.20	14	12	12
B2/B66A 8843 RRH (Side)	18.2	12.4	16.5	1.56	2.08	1.47	1.10	1.20	1.20	10	14	13
LGP21401 TMA	17.7	6.0	12.3	0.73	1.51	2.96	1.44	1.22	1.20	5	10	9

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	11	6	7
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	35	16	21
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	25	11	15
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	4	2	3
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	3	2	3
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	3	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	2	3	3
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
B2/B66A 8843 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	2	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	2	2

Date: 8/28/2019
Project Name: NEW HARTFORD NEWPAUG
Project No.: CT1117
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	90	(deg)	Ice Thickness =	1.64	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	169	90	90
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	547	249	249
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	389	172	172
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	62	38	38
B14 4478 RRH (Shielded)	18.1	0.0	8.3	0.00	1.04	0.00	2.18	1.20	1.20	0	38	38
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	50	40	40
B5/B12 4449 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	40	50	50
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	50	41	41
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	41	50	50
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	11	33	33

WIND LOADS WITH ICE:

7770 Antenna	58.3	14.3	8.3	5.78	3.35	4.08	7.04	1.27	1.40	40	26	26
DMP65R-BU8DA Antenna	99.3	24.0	11.0	16.53	7.57	4.14	9.04	1.27	1.47	116	61	61
DMP65R-BU6DA Antenna	74.5	24.0	11.0	12.40	5.68	3.11	6.78	1.23	1.39	84	43	43
B14 4478 RRH	21.4	16.7	11.6	2.48	1.72	1.28	1.85	1.20	1.20	16	11	11
B14 4478 RRH (Shielded)	21.4	3.3	11.6	0.49	1.72	6.52	1.85	1.38	1.20	4	11	11
B5/B12 4449 RRH	18.2	16.5	13.7	2.08	1.73	1.10	1.33	1.20	1.20	14	11	11
B5/B12 4449 RRH (Side)	18.2	13.7	16.5	1.73	2.08	1.33	1.10	1.20	1.20	11	14	14
B2/B66A 8843 RRH	18.2	16.5	14.2	2.08	1.79	1.10	1.28	1.20	1.20	14	12	12
B2/B66A 8843 RRH (Side)	18.2	14.2	16.5	1.79	2.08	1.28	1.10	1.20	1.20	12	14	14
LGP21401 TMA	17.7	6.0	12.3	0.73	1.51	2.96	1.44	1.22	1.20	5	10	10

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	11	6	6
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	35	16	16
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	25	11	11
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	4	2	2
B14 4478 RRH (Shielded)	18.1	0.0	8.3	0.00	1.04	0.00	2.18	1.20	1.20	0	2	2
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	3	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	3	3
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	2	2

Date: 8/28/2019
Project Name: NEW HARTFORD NEWPAUG
Project No.: CT1117
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	120	(deg)	Ice Thickness =	1.64	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	169	90	109
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	547	249	323
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	389	172	226
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	62	38	44
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	46	38	40
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	50	40	42
B5/B12 4449 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	38	50	47
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	50	41	44
B2/B66A 8843 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	38	50	47
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	11	33	28

WIND LOADS WITH ICE:

7770 Antenna	58.3	14.3	8.3	5.78	3.35	4.08	7.04	1.27	1.40	40	26	29
DMP65R-BU8DA Antenna	99.3	24.0	11.0	16.53	7.57	4.14	9.04	1.27	1.47	116	61	75
DMP65R-BU6DA Antenna	74.5	24.0	11.0	12.40	5.68	3.11	6.78	1.23	1.39	84	43	53
B14 4478 RRH	21.4	16.7	11.6	2.48	1.72	1.28	1.85	1.20	1.20	16	11	13
B14 4478 RRH (Shielded)	21.4	12.5	11.6	1.86	1.72	1.71	1.85	1.20	1.20	12	11	12
B5/B12 4449 RRH	18.2	16.5	13.7	2.08	1.73	1.10	1.33	1.20	1.20	14	11	12
B5/B12 4449 RRH (Side)	18.2	12.4	16.5	1.56	2.08	1.47	1.10	1.20	1.20	10	14	13
B2/B66A 8843 RRH	18.2	16.5	14.2	2.08	1.79	1.10	1.28	1.20	1.20	14	12	12
B2/B66A 8843 RRH (Side)	18.2	12.4	16.5	1.56	2.08	1.47	1.10	1.20	1.20	10	14	13
LGP21401 TMA	17.7	6.0	12.3	0.73	1.51	2.96	1.44	1.22	1.20	5	10	9

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	11	6	7
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	35	16	21
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	25	11	15
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	4	2	3
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	3	2	3
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	3	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	2	3	3
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
B2/B66A 8843 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	2	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	2	2

Date: 8/28/2019
Project Name: NEW HARTFORD NEWPAUG
Project No.: CT1117
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	150	(deg)	Ice Thickness =	1.64	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	169	90	149
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	547	249	473
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	389	172	335
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	62	38	56
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	31	38	33
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	50	40	48
B5/B12 4449 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	25	50	31
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	50	41	48
B2/B66A 8843 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	25	50	31
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	11	33	16

WIND LOADS WITH ICE:

7770 Antenna	58.3	14.3	8.3	5.78	3.35	4.08	7.04	1.27	1.40	40	26	37
DMP65R-BU8DA Antenna	99.3	24.0	11.0	16.53	7.57	4.14	9.04	1.27	1.47	116	61	102
DMP65R-BU6DA Antenna	74.5	24.0	11.0	12.40	5.68	3.11	6.78	1.23	1.39	84	43	74
B14 4478 RRH	21.4	16.7	11.6	2.48	1.72	1.28	1.85	1.20	1.20	16	11	15
B14 4478 RRH (Shielded)	21.4	8.3	11.6	1.24	1.72	2.56	1.85	1.20	1.20	8	11	9
B5/B12 4449 RRH	18.2	16.5	13.7	2.08	1.73	1.10	1.33	1.20	1.20	14	11	13
B5/B12 4449 RRH (Side)	18.2	8.2	16.5	1.04	2.08	2.21	1.10	1.20	1.20	7	14	9
B2/B66A 8843 RRH	18.2	16.5	14.2	2.08	1.79	1.10	1.28	1.20	1.20	14	12	13
B2/B66A 8843 RRH (Side)	18.2	8.2	16.5	1.04	2.08	2.21	1.10	1.20	1.20	7	14	9
LGP21401 TMA	17.7	6.0	12.3	0.73	1.51	2.96	1.44	1.22	1.20	5	10	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	11	6	10
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	35	16	31
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	25	11	22
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	4	2	4
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	2	2	2
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	3	3	3
B5/B12 4449 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	2	3	2
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
B2/B66A 8843 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	2	3	2
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	2	1

Date: 8/28/2019
Project Name: NEW HARTFORD NEWPAUG
Project No.: CT1117
Designed By: LBW **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.64 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:		126 lbs
Weight of object:	35.0 lbs	
Combined weight of ice and object:		161 lbs

DMP65R-BU8DA Antenna

Weight of ice based on total radial SF area:

Height (in):	96.0	
Width (in):	20.7	
Depth (in):	7.7	
Total weight of ice on object:		380 lbs
Weight of object:	96.0 lbs	
Combined weight of ice and object:		476 lbs

DMP65R-BU6DA Antenne

Weight of ice based on total radial SF area:

Height (in):	71.2	
Width (in):	20.7	
Depth (in):	7.7	
Total weight of ice on object:		282 lbs
Weight of object:	80.0 lbs	
Combined weight of ice and object:		362 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:		53 lbs
Weight of object:	60.0 lbs	
Combined weight of ice and object:		113 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:		46 lbs
Weight of object:	73.0 lbs	
Combined weight of ice and object:		119 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:		47 lbs
Weight of object:	72.0 lbs	
Combined weight of ice and object:		119 lbs

LGP21401 TMA

Weight of ice based on total radial SF area:

Height (in):	14.4	
Width (in):	2.7	
Depth (in):	9.0	
Total weight of ice on object:		27 lbs
Weight of object:	19.0 lbs	
Combined weight of ice and object:		46 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:		45 lbs
Weight of object:	33 lbs	
Combined weight of ice and object:		78 lbs

2" pipe

Per foot weight of ice:

diameter (in):	2.38	
Per foot weight of ice on object:		8 plf

C 7x5

Weight of ice based on total radial SF area:

Height (in):	7	
Width (in):	0.375	
Per foot weight of ice on object:		17 plf

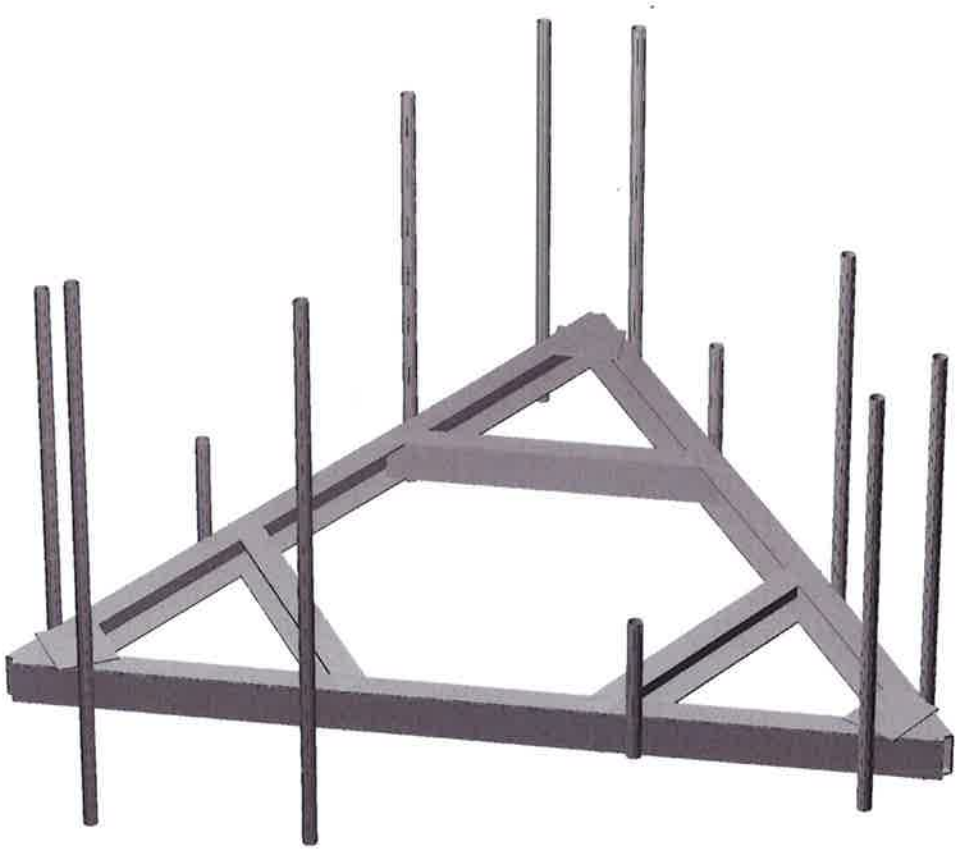
PL 10x3/8

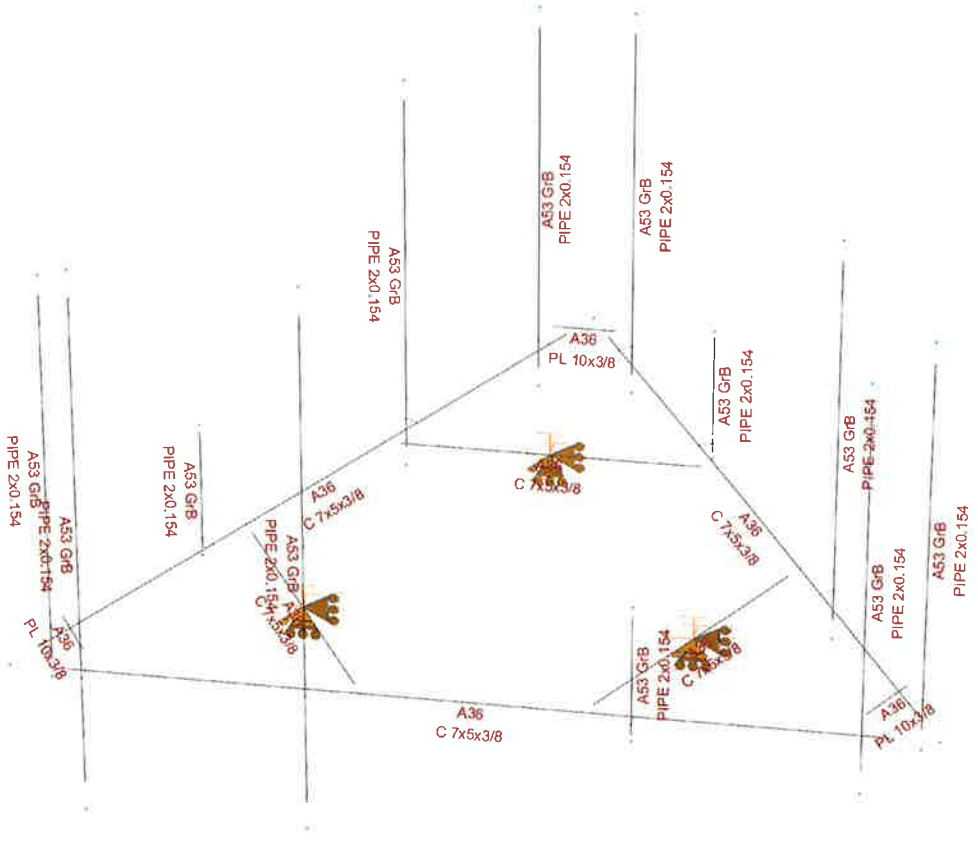
Weight of ice based on total radial SF area:

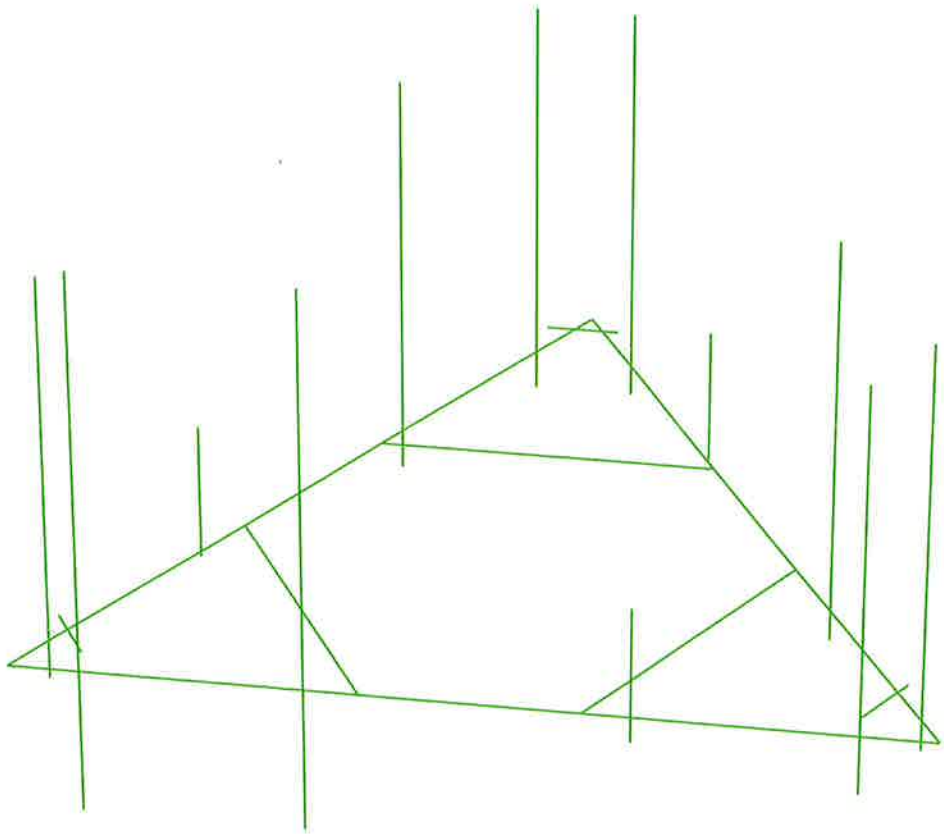
Height (in):	10	
Width (in):	0.375	
Per foot weight of ice on object:		23 plf

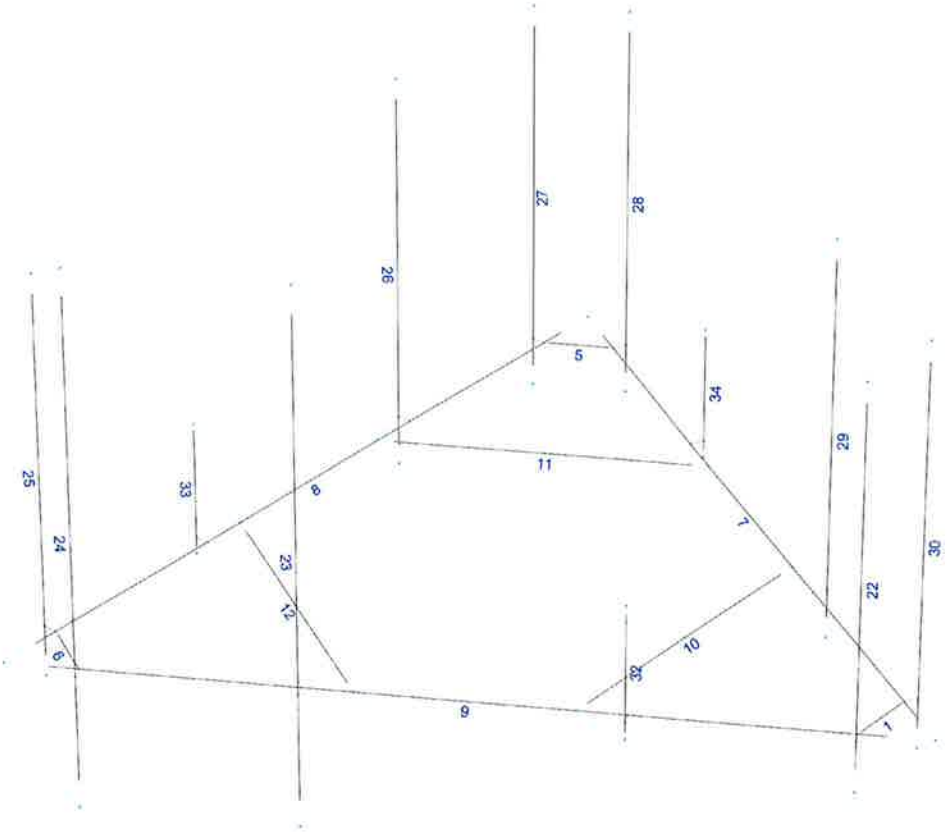
HUDSON
Design Group LLC

Mount Calculations
(Existing Conditions)


Y
X
Z


A53 GrB
PIPE 2x0.154
A36
PL 10x3/8
A36
C 7x5x3/8
Y
X
Z


Y
X
Z


27
28
26
5
34
29
11
25
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8
7
24
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39
9
1
Y
X
Z

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Load data

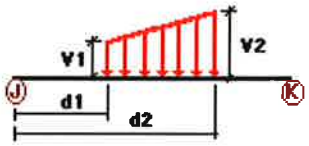
GLOSSARY

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
LLa4	250 lb Live Load Antenna 4	No	LL

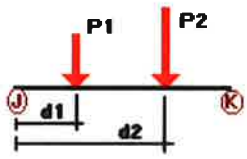
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	1	y	-0.01	0.00	0.00	No	0.00	No
	5	y	-0.01	0.00	0.00	No	0.00	No
	6	y	-0.01	0.00	0.00	No	0.00	No
	7	y	-0.01	0.00	60.00	Yes	0.00	No
		y	-0.01	-0.01	0.00	No	40.00	Yes
	8	y	-0.01	0.00	60.00	Yes	0.00	No
		y	-0.01	-0.01	0.00	No	40.00	Yes
	9	y	-0.01	0.00	60.00	Yes	0.00	No
		y	-0.01	-0.01	0.00	No	40.00	Yes
	10	y	-0.01	0.00	0.00	No	0.00	No
	11	y	-0.01	0.00	0.00	No	0.00	No
	12	y	-0.01	0.00	0.00	No	0.00	No
W0	7	z	-0.036	0.00	0.00	No	0.00	No
	8	z	-0.036	0.00	0.00	No	0.00	No

	9	z	-0.036	0.00	0.00	No	0.00	No
	10	z	-0.036	0.00	0.00	No	0.00	No
	11	z	-0.036	0.00	0.00	No	0.00	No
	12	z	-0.036	0.00	0.00	No	0.00	No
	25	z	-0.007	0.00	0.00	No	0.00	No
	26	z	-0.007	0.00	0.00	No	0.00	No
	27	z	-0.007	0.00	0.00	No	0.00	No
	28	z	-0.007	0.00	0.00	No	0.00	No
	29	z	-0.007	0.00	0.00	No	0.00	No
	30	z	-0.007	0.00	0.00	No	0.00	No
	33	z	-0.007	0.00	0.00	No	0.00	No
	34	z	-0.007	0.00	0.00	No	0.00	No
W30	7	x	-0.036	0.00	0.00	No	0.00	No
	8	x	-0.036	0.00	0.00	No	0.00	No
	9	x	-0.036	0.00	0.00	No	0.00	No
	10	x	-0.036	0.00	0.00	No	0.00	No
	11	x	-0.036	0.00	0.00	No	0.00	No
	12	x	-0.036	0.00	0.00	No	0.00	No
	22	x	-0.007	0.00	0.00	No	0.00	No
	23	x	-0.007	0.00	0.00	No	0.00	No
	24	x	-0.007	0.00	0.00	No	0.00	No
	25	x	-0.007	0.00	0.00	No	0.00	No
	26	x	-0.007	0.00	0.00	No	0.00	No
	27	x	-0.007	0.00	0.00	No	0.00	No
	32	x	-0.007	0.00	0.00	No	0.00	No
	33	x	-0.007	0.00	0.00	No	0.00	No
Di	1	y	-0.023	0.00	0.00	No	0.00	No
	5	y	-0.023	0.00	0.00	No	0.00	No
	6	y	-0.023	0.00	0.00	No	0.00	No
	7	y	-0.017	0.00	0.00	No	0.00	No
	8	y	-0.017	0.00	0.00	No	0.00	No
	9	y	-0.017	0.00	0.00	No	0.00	No
	10	y	-0.017	0.00	0.00	No	0.00	No
	11	y	-0.017	0.00	0.00	No	0.00	No
	12	y	-0.017	0.00	0.00	No	0.00	No
	22	y	-0.008	0.00	0.00	No	0.00	No
	23	y	-0.008	0.00	0.00	No	0.00	No
	24	y	-0.008	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
	32	y	-0.008	0.00	0.00	No	0.00	No
	33	y	-0.008	0.00	0.00	No	0.00	No
	34	y	-0.008	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	22	y	-0.018	0.50	No
		y	-0.018	4.00	No
		y	-0.038	3.00	No
	23	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.06	1.50	No
	24	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.145	1.50	No
	25	y	-0.018	0.50	No
		y	-0.018	4.00	No
		y	-0.038	3.00	No
	26	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.06	1.50	No
	27	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.145	1.50	No
	28	y	-0.018	0.50	No
		y	-0.018	4.00	No
		y	-0.038	3.00	No
	29	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.06	1.50	No
	30	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.145	1.50	No
	32	y	-0.033	1.00	No
	33	y	-0.033	1.00	No
W0	22	z	-0.085	0.50	No
		z	-0.085	4.50	No
		z	-0.022	3.00	No
	23	z	-0.274	0.50	No
		z	-0.274	7.50	No
	24	z	-0.274	0.50	No
		z	-0.274	7.50	No
		z	-0.081	1.50	No
	25	z	-0.055	0.50	No
		z	-0.055	4.50	No
		z	-0.056	3.00	No
	26	z	-0.114	0.50	No
		z	-0.114	5.50	No
		z	-0.04	1.50	No
	27	z	-0.114	0.50	No
		z	-0.114	5.50	No
		z	-0.047	1.50	No
	28	z	-0.055	0.50	No
		z	-0.055	4.50	No
		z	-0.056	3.00	No
	29	z	-0.114	0.50	No
		z	-0.114	5.50	No
		z	-0.04	1.50	No
	30	z	-0.114	0.50	No
		z	-0.114	5.50	No
		z	-0.047	1.50	No
	32	z	-0.035	1.00	No
	33	z	-0.035	1.00	No
W30	22	x	-0.045	0.50	No
		x	-0.045	4.50	No
		x	-0.066	3.00	No

	23	x	-0.125	0.50	No
		x	-0.125	7.50	No
		x	-0.038	1.50	No
	24	x	-0.125	0.50	No
		x	-0.125	7.50	No
		x	-0.05	1.50	No
	25	x	-0.075	0.50	No
		x	-0.075	4.50	No
		x	-0.032	3.00	No
	26	x	-0.168	0.50	No
		x	-0.168	5.50	No
		x	-0.033	1.50	No
	27	x	-0.168	0.50	No
		x	-0.168	5.50	No
		x	-0.062	1.50	No
	28	x	-0.075	0.50	No
		x	-0.075	4.50	No
		x	-0.032	3.00	No
	29	x	-0.168	0.50	No
		x	-0.168	5.50	No
		x	-0.033	1.50	No
	30	x	-0.168	0.50	No
		x	-0.168	5.50	No
		x	-0.062	1.50	No
	32	x	-0.035	1.00	No
	33	x	-0.035	1.00	No
Di	22	y	-0.063	0.50	No
		y	-0.063	4.00	No
		y	-0.054	3.00	No
	23	y	-0.19	0.50	No
		y	-0.19	7.50	No
		y	-0.053	1.50	No
	24	y	-0.19	0.50	No
		y	-0.19	7.50	No
		y	-0.093	1.50	No
	25	y	-0.063	0.50	No
		y	-0.063	4.00	No
		y	-0.054	3.00	No
	26	y	-0.141	0.50	No
		y	-0.141	5.50	No
		y	-0.053	1.50	No
	27	y	-0.141	0.50	No
		y	-0.141	5.50	No
		y	-0.093	1.50	No
	28	y	-0.063	0.50	No
		y	-0.063	4.00	No
		y	-0.054	3.00	No
	29	y	-0.141	0.50	No
		y	-0.141	5.50	No
		y	-0.053	1.50	No
	30	y	-0.141	0.50	No
		y	-0.141	5.50	No
		y	-0.093	1.50	No
	32	y	-0.045	1.00	No
	33	y	-0.045	1.00	No
Wi0	22	z	-0.021	0.50	No
		z	-0.021	4.50	No
		z	-0.01	3.00	No
	23	z	-0.059	0.50	No
		z	-0.059	7.50	No

		z	-0.003	1.50	No
	24	z	-0.059	0.50	No
		z	-0.059	7.50	No
		z	-0.023	1.50	No
	25	z	-0.015	0.50	No
		z	-0.015	4.50	No
		z	-0.018	3.00	No
	26	z	-0.027	0.50	No
		z	-0.027	5.50	No
		z	-0.012	1.50	No
	27	z	-0.027	0.50	No
		z	-0.027	5.50	No
		z	-0.013	1.50	No
	28	z	-0.015	0.50	No
		z	-0.015	4.50	No
		z	-0.018	3.00	No
	29	z	-0.027	0.50	No
		z	-0.027	5.50	No
		z	-0.012	1.50	No
	30	z	-0.027	0.50	No
		z	-0.027	5.50	No
		z	-0.013	1.50	No
	32	z	-0.009	1.00	No
	33	z	-0.009	1.00	No
Wi30	22	x	-0.013	0.50	No
		x	-0.013	4.50	No
		x	-0.02	3.00	No
	23	x	-0.031	0.50	No
		x	-0.031	7.50	No
		x	-0.011	1.50	No
	24	x	-0.031	0.50	No
		x	-0.031	7.50	No
		x	-0.014	1.50	No
	25	x	-0.019	0.50	No
		x	-0.019	4.50	No
		x	-0.012	3.00	No
	26	x	-0.037	0.50	No
		x	-0.037	5.50	No
		x	-0.009	1.50	No
	27	x	-0.037	0.50	No
		x	-0.037	5.50	No
		x	-0.018	1.50	No
	28	x	-0.019	0.50	No
		x	-0.019	4.50	No
		x	-0.012	3.00	No
	29	x	-0.037	0.50	No
		x	-0.037	5.50	No
		x	-0.009	1.50	No
	30	x	-0.037	0.50	No
		x	-0.037	5.50	No
		x	-0.018	1.50	No
	32	x	-0.009	1.00	No
	33	x	-0.009	1.00	No
WL0	22	z	-0.006	0.50	No
		z	-0.006	4.50	No
		z	-0.002	3.00	No
	23	z	-0.018	0.50	No
		z	-0.018	7.50	No
	24	z	-0.018	0.50	No
		z	-0.018	7.50	No

		z	-0.006	1.50	No
	25	z	-0.004	0.50	No
		z	-0.004	4.50	No
		z	-0.004	3.00	No
	26	z	-0.008	0.50	No
		z	-0.008	5.50	No
		z	-0.003	1.50	No
	27	z	-0.008	0.50	No
		z	-0.008	5.50	No
		z	-0.003	1.50	No
	28	z	-0.004	0.50	No
		z	-0.004	4.50	No
		z	-0.004	3.00	No
	29	z	-0.008	0.50	No
		z	-0.008	5.50	No
		z	-0.003	1.50	No
	30	z	-0.008	0.50	No
		z	-0.008	5.50	No
		z	-0.003	1.50	No
	32	z	-0.002	1.00	No
	33	z	-0.002	1.00	No
WL30	22	x	-0.003	0.50	No
		x	-0.003	4.50	No
		x	-0.004	3.00	No
	23	x	-0.009	0.50	No
		x	-0.009	7.50	No
		x	-0.002	1.50	No
	24	x	-0.009	0.50	No
		x	-0.009	7.50	No
		x	-0.006	1.50	No
	25	x	-0.005	0.50	No
		x	-0.005	4.50	No
		x	-0.002	3.00	No
	26	x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.002	1.50	No
	27	x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.004	1.50	No
	28	x	-0.005	0.50	No
		x	-0.005	4.50	No
		x	-0.002	3.00	No
	29	x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.002	1.50	No
	30	x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.004	1.50	No
	32	x	-0.002	1.00	No
	33	x	-0.002	1.00	No
LL1	9	y	-0.25	6.08	No
LL2	9	y	-0.25	0.00	No
LLa1	22	y	-0.25	3.00	No
LLa2	32	y	-0.25	1.00	No
LLa3	**23**	**y**	**-0.25**	**4.00**	**No**
LLa4	**24**	**y**	**-0.25**	**4.00**	**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
LLa4	250 lb Live Load Antenna 4	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
LLa4	0.00	0.00	0.00

Bentley Hewlett-Packard Company

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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
LC29=1.2DL+WL0+1.5LLa4
LC30=1.2DL+WL30+1.5LLa4
LC31=1.2DL-WL0+1.5LLa4
LC32=1.2DL-WL30+1.5LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	C 7x5x3/8	**7**	LC4 at 8.04%	0.10	OK	
		8	LC2 at 8.04%	0.13	OK	
		9	LC3 at 8.04%	**0.18**	**OK**	
		10	LC4 at 50.00%	0.11	OK	
		11	LC1 at 50.00%	0.12	OK	
		12	LC11 at 50.00%	0.11	OK	
	PIPE 2x0.154	**22**	LC1 at 84.38%	0.26	OK	
		23	LC1 at 71.88%	0.77	OK	
		24	LC1 at 71.88%	**0.96**	**OK**	
		25	LC2 at 84.38%	0.29	OK	
		26	LC2 at 84.38%	0.52	OK	
		27	LC2 at 84.38%	0.58	OK	
		28	LC1 at 84.38%	0.26	OK	
		29	LC2 at 84.38%	0.48	OK	
		30	LC2 at 84.38%	0.53	OK	
		32	LC2 at 84.38%	0.02	OK	

	33	LC2 at 84.38%	0.02	OK
	34	LC1 at 84.38%	0.01	OK
PL 10x3/8	**1**	LC4 at 0.00%	0.14	OK
	5	LC2 at 100.00%	0.19	OK
	6	LC3 at 100.00%	**0.26**	**OK**

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Geometry data

GLOSSARY

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

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
3	6.0695	0.00	3.5042	0
9	-6.0695	0.00	3.5042	0
15	0.00	0.00	-7.0085	0
21	-1.4445	0.00	3.5042	0
22	1.4445	0.00	3.5042	0
23	-2.3125	0.00	-3.0031	0
24	-3.757	0.00	-0.5011	0
25	3.757	0.00	-0.5011	0
26	2.3125	0.00	-3.0031	0
27	0.00	0.00	-3.0031	0
28	2.6008	0.00	1.5016	0
29	-2.6008	0.00	1.5016	0
34	-5.5695	0.00	2.6382	0
40	5.0695	-0.75	3.7042	0
41	-2.1388	-2.00	3.7042	0
42	-5.0695	-2.00	3.7042	0
43	5.0695	5.25	3.7042	0
44	-2.1388	6.00	3.7042	0
45	-5.0695	6.00	3.7042	0
52	-5.7427	-0.75	2.5382	0
53	-2.1386	-0.75	-3.7043	0

54	-0.6732	-0.75	-6.2425	0
55	-5.7427	5.25	2.5382	0
56	-2.1386	5.25	-3.7043	0
57	-0.6732	5.25	-6.2425	0
64	0.6732	-0.75	-6.2425	0
65	4.2774	-0.75	9.55E-05	0
66	5.7427	-0.75	2.5382	0
67	0.6732	5.25	-6.2425	0
68	4.2774	5.25	9.55E-05	0
69	5.7427	5.25	2.5382	0
72	2.1112	1.75	3.7042	0
73	2.1112	-0.25	3.7042	0
76	-4.2636	1.75	-0.0237	0
77	-4.2636	-0.25	-0.0237	0
80	2.1524	1.75	-3.6805	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
27	1	1	1	1	1	1
28	1	1	1	1	1	1
29	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	31	32		PL 10x3/8	A36	0.00	0.00	0.00
5	30	35		PL 10x3/8	A36	0.00	0.00	0.00
6	34	33		PL 10x3/8	A36	0.00	0.00	0.00
7	3	15		C 7x5x3/8	A36	0.00	0.00	0.00
8	15	9		C 7x5x3/8	A36	0.00	0.00	0.00
9	9	3		C 7x5x3/8	A36	0.00	0.00	0.00
10	22	25		C 7x5x3/8	A36	0.00	0.00	0.00
11	26	23		C 7x5x3/8	A36	0.00	0.00	0.00
12	24	21		C 7x5x3/8	A36	0.00	0.00	0.00
22	43	40		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
23	44	41		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
24	45	42		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
25	55	52		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
26	56	53		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
27	57	54		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
28	67	64		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
29	68	65		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
30	69	66		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
32	72	73		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
33	76	77		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
34	80	81		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	90.00	0	0.00	0.00	0.00
5	90.00	0	0.00	0.00	0.00
6	90.00	0	0.00	0.00	0.00
7	180.00	0	0.00	0.00	0.00
8	180.00	0	0.00	0.00	0.00
9	180.00	0	0.00	0.00	0.00
22	0.00	2	-1.00	0.00	0.00
23	0.00	2	-1.00	0.00	0.00
24	0.00	2	-1.00	0.00	0.00
25	0.00	2	-1.00	0.00	0.00
26	0.00	2	-1.00	0.00	0.00
27	0.00	2	-1.00	0.00	0.00
28	0.00	2	-1.00	0.00	0.00
29	0.00	2	-1.00	0.00	0.00
30	0.00	2	-1.00	0.00	0.00
32	0.00	2	-1.00	0.00	0.00

Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
1	0.00	3.50	0.00	0.00	3.50	0.00
5	0.00	3.50	0.00	0.00	3.50	0.00
6	0.00	3.50	0.00	0.00	3.50	0.00

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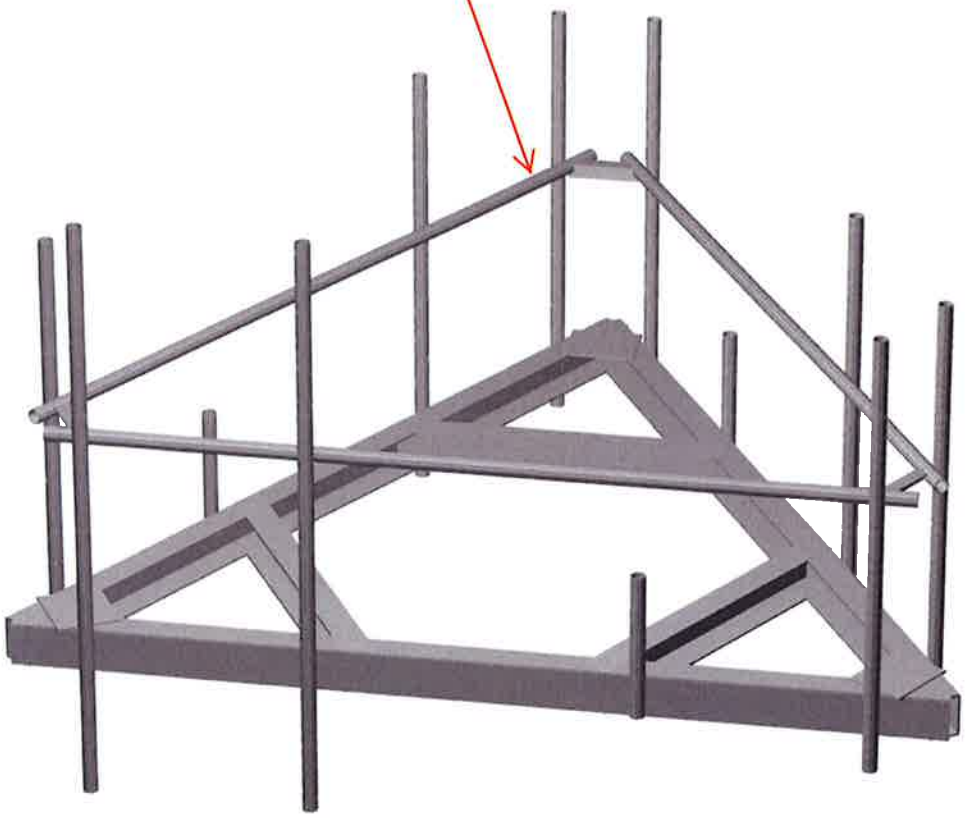
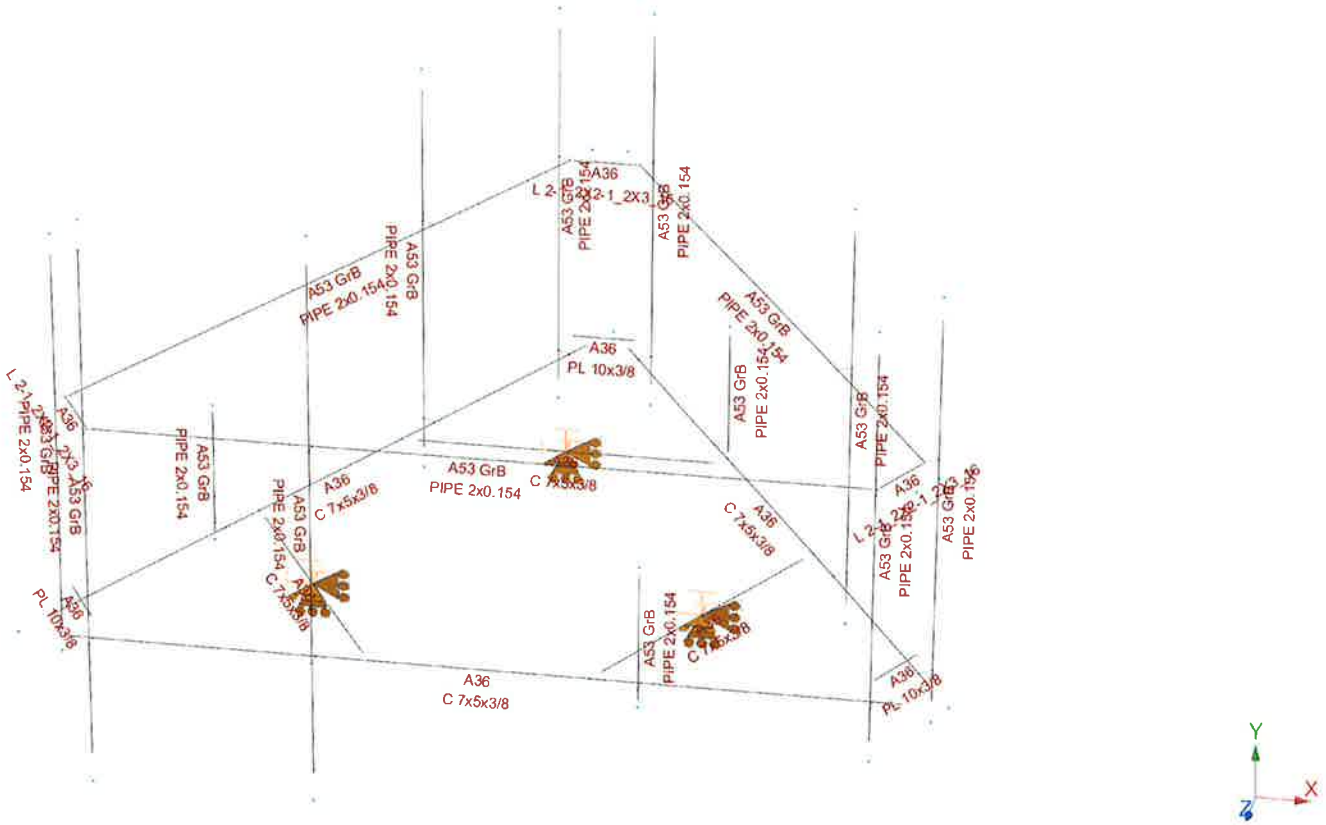
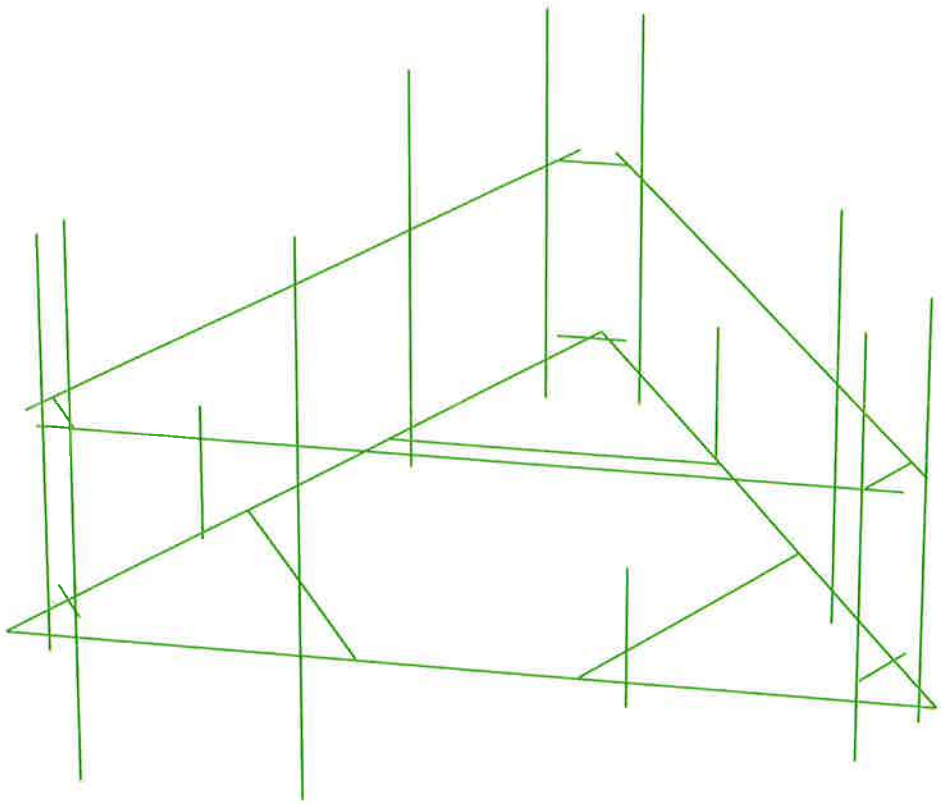
Mount Calculations
(Modified Conditions)

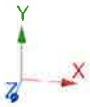
Install new handrail kit, SitePro1 P/N HRK12 (or approved equal). Handrail kit is required per AT&T Technical Directive to stabilize existing cantilevered antennas.

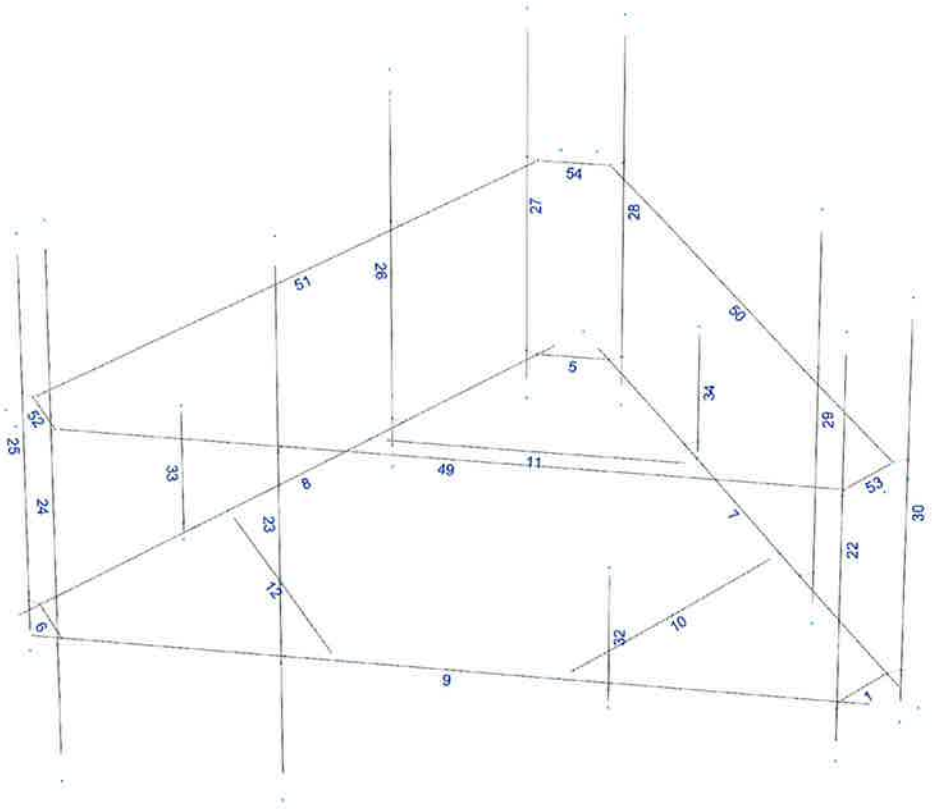



A53 GrB
PIPE 2x0.154
A36
PL 10x3/8
C 7x5x3/8
Y
X
Z

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






54
27
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Load data

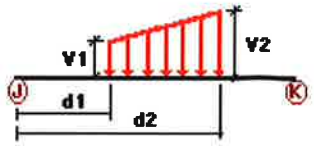
GLOSSARY

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
LLa4	250 lb Live Load Antenna 4	No	LL

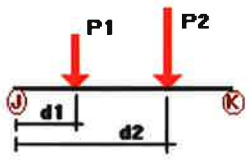
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	1	y	-0.01	0.00	0.00	No	0.00	No
	5	y	-0.01	0.00	0.00	No	0.00	No
	6	y	-0.01	0.00	0.00	No	0.00	No
	7	y	-0.01	0.00	60.00	Yes	0.00	No
		y	-0.01	-0.01	0.00	No	40.00	Yes
	8	y	-0.01	0.00	60.00	Yes	0.00	No
		y	-0.01	-0.01	0.00	No	40.00	Yes
	9	y	-0.01	0.00	60.00	Yes	0.00	No
		y	-0.01	-0.01	0.00	No	40.00	Yes
	10	y	-0.01	0.00	0.00	No	0.00	No
	11	y	-0.01	0.00	0.00	No	0.00	No
	12	y	-0.01	0.00	0.00	No	0.00	No
W0	7	z	-0.036	0.00	0.00	No	0.00	No
	8	z	-0.036	0.00	0.00	No	0.00	No

	9	z	-0.036	0.00	0.00	No	0.00	No
	10	z	-0.036	0.00	0.00	No	0.00	No
	11	z	-0.036	0.00	0.00	No	0.00	No
	12	z	-0.036	0.00	0.00	No	0.00	No
	25	z	-0.007	0.00	0.00	No	0.00	No
	26	z	-0.007	0.00	0.00	No	0.00	No
	27	z	-0.007	0.00	0.00	No	0.00	No
	28	z	-0.007	0.00	0.00	No	0.00	No
	29	z	-0.007	0.00	0.00	No	0.00	No
	30	z	-0.007	0.00	0.00	No	0.00	No
	33	z	-0.007	0.00	0.00	No	0.00	No
	34	z	-0.007	0.00	0.00	No	0.00	No
W30	7	x	-0.036	0.00	0.00	No	0.00	No
	8	x	-0.036	0.00	0.00	No	0.00	No
	9	x	-0.036	0.00	0.00	No	0.00	No
	10	x	-0.036	0.00	0.00	No	0.00	No
	11	x	-0.036	0.00	0.00	No	0.00	No
	12	x	-0.036	0.00	0.00	No	0.00	No
	22	x	-0.007	0.00	0.00	No	0.00	No
	23	x	-0.007	0.00	0.00	No	0.00	No
	24	x	-0.007	0.00	0.00	No	0.00	No
	25	x	-0.007	0.00	0.00	No	0.00	No
	26	x	-0.007	0.00	0.00	No	0.00	No
	27	x	-0.007	0.00	0.00	No	0.00	No
	32	x	-0.007	0.00	0.00	No	0.00	No
	33	x	-0.007	0.00	0.00	No	0.00	No
Di	1	y	-0.023	0.00	0.00	No	0.00	No
	5	y	-0.023	0.00	0.00	No	0.00	No
	6	y	-0.023	0.00	0.00	No	0.00	No
	7	y	-0.017	0.00	0.00	No	0.00	No
	8	y	-0.017	0.00	0.00	No	0.00	No
	9	y	-0.017	0.00	0.00	No	0.00	No
	10	y	-0.017	0.00	0.00	No	0.00	No
	11	y	-0.017	0.00	0.00	No	0.00	No
	12	y	-0.017	0.00	0.00	No	0.00	No
	22	y	-0.008	0.00	0.00	No	0.00	No
	23	y	-0.008	0.00	0.00	No	0.00	No
	24	y	-0.008	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
	32	y	-0.008	0.00	0.00	No	0.00	No
	33	y	-0.008	0.00	0.00	No	0.00	No
	34	y	-0.008	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	22	y	-0.018	0.50	No
		y	-0.018	4.00	No
		y	-0.038	3.00	No
	23	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.06	1.50	No
	24	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.145	1.50	No
	25	y	-0.018	0.50	No
		y	-0.018	4.00	No
		y	-0.038	3.00	No
	26	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.06	1.50	No
	27	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.145	1.50	No
	28	y	-0.018	0.50	No
		y	-0.018	4.00	No
		y	-0.038	3.00	No
	29	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.06	1.50	No
	30	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.145	1.50	No
	32	y	-0.033	1.00	No
	33	y	-0.033	1.00	No
W0	22	z	-0.085	0.50	No
		z	-0.085	4.50	No
		z	-0.022	3.00	No
	23	z	-0.274	0.50	No
		z	-0.274	7.50	No
	24	z	-0.274	0.50	No
		z	-0.274	7.50	No
		z	-0.081	1.50	No
	25	z	-0.055	0.50	No
		z	-0.055	4.50	No
		z	-0.056	3.00	No
	26	z	-0.114	0.50	No
		z	-0.114	5.50	No
		z	-0.04	1.50	No
	27	z	-0.114	0.50	No
		z	-0.114	5.50	No
		z	-0.047	1.50	No
	28	z	-0.055	0.50	No
		z	-0.055	4.50	No
		z	-0.056	3.00	No
	29	z	-0.114	0.50	No
		z	-0.114	5.50	No
		z	-0.04	1.50	No
	30	z	-0.114	0.50	No
		z	-0.114	5.50	No
		z	-0.047	1.50	No
	32	z	-0.035	1.00	No
	33	z	-0.035	1.00	No
W30	22	x	-0.045	0.50	No
		x	-0.045	4.50	No
		x	-0.066	3.00	No

	23	x	-0.125	0.50	No
		x	-0.125	7.50	No
		x	-0.038	1.50	No
	24	x	-0.125	0.50	No
		x	-0.125	7.50	No
		x	-0.05	1.50	No
	25	x	-0.075	0.50	No
		x	-0.075	4.50	No
		x	-0.032	3.00	No
	26	x	-0.168	0.50	No
		x	-0.168	5.50	No
		x	-0.033	1.50	No
	27	x	-0.168	0.50	No
		x	-0.168	5.50	No
		x	-0.062	1.50	No
	28	x	-0.075	0.50	No
		x	-0.075	4.50	No
		x	-0.032	3.00	No
	29	x	-0.168	0.50	No
		x	-0.168	5.50	No
		x	-0.033	1.50	No
	30	x	-0.168	0.50	No
		x	-0.168	5.50	No
		x	-0.062	1.50	No
	32	x	-0.035	1.00	No
	33	x	-0.035	1.00	No
Di	22	y	-0.063	0.50	No
		y	-0.063	4.00	No
		y	-0.054	3.00	No
	23	y	-0.19	0.50	No
		y	-0.19	7.50	No
		y	-0.053	1.50	No
	24	y	-0.19	0.50	No
		y	-0.19	7.50	No
		y	-0.093	1.50	No
	25	y	-0.063	0.50	No
		y	-0.063	4.00	No
		y	-0.054	3.00	No
	26	y	-0.141	0.50	No
		y	-0.141	5.50	No
		y	-0.053	1.50	No
	27	y	-0.141	0.50	No
		y	-0.141	5.50	No
		y	-0.093	1.50	No
	28	y	-0.063	0.50	No
		y	-0.063	4.00	No
		y	-0.054	3.00	No
	29	y	-0.141	0.50	No
		y	-0.141	5.50	No
		y	-0.053	1.50	No
	30	y	-0.141	0.50	No
		y	-0.141	5.50	No
		y	-0.093	1.50	No
	32	y	-0.045	1.00	No
	33	y	-0.045	1.00	No
Wi0	22	z	-0.021	0.50	No
		z	-0.021	4.50	No
		z	-0.01	3.00	No
	23	z	-0.059	0.50	No
		z	-0.059	7.50	No

		z	-0.003	1.50	No
	24	z	-0.059	0.50	No
		z	-0.059	7.50	No
		z	-0.023	1.50	No
	25	z	-0.015	0.50	No
		z	-0.015	4.50	No
		z	-0.018	3.00	No
	26	z	-0.027	0.50	No
		z	-0.027	5.50	No
		z	-0.012	1.50	No
	27	z	-0.027	0.50	No
		z	-0.027	5.50	No
		z	-0.013	1.50	No
	28	z	-0.015	0.50	No
		z	-0.015	4.50	No
		z	-0.018	3.00	No
	29	z	-0.027	0.50	No
		z	-0.027	5.50	No
		z	-0.012	1.50	No
	30	z	-0.027	0.50	No
		z	-0.027	5.50	No
		z	-0.013	1.50	No
	32	z	-0.009	1.00	No
	33	z	-0.009	1.00	No
Wi30	22	x	-0.013	0.50	No
		x	-0.013	4.50	No
		x	-0.02	3.00	No
	23	x	-0.031	0.50	No
		x	-0.031	7.50	No
		x	-0.011	1.50	No
	24	x	-0.031	0.50	No
		x	-0.031	7.50	No
		x	-0.014	1.50	No
	25	x	-0.019	0.50	No
		x	-0.019	4.50	No
		x	-0.012	3.00	No
	26	x	-0.037	0.50	No
		x	-0.037	5.50	No
		x	-0.009	1.50	No
	27	x	-0.037	0.50	No
		x	-0.037	5.50	No
		x	-0.018	1.50	No
	28	x	-0.019	0.50	No
		x	-0.019	4.50	No
		x	-0.012	3.00	No
	29	x	-0.037	0.50	No
		x	-0.037	5.50	No
		x	-0.009	1.50	No
	30	x	-0.037	0.50	No
		x	-0.037	5.50	No
		x	-0.018	1.50	No
	32	x	-0.009	1.00	No
	33	x	-0.009	1.00	No
WL0	22	z	-0.006	0.50	No
		z	-0.006	4.50	No
		z	-0.002	3.00	No
	23	z	-0.018	0.50	No
		z	-0.018	7.50	No
	24	z	-0.018	0.50	No
		z	-0.018	7.50	No

		z	-0.006	1.50	No
	25	z	-0.004	0.50	No
		z	-0.004	4.50	No
		z	-0.004	3.00	No
	26	z	-0.008	0.50	No
		z	-0.008	5.50	No
		z	-0.003	1.50	No
	27	z	-0.008	0.50	No
		z	-0.008	5.50	No
		z	-0.003	1.50	No
	28	z	-0.004	0.50	No
		z	-0.004	4.50	No
		z	-0.004	3.00	No
	29	z	-0.008	0.50	No
		z	-0.008	5.50	No
		z	-0.003	1.50	No
	30	z	-0.008	0.50	No
		z	-0.008	5.50	No
		z	-0.003	1.50	No
	32	z	-0.002	1.00	No
	33	z	-0.002	1.00	No
WL30	22	x	-0.003	0.50	No
		x	-0.003	4.50	No
		x	-0.004	3.00	No
	23	x	-0.009	0.50	No
		x	-0.009	7.50	No
		x	-0.002	1.50	No
	24	x	-0.009	0.50	No
		x	-0.009	7.50	No
		x	-0.006	1.50	No
	25	x	-0.005	0.50	No
		x	-0.005	4.50	No
		x	-0.002	3.00	No
	26	x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.002	1.50	No
	27	x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.004	1.50	No
	28	x	-0.005	0.50	No
		x	-0.005	4.50	No
		x	-0.002	3.00	No
	29	x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.002	1.50	No
	30	x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.004	1.50	No
	32	x	-0.002	1.00	No
	33	x	-0.002	1.00	No
LL1	9	y	-0.25	6.08	No
LL2	9	y	-0.25	0.00	No
LLa1	22	y	-0.25	3.00	No
LLa2	32	y	-0.25	1.00	No
LLa3	23	y	-0.25	4.00	No
LLa4	24	y	-0.25	4.00	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
LLa4	250 lb Live Load Antenna 4	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
LLa4	0.00	0.00	0.00

Bentley Hewlett-Packard Company

Current Date: 8/28/2019 11:20 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1117\LTE 2C-3C-4C\CT1117 (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
LC29=1.2DL+WL0+1.5LLa4
LC30=1.2DL+WL30+1.5LLa4
LC31=1.2DL-WL0+1.5LLa4
LC32=1.2DL-WL30+1.5LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	C 7x5x3/8	**7**	LC2 at 91.96%	0.10	OK	
		8	LC1 at 38.39%	0.09	OK	
		9	LC2 at 38.39%	0.08	OK	
		10	LC4 at 50.00%	0.10	OK	
		11	LC1 at 50.00%	**0.10**	**OK**	
		12	LC10 at 50.00%	0.10	OK	
	L 2-1_2X2-1_2X3_16	**52**	LC1 at 0.00%	**0.96**	**OK**	
		53	LC3 at 0.00%	0.48	OK	
		54	LC4 at 100.00%	0.64	OK	
	PIPE 2x0.154	**22**	LC2 at 85.42%	0.24	OK	
		23	LC1 at 35.42%	0.35	OK	
		24	LC1 at 35.42%	0.41	OK	
		25	LC1 at 37.50%	**0.43**	**OK**	
		26	LC3 at 85.42%	0.29	OK	
		27	LC3 at 85.42%	0.26	OK	

	28	LC4 at 85.42%	0.29	OK
	29	LC1 at 85.42%	0.26	OK
	30	LC1 at 85.42%	0.24	OK
	32	LC2 at 84.38%	0.02	OK
	33	LC1 at 84.38%	0.02	OK
	34	LC1 at 84.38%	0.01	OK
	49	LC4 at 4.69%	0.29	OK
	50	LC2 at 4.69%	0.26	OK
	51	LC3 at 4.69%	0.29	OK
PL 10x3/8	**1**	LC3 at 100.00%	0.10	OK
	5	LC4 at 0.00%	**0.12**	**OK**
	6	LC1 at 0.00%	0.11	OK

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
3	6.0695	0.00	3.5042	0
9	-6.0695	0.00	3.5042	0
15	0.00	0.00	-7.0085	0
21	-1.4445	0.00	3.5042	0
22	1.4445	0.00	3.5042	0
23	-2.3125	0.00	-3.0031	0
24	-3.757	0.00	-0.5011	0
25	3.757	0.00	-0.5011	0
26	2.3125	0.00	-3.0031	0
27	0.00	0.00	-3.0031	0
28	2.6008	0.00	1.5016	0
29	-2.6008	0.00	1.5016	0
40	5.0695	-0.75	3.7042	0
41	-2.1388	-2.00	3.7042	0
42	-5.0695	-2.00	3.7042	0
43	5.0695	5.25	3.7042	0
44	-2.1388	6.00	3.7042	0
45	-5.0695	6.00	3.7042	0
48	-1.9654	0.00	-3.6043	0
52	-5.7427	-0.75	2.5382	0
53	-2.1386	-0.75	-3.7043	0

54	-0.6732	-0.75	-6.2425	0
55	-5.7427	5.25	2.5382	0
56	-2.1386	5.25	-3.7043	0
57	-0.6732	5.25	-6.2425	0
64	0.6732	-0.75	-6.2425	0
65	4.2774	-0.75	9.55E-05	0
66	5.7427	-0.75	2.5382	0
67	0.6732	5.25	-6.2425	0
68	4.2774	5.25	9.55E-05	0
69	5.7427	5.25	2.5382	0
72	2.1112	1.75	3.7042	0
73	2.1112	-0.25	3.7042	0
76	-4.2636	1.75	-0.0237	0
77	-4.2636	-0.25	-0.0237	0
80	2.1524	1.75	-3.6805	0
81	2.1524	-0.25	-3.6805	0
107	-5.5695	3.00	3.5042	0
108	5.5695	3.00	3.5042	0
109	-0.25	3.00	-6.5755	0
111	5.8195	3.00	3.0712	0
112	0.25	3.00	-6.5755	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
27	1	1	1	1	1	1
28	1	1	1	1	1	1
29	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	31	32		PL 10x3/8	A36	0.00	0.00	0.00
5	30	35		PL 10x3/8	A36	0.00	0.00	0.00
6	34	33		PL 10x3/8	A36	0.00	0.00	0.00
7	3	15		C 7x5x3/8	A36	0.00	0.00	0.00
8	15	9		C 7x5x3/8	A36	0.00	0.00	0.00
9	9	3		C 7x5x3/8	A36	0.00	0.00	0.00
10	22	25		C 7x5x3/8	A36	0.00	0.00	0.00
11	26	23		C 7x5x3/8	A36	0.00	0.00	0.00
12	24	21		C 7x5x3/8	A36	0.00	0.00	0.00
22	43	40		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
23	44	41		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
24	45	42		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
25	55	52		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
26	56	53		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
27	57	54		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
28	67	64		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
29	68	65		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
30	69	66		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

32	72	73	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
33	76	77	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
34	80	81	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
49	107	108	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
50	111	112	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
51	109	110	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
52	82	85	L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
53	105	102	L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
54	97	93	L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	90.00	0	0.00	0.00	0.00
5	90.00	0	0.00	0.00	0.00
6	90.00	0	0.00	0.00	0.00
7	180.00	0	0.00	0.00	0.00
8	180.00	0	0.00	0.00	0.00
9	180.00	0	0.00	0.00	0.00
22	0.00	2	-1.00	0.00	0.00
23	0.00	2	-1.00	0.00	0.00
24	0.00	2	-1.00	0.00	0.00
25	0.00	2	-1.00	0.00	0.00
26	0.00	2	-1.00	0.00	0.00
27	0.00	2	-1.00	0.00	0.00
28	0.00	2	-1.00	0.00	0.00
29	0.00	2	-1.00	0.00	0.00
30	0.00	2	-1.00	0.00	0.00
32	0.00	2	-1.00	0.00	0.00
33	0.00	2	1.00	0.00	0.00
34	0.00	2	1.00	0.00	0.00
52	180.00	0	0.00	0.00	0.00
53	90.00	0	0.00	0.00	0.00
54	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]
1	0.00	3.50	0.00	0.00	3.50	0.00
5	0.00	3.50	0.00	0.00	3.50	0.00
6	0.00	3.50	0.00	0.00	3.50	0.00

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G 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:	

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

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

SITE NUMBER: CT1117
SITE NAME: NEW HARTFORD NEPAUG
ATC SITE # ID: 411182

20 ANTOLINI ROAD
NEW HARTFORD, CT 06057
LITCHFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/23/19	ISSUED FOR CONSTRUCTION	ET	AT	DPH
A	09/03/19	ISSUED FOR REVIEW	ET	AT	DPH

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

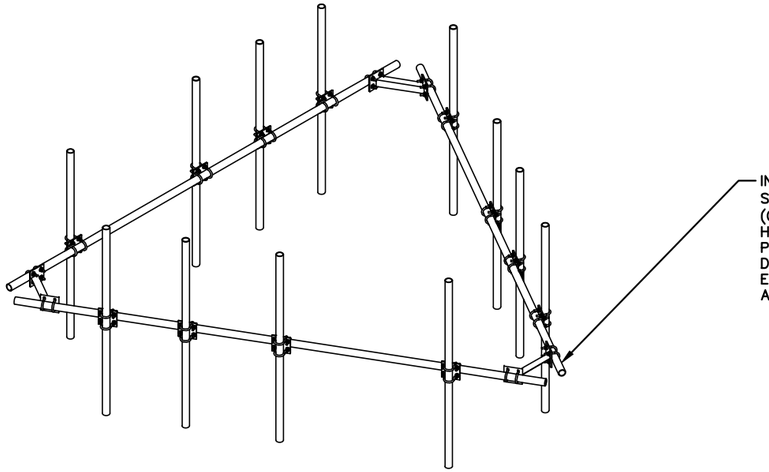
STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

STRUCTURAL NOTES

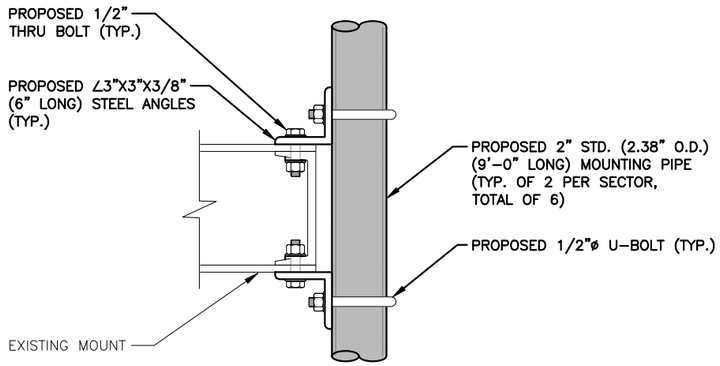
LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1117	SN-1	1



INSTALL NEW HANDRAIL KIT SITE PRO 1 PART# HRK12 (OR APPROVED EQUAL). HANDRAIL KIT IS REQUIRED PER AT&T TECHNICAL DIRECTIVE TO STABILIZE EXISTING CATILEVERED ANTENNAS

PROPOSED HRK12 DETAIL (1 / S-1)
SCALE: N.T.S



CONNECTION DETAIL (4 / S-1)
22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"

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

NOTE:

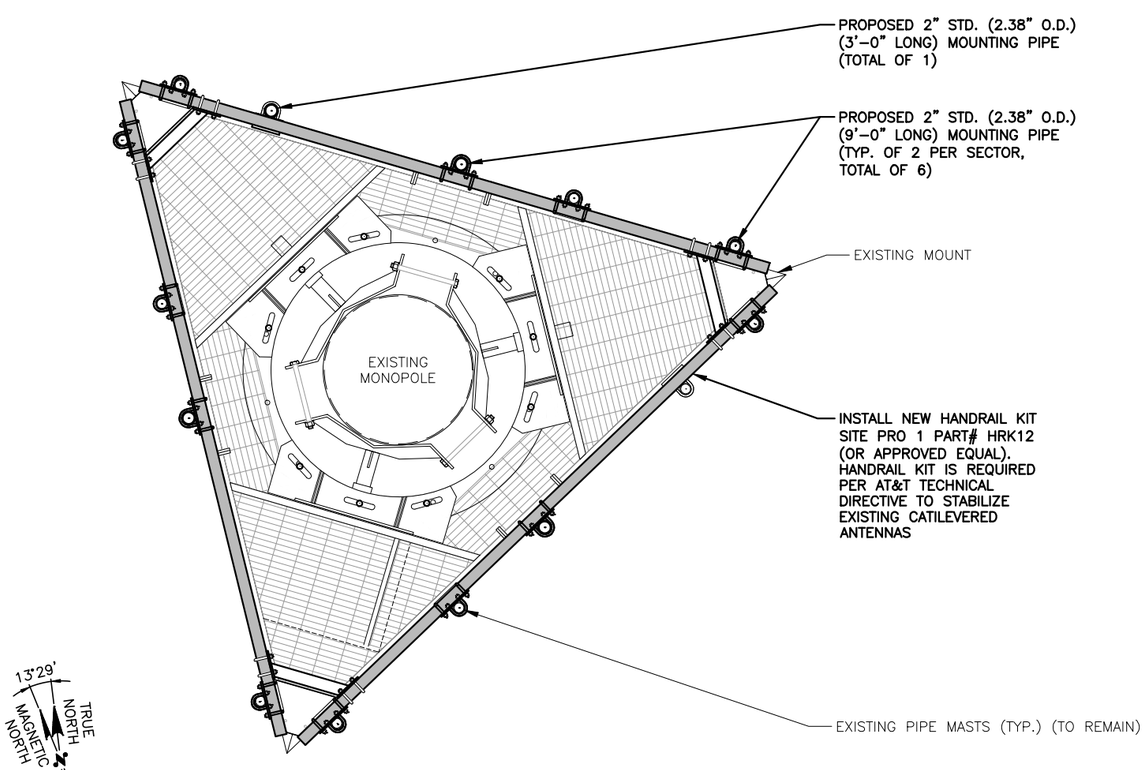
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

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: AUGUST 28, 2019

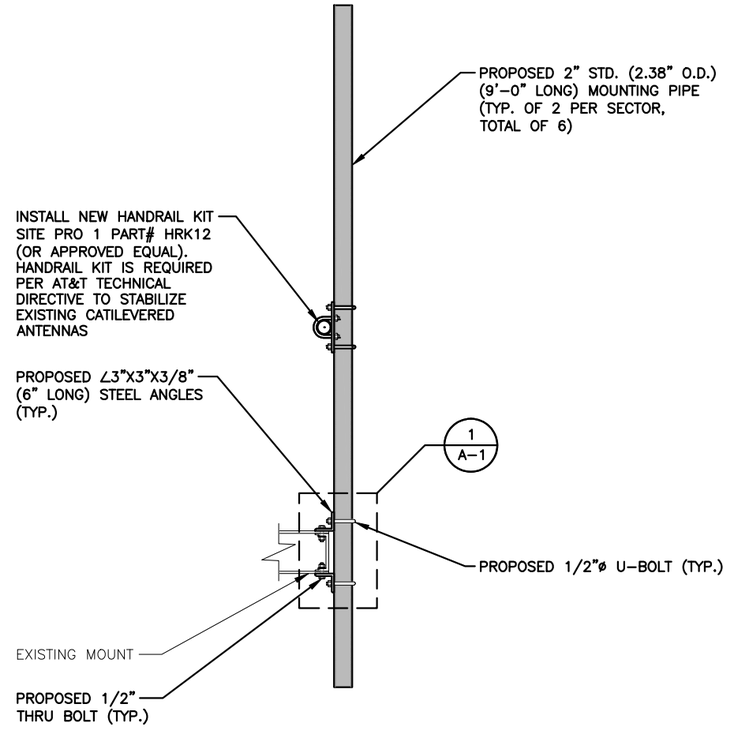
NOTE:

ALL ANTENNAS AND LINES TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY AMERICAN TOWER CORP. AND FINAL AT&T RF DATA SHEET.



PROPOSED MOUNT MODIFICATIONS PLAN (2 / S-1)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

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



PROPOSED MOUNT MODIFICATIONS DETAIL (3 / S-1)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

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

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

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

SITE NUMBER: CT1117
SITE NAME: NEW HARTFORD NEPAUG
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20 ANTOLINI ROAD
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LITCHFIELD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
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NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/23/19	ISSUED FOR CONSTRUCTION	ET	AT	DPH
A	09/03/19	ISSUED FOR REVIEW	ET	AT	DPH

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

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

AT&T

MOUNT MODIFICATION DESIGN
LTE 2C_3C_4C_5C_RETRO 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1117	S-1	1

EXHIBIT 5

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT1117

New Hartford NEPAUG
20 Antolini Road

New Hartford, CT 06057

September 16, 2019

Centerline Communications Project Number: 950012-281

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**21.83 %**

September 16, 2019

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

Emissions Analysis for Site: **CT1117 – New Hartford NEPAUG**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **20 Antolini Road in New Hartford, Connecticut** for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **20 Antolini Road in New Hartford, Connecticut**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

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

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

Table 1: Channel Data Table

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

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave 7770	82
A	2	CCI DMP65R-BU6DA	82
A	3	CCI DMP65R-BU6DA	82
B	1	Powerwave 7770	82
B	2	CCI DMP65R-BU6DA	82
B	3	CCI DMP65R-BU6DA	82
C	1	Powerwave 7770	82
C	2	CCI DMP65R-BU6DA	82
C	3	CCI DMP65R-BU6DA	82

Table 2: Antenna Data

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

RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX	ERP (W)	MPE %
Antenna A1	Powerwave 7770	850 MHz	11.5 dBd	2	60	847.52	0.80
Antenna A2	CCI DMP65R-BU6DA	700 MHz / 2100 MHz	11.05 dBd / 14.75 dBd	8	32.0	6,814.22	4.89
Antenna A3	CCI DMP65R-BU6DA	1900 MHz / 700 MHz / 850 MHz / 1900 MHz / 850 MHz	14.75 dBd / 11.05 dBd / 11.55 dBd / 14.95 dBd / 11.55 dBd	14	530	12,654.7	8.15
						Sector A Composite MPE%	**13.83**
Antenna B1	Powerwave 7770	850 MHz	11.5 dBd	2	60	847.52	0.80
Antenna B2	CCI DMP65R-BU6DA	700 MHz / 2100 MHz	11.05 dBd / 14.75 dBd	8	32.0	6,814.22	4.89
Antenna B3	CCI DMP65R-BU6DA	1900 MHz / 700 MHz / 850 MHz / 1900 MHz / 850 MHz	14.75 dBd / 11.05 dBd / 11.55 dBd / 14.95 dBd / 11.55 dBd	14	530	12,654.7	8.15
						Sector B Composite MPE%	**13.83**
Antenna C1	Powerwave 7770	850 MHz	11.5 dBd	2	60	847.52	0.80
Antenna C2	CCI DMP65R-BU6DA	700 MHz / 2100 MHz	11.05 dBd / 14.75 dBd	8	32.0	6,814.22	4.89
Antenna C3	CCI DMP65R-BU6DA	1900 MHz / 700 MHz / 850 MHz / 1900 MHz / 850 MHz	14.75 dBd / 11.05 dBd / 11.55 dBd / 14.95 dBd / 11.55 dBd	14	530	12,654.7	8.15
						Sector C Composite MPE%	**13.83**

Table 3: AT&T Emissions Levels

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

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max Per Sector Value	**13.83 %**
T-Mobile	1.22%
Verizon	2.26%
Nextel	0.74%
South End Fire Dist.	0.74%
Sprint	2.47%
Metro PCS	0.57%
Site Total MPE %:	**21.83 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	13.83 %
AT&T Sector B Total:	13.83 %
AT&T Sector C Total:	13.83 %
Site Total:	21.83 %

Table 5: Site MPE Summary

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

AT&T _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($i.tW/cm^2$)	Frequency (MHz)	Allowable MPE ($i.tW/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	423.76	82.0	4.53	850 MHz UMTS	567	0.80%
AT&T 700 MHz LTE	4	509.40	82.0	10.89	700 MHz LTE	467	2.33%
AT&T 2100 MHz LTE AWS	4	1194.15	82.0	25.54	2100 MHz LTE AWS	1000	2.55%
AT&T 1900 MHz LTE	4	1194.15	82.0	25.54	1900 MHz LTE	1000	2.55%
AT&T 700 MHz LTE	2	509.40	82.0	5.45	700 MHz LTE	467	1.17%
AT&T 850 MHz LTE	2	571.56	82.0	6.11	850 MHz LTE	567	1.08%
AT&T 1900 MHz LTE	4	1250.43	82.0	26.74	1900 MHz LTE	1000	2.67%
AT&T 850 MHz 5G	2	357.22	82.0	3.82	850 MHz 5G	567	0.67%
						Total:	**13.83%**

Table 6: AT&T Maximum Sector MPE Power Values

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	13.83 %
Sector B:	13.83 %
Sector C:	13.83 %
AT&T Maximum Total (per sector):	13.83 %
Site Total:	21.83 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **21.83 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Ryan McManus
Senior RF EME Compliance Manager
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Raynham, MA 02767

EXHIBIT 6

Filing Guides
Meetings & Minutes
Public Participation
Audio Link to New Britain Hearing Rooms
Programs & Services
Telecommunications Database
Maps
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Other Resources
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Electric Transmission Upgrade Projects
Frequently Asked Questions

Melanie Bachman,
Executive Director

DOCKET NO. 184 - An application by Litchfield Acquisition Corporation d/b/a AT&T Wireless Services for a Certificate of Environmental Compatibility and Public Need for construction, maintenance, and operation of a telecommunications tower and associated equipment located at 670 Town Hill Road, or approximately 700 feet southeast from the intersection of Routes 219 and 202 on South End Fire District property, New Hartford, Connecticut.

Connecticut Siting Council

June 25, 1998

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 site in New Hartford, 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 Litchfield Acquisition Corporation d/b/a AT&T Wireless Services (AT&T) for the construction, operation, and maintenance of a telecommunications tower, associated equipment, and buildings at the proposed alternate site, 20 Antolini Road, in the Town of New Hartford, 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 AT&T, Springwich Cellular Limited Partnership (Springwich), Nextel Communications of the Mid-Atlantic, Inc. (Nextel), South End Fire District, and other entities, both public and private, but such tower shall not exceed a height of 115 feet above ground level (AGL).

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, tower foundation, antennas, architecturally-treated equipment buildings, 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 the tower finish to maintain a blue/gray color; landscaping plan; and provisions for the prevention and containment of spills and/or other discharge into surface water and groundwater bodies.

3. The Certificate Holder shall provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall provide a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

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

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

6. If the facility does not initially provide, or permanently ceases to provide cellular 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 ceases 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 and Litchfield County Times.

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

Litchfield Acquisition Corporation d/b/a AT&T Wireless Services

Its Representative

Douglas A. Cohen, Esq.
Brown, Rudnick, Freed & Gesmer, P.C.
185 Asylum Street, CityPlace I
Hartford, CT 06103-3402 (860) 509-6511

Mitchell Holmgren
Site Development Coordinator AT&T Wireless Services
15 East Midland Avenue
Paramus, NJ 07652 (201) 967-3130

Intervenor

Springwich Cellular Limited Partnership

Its Representative

Peter J. Tyrrell, Senior Counsel
Springwich Cellular Limited Partnership
500 Enterprise Drive
Rocky Hill, CT 06067-3900 (860) 513-7673

Intervenor

Nextel Communications of the Mid-Atlantic, Inc. d/b/a Nextel Communications

Its Representative

Christopher B. Fisher
Cuddy, Feder & Worby
90 Maple Avenue
White Plains, NY 10601-5196 (914) 761-1300

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Melanie Bachman,
Executive Director

Decisions

Docket 184A: Decision and Order

DOCKET NO. 184A - Sprint Spectrum, L.P. d/b/a Sprint PCS and Litchfield Acquisition Corporation d/b/a AT&T Wireless Services amendment to the Certificate of Environmental Compatibility and Public Need for the existing telecommunications facility located at 20 Antolini Road, New Hartford, Connecticut.	}	Connecticut
	}	Siting
	}	Council
	}	May 7, 2002

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the extension of a telecommunications tower and installation of associated equipment at the existing facility located at 20 Antolini Road, New Hartford, 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 amendment to the Certificate; therefore, the Council directs that an amended Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Sprint Spectrum L.P. d/b/a Sprint PCS and Litchfield Acquisition Corporation d/b/a AT&T Wireless Services (AT&T) for the extension of a telecommunications tower, and installation of associated equipment at 20 Antolini Road, in the Town of New Hartford, Connecticut.

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

1. The tower extension shall be compatible with and installed on the existing monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint, AT&T, SNET, Nextel, South End Fire District, and other entities, both public and private, but such tower shall not exceed a height of 145 feet above ground level (AGL).
2. Relocation of antennas and supporting appurtenances by AT&T, SNET, Nextel and South End Fire District shall be permitted and subject to Council approval through Section 3 of this Decision and Order.
3. 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 specifications for the tower extension, location of antennas, security fence, site clearing, and erosion and sedimentation controls consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; provisions for the tower finish to maintain a blue/gray color; and provisions for the prevention and containment of spills and/or other discharge into surface water and groundwater bodies.
4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall provide electromagnetic radio frequency power density measurements within sixty days following the installation of all antennas and commencement of commercial operation.
6. 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 those levels originally calculated and provided in the application.
7. 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.
8. Following completion of construction, if the facility permanently ceases to provide wireless services, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all

associated equipment within sixty days, or reapply for any continued or new use to the Council, before any such use is made.

9. Any antenna that becomes obsolete and ceases to function shall be removed within sixty days after such antennas become obsolete and cease to function.
10. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statute § 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.

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	
Sprint Spectrum, d/b/a Sprint PCS	Julie M. Donaldson, Esq. Hurwitz & Sagarin, LLC 147 N. Broad Street Milford, CT 06460
Litchfield Acquisition Corporation d/b/a AT&T Wireless Services	Christopher B. Fisher, Esq. Cuddy, Feder & Worby 90 Maple Avenue White Plains, NY 10601-5196

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