



March 1<sup>st</sup>, 2019

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

**Re:** Notice of Exempt Modification – Antenna and RRU Swap/Add  
**Property Address:** 331 Killingworth Rd (Rt 80), Guilford, CT 06437  
**Applicant:** AT&T Mobility, LLC

Dear Ms. Bachman:

On behalf of AT&T, please accept this application 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).

AT&T currently maintains a wireless telecommunications facility consisting of six (6) wireless telecommunication antennas at an antenna center line height of 149 feet on an existing 153-foot lattice tower, owned by SBA Towers IV, LLC, 5901 Broken Sound Parkway NW, 2<sup>nd</sup> Floor, Boca Raton, FL 33487. AT&T now intends to swap/add equipment as follows:

Alpha and Beta sectors: Swap (2) existing KMW AM-X-CD-16-65 Panel Antennas in position 1 for (2) CCI HPA-65R-BU6AA Panel Antennas, add (2) CCI HPA-65R-BU6AA Panel Antennas in position 2, relocate (2) Powerwave 7770 Panel Antennas from position 3 to position 4, add (2) Kathrein 800-10965 Panel Antennas in position 3, swap (2) existing RRUS-11's in position 1 for (2) 8843 B2/B66 RRU's, relocate (2) LGP21401 TMA's from position 3 to position 4, and add (2) 4449 B5/B12 RRU's and (2) 4415 B30 RRU's mounted back-to-back in position 3.

Gamma sector: Add (1) CCI HPA-65R-BU6AA Panel Antenna in position 2, swap (1) existing KMW AM-X-CD-16-65 Panel Antenna in position 3 for (1) CCI HPA-65R-BU6AA Panel Antenna, add (1) Kathrein 800-10965 Panel Antenna in position 4, add (1) 8843 B2/B66 RRU in position 2, remove (1) RRUS-12 in position 3, and add (1) 4449 B5/B12 RRU and (1) 4415 B30 RRU mounted back-to-back in position 4.

Additionally, AT&T plans to add (1) DC/Fiber Squid, (1) DC-only Squid, (1) Fiber line and (4) DC cables. All the proposed changes will take place at the existing antenna centerline of 149 feet.

Attached is a summary of the planned modifications including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

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

Matthew Hoey – First Selectman, Town of Guilford at 31 Park St, Guilford, CT 06437  
George Kral – Planning and Zoning Chairman, Town of Guilford at 31 Park St, Guilford, CT 06437  
Kathleen Acampora – Property Owner, at 331 Rt 80, Guilford, CT 06437  
SBA Towers IV, LLC – Structure Owner, at 5901 Broken Sound Pkwy NW, 2<sup>nd</sup> Floor, Boca Raton, FL 33487

The following is a list of subsequent decisions by the Connecticut Siting Council:

- **EM-AT&T-060-021001** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 331 Killingworth Road (Route 80), Guilford, Connecticut.
- **EM-CING-060-080723** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 331 Killingworth Road, Guilford, Connecticut.

85 Rangeway Road • Building 3, Suite 102 • North Billerica, MA 01862  
p: 978-215-9990 • f: 443.221.2962  
[www.smartlinkllc.com](http://www.smartlinkllc.com)



- **EM-CING-060-081024** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 331 Killingworth Road, Guilford, Connecticut.
- **EM-AT&T-060-121228** – AT&T Mobility notice of intent to modify an existing telecommunications facility located at 331 Killingworth Road, Guilford, Connecticut.
- **EM-AT&T-060-170329** – AT&T notice of intent to modify an existing telecommunications facility located at 331 Killingworth Road, Guilford, Connecticut.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b) (2).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's additional antennas will be installed at the 149-foot level of the 153-foot lattice tower.
2. The proposed modifications will involve changes to ground-mounted equipment, however these changes will not require an extension of the site boundary.
3. The proposed modifications will not increase the 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 (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in Tab 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).

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

Sincerely,

Ryan Burgdorfer



**Ryan Burgdorfer | Real Estate Specialist**

**Smartlink**

(m) 508.665.8005

CC w/enclosures:

Matthew Hoey – First Selectman, Town of Guilford

George Kral – Planning and Zoning Chairman, Town of Guilford

Kathleen Acampora – Property Owner

SBA Towers IV, LLC – Structure Owner

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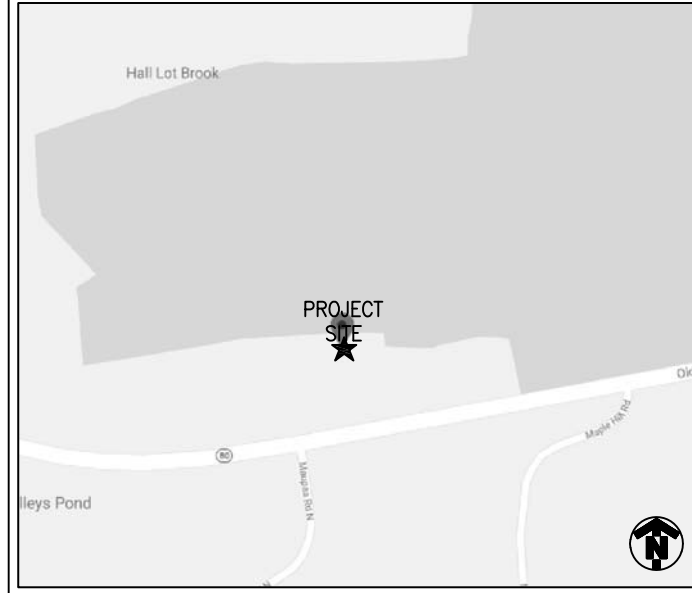
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**DRIVING DIRECTIONS**

FROM 550 COCHITUATE RD.:

HEAD NORTHEAST TOWARD LEGGATT MCCALL CONN. TURN LEFT ONTO LEGGATT MCCALL CONN. CONTINUE ONTO BURR STREET. TURN LEFT ONTO COCHITUATE ROAD. USE THE RIGHT LANE TO TAKE THE RAMP TO I-90 EAST/MASSPIKE WEST/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR I-90 WEST/MASSACHUSETTS TURNPIKE/WORCESTER/SPRINGFIELD AND MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. USE THE RIGHT 2 LANES TO TAKE EXIT 11A TO MERGE ONTO I-495 NORTH. TAKE EXIT 23B TO MERGE ONTO MA-9 WEST TOWARD WORCESTER. MERGE ONTO MA-9 WEST. USE THE RIGHT LANE TO MERGE ONTO US-20 WEST/HWY 20 WEST VIA THE RAMP TO AUBURN. TAKE THE MA-122 EXIT. TURN RIGHT ONTO MA-122 SOUTH/GRAFTON STREET. TURN RIGHT. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-90 WEST/SPRINGFIELD/ALBANY AND MERGE ONTO I-90 WEST. MERGE ONTO I-90 WEST. USE THE RIGHT 2 LANES TO TAKE EXIT 9 FOR I-84 TOWARD US-20/HARTFORD/NEW YORK CITY. CONTINUE ONTO I-84. USE THE LEFT 2 LANES TO TAKE EXIT 57 FOR CT-15 SOUTH TOWARD I-91 SOUTH/CHARTER OAK BRIDGE/N.Y. CITY. CONTINUE ONTO CT-15 SOUTH. CONTINUE ONTO CT-15 SOUTH/US-5 SOUTH. TAKE EXIT 86 TO MERGE ONTO I-91 SOUTH TOWARD NEW HAVEN/NEW YORK CITY. USE THE LEFT LANE TO TAKE EXIT 22S TO MERGE ONTO CT-9 SOUTH TOWARD MIDDLETOWN/OLD SAYBROOK. TAKE EXIT 13 FOR STATE ROUT 17 TOWARD NEW HAVEN. CONTINUE ONTO CT-17 SOUTH. TURN LEFT ONTO CT-79 SOUTH/MADISON ROAD. AT THE TRAFFIC CIRCLE, TAKE THE 1ST EXIT ONTO CT-80 WEST.

**LOCATION MAP**



PROJECT  
**LTE 3C/4C/5C/RETROFIT**  
SITE NAME  
**GUILDFORD EAST**

CELL SITE ID  
**CTL05641**  
FA SITE NUMBER  
**10071055**  
PACE ID  
MRCTB035166/MRCTB035212/MRCTB035185  
MRCTB035359/MRCTB035362

SITE ADDRESS  
**331 KILLINGWORTH ROAD  
GUILFORD, CT 06437**  
STRUCTURE TYPE  
**SELF SUPPORT**

**PROJECT TEAM**

**PROJECT MANAGER**

1033 Watervliet Shaker Rd  
Albany, NY 12205  
Office # (518) 690-0790  
Fax # (518) 690-0793  
**ENGINEER**

**SCOPE OF WORK (PER LTE RFDS, DATED: 02/12/2019, V3.00):**

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

**TOWER SCOPE**

- REMOVE (3) PANEL ANTENNAS
- INSTALL (9) PANEL ANTENNAS
- REMOVE (3) RRUS-11
- REMOVE (3) RRUS-12
- INSTALL (3) B5/B12 4449
- INSTALL (3) B2/B66A 8843
- INSTALL (3) 4415 B30
- INSTALL (1) DC/FIBER DC6-48-60-18-8C-EV AND (1) DC ONLY DC6-48-60-0-8C-EV W/ (1) FIBER AND (4) DC CABLES

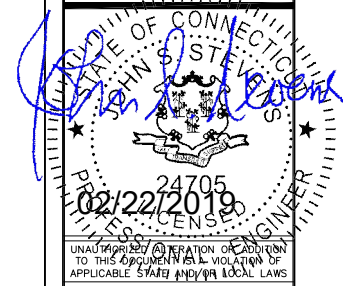
**GROUND SCOPE**

- SWAP BB WITH 6630
- ADD XMU
- ADD 2ND 6630
- INSTALL FIBER MANAGEMENT BOX
- INSTALL DC12

**PROJECT SUMMARY**

SITE NAME:	GUILDFORD EAST	
CELL SITE ID:	CTL05641	
FA SITE #:	10071055	
SITE ADDRESS:	331 KILLINGWORTH ROAD GUILDFORD, CT 06437	
COUNTY:	NEW HAVEN	
SITE COORDINATES:		
LATITUDE:	41.3531919° N	(NAD 83)
LONGITUDE:	72.689289° W	(NAD 83)
ELEVATION:	±284'	(AMSL)
RAD CENTER:	±149'	(AGL)
LANDLORD:	SBA COMMUNICATIONS CORP. 8051 CONGRESS AVENUE BOCA RATON, FL 33487	
APPLICANT:	AT&T MOBILITY 550 COCHITUATE RD. FRAMINGHAM, MA 01701	
CLIENT REPRESENTATIVE:	SMARTLINK, LLC 85 RANGEWAY RD. SUITE 102 NORTH BILLERICA, MA 01862	
CONTACT:	ED WEISSMAN (917) 528-1857	
ENGINEER:	INFINIGY 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205	
CONTACT:	ALEX WELLER (518) 690-0790	
BUILDING CODE:	CT BUILDING CODE UNIFORM BUILDING CODE BUILDING OFFICIALS & CODE ADMINISTRATORS UNIFORM MECHANICAL CODE UNIFORM PLUMBING CODE LOCAL BUILDING CODE CITY/COUNTY ORDINANCES	
ELECTRICAL CODE:	NATIONAL ELECTRICAL CODE (LATEST EDITION)	

INFINIGY ENGINEERING, PLLC  
1033 Watervliet Shaker Rd  
Albany, NY 12205  
Office # (518) 690-0790  
Fax # (518) 690-0793



No.	Submittal / Revision	App'd	Date
2	REVISED FOR PERMIT	BMM	02/22/19
1	ISSUED FOR PERMIT	BMM	02/01/19
0	ISSUED FOR REVIEW	BMM	01/02/19

Drawn: BMM Date: 01/02/19  
Designed: ASW Date: 01/02/19  
Checked: AD Date: 01/02/19

Project Number:  
1106-A0001-C

Project Title:  
**GUILDFORD EAST**  
CTL05641  
FA# 10071055  
331 KILLINGWORTH ROAD  
GUILDFORD, CT 06437

Prepared For:

Drawing Scale:  
AS NOTED  
Date:  
02/22/19

Drawing Title  
**TITLE PAGE**

Drawing Number  
**T1**

# GENERAL NOTES

## PART 1 – GENERAL REQUIREMENTS

- 1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
  - A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
  - B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
  - C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
  - D. AND NFPA 101 (LIFE SAFETY CODE).
  - E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
  - F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).
- 1.2 DEFINITIONS:
  - A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
  - B. COMPANY: AT&T CORPORATION
  - C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
  - D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
  - E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.
- 1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.
- 1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.
- 1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
  - A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.
- 1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.
- 1.7 NOTICE TO PROCEED:
  - A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
  - B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE AT&T WITH AN OPERATIONAL WIRELESS FACILITY.

## PART 2 – EXECUTION

- 2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.
- 2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.
- 2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HERewith, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

- 2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
  - A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY AT&T TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.
- 2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.
- 2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

## PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

- 3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR AT&T PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
  - A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
  - B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
  - C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
  - D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO AT&T OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
  - E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
  - F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

## PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

- 4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.
- 4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
- 4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
  - A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
  - B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
- 4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.
- 4.5 CONDUCT TESTING AS REQUIRED HEREIN.

## PART 5 – TESTS AND INSPECTIONS

- 5.1 TESTS AND INSPECTIONS:
  - A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
  - B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
  - C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
  - D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
  - E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.

- F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
- G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

## PART 6 – TRENCHING AND BACKFILLING

- 6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.
  - A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.
  - B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.
  - C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
  - D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.
  - E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.
  - F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.
  - G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
	TRANSFORMER
	KILOWATT HOUR METER
	JUNCTION BOX
	PULL BOX TO NEC/TELCO STANDARDS
-----	UNDERGROUND UTILITIES
	EXOTHERMIC WELD CONNECTION
	MECHANICAL CONNECTION
	GROUND ROD
	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	120AC DUPLEX RECEPTACLE
	GROUND CONDUCTOR
	DC POWER AND FIBER OPTIC TRUNK CABLES
	DC POWER CABLES

REPRESENTS DETAIL NUMBER  
 REF. DRAWING NUMBER

## ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL

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Designed:	ASW	Date:	01/02/19
Checked:	AB	Date:	01/02/19
Project Number:			
1106-A0001-C			

Project Title:  
**GUILDFORD EAST**  
 CTL05641  
 FA# 10071055  
 331 KILLINGWORTH ROAD  
 GUILDFORD, CT 06437

Prepared For:

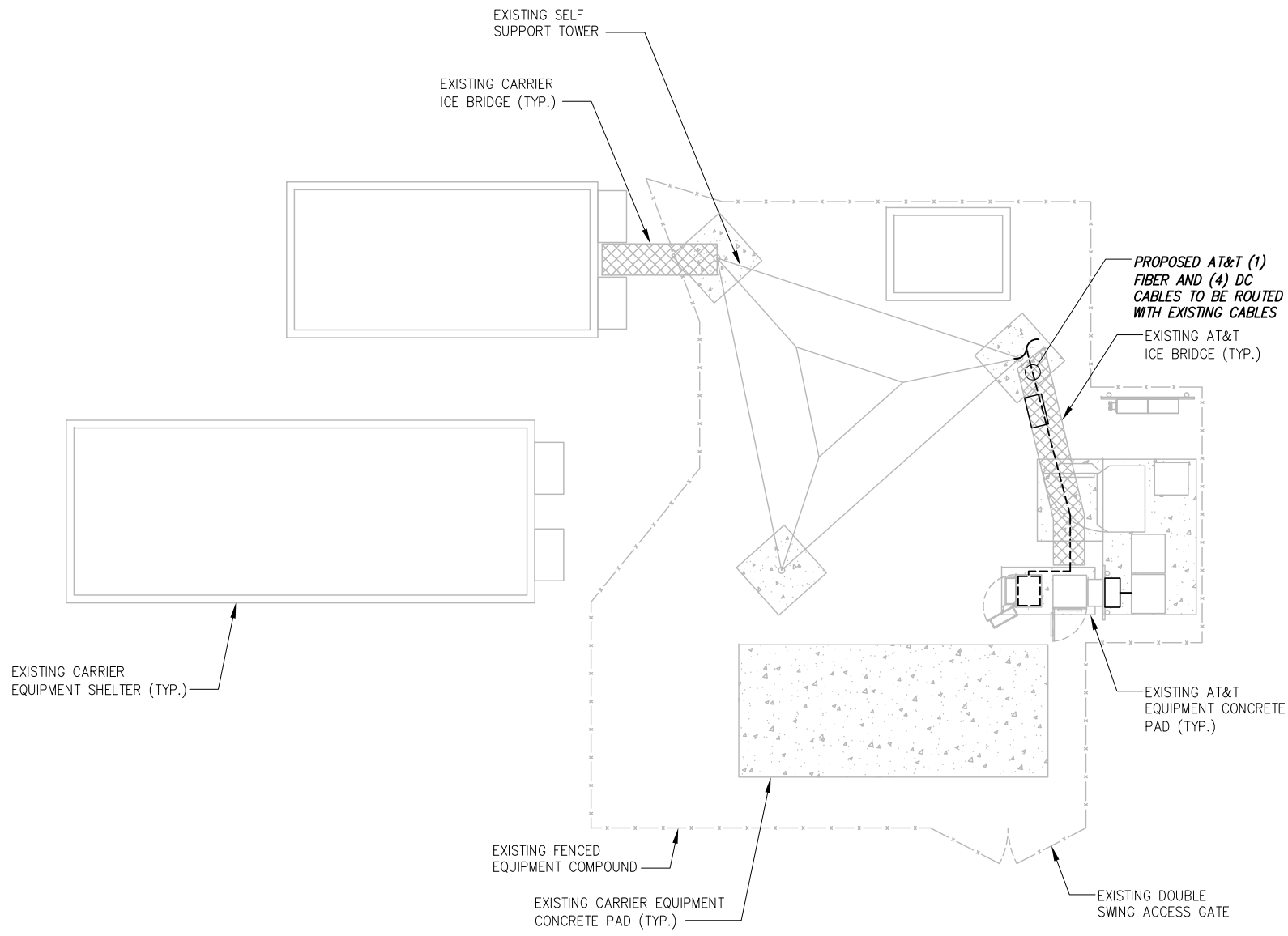


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Date:	02/22/19

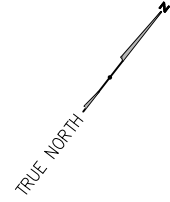
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Drawing Title:  
**GENERAL NOTES**

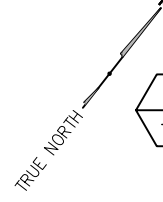
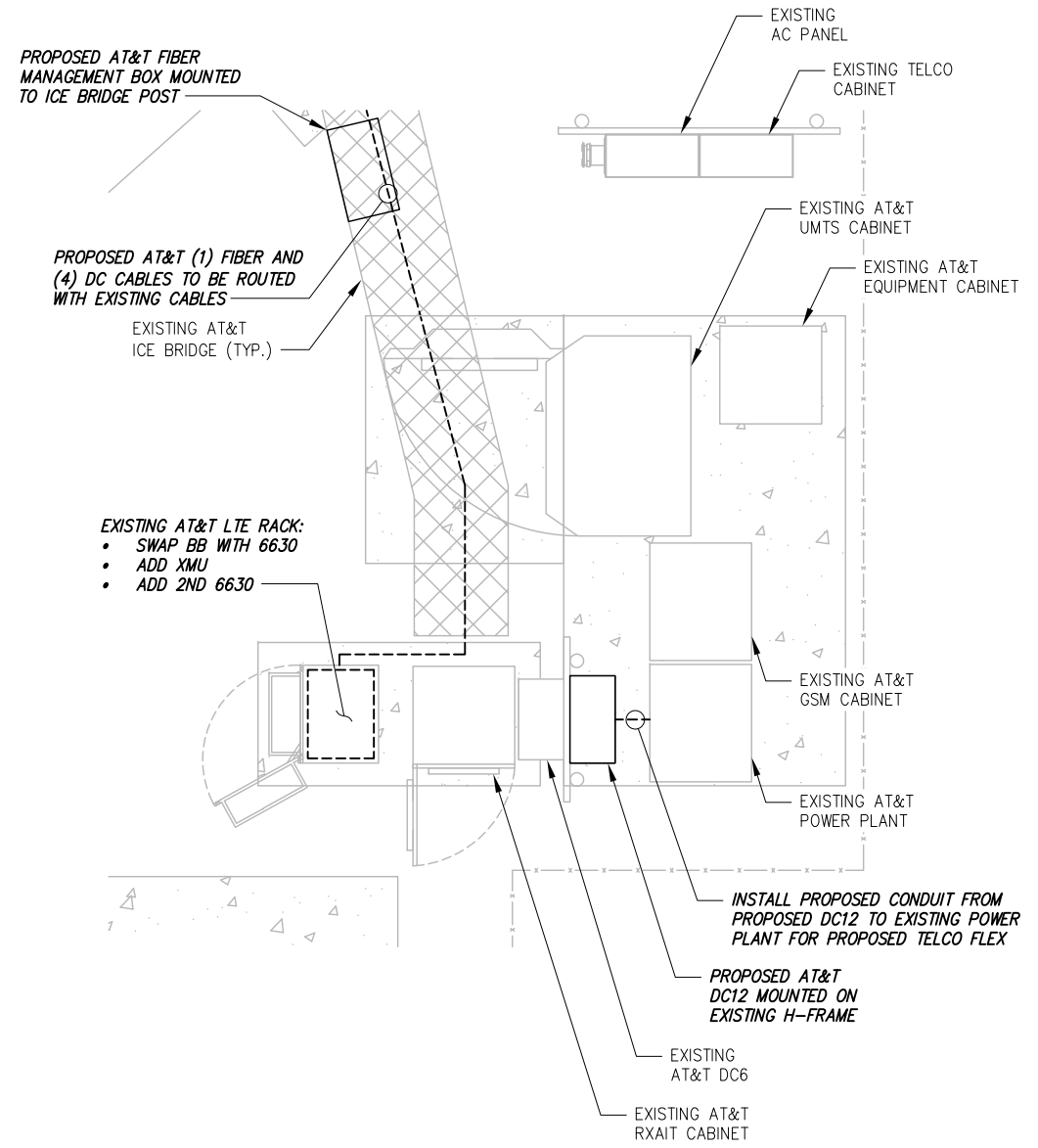
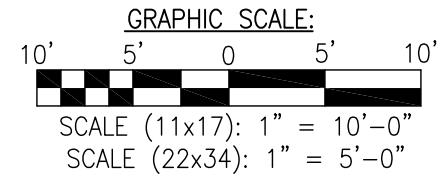
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**C1**



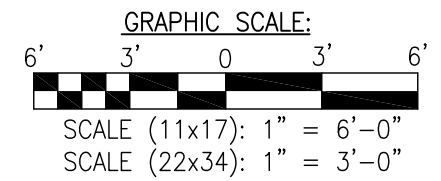
BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING ON 06/22/18 AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.



**1** SITE PLAN  
SCALE: AS NOTED

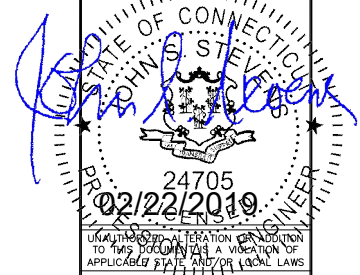


**2** ENLARGED EQUIPMENT PLAN  
SCALE: AS NOTED



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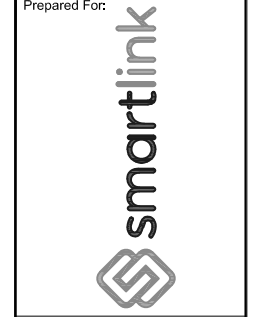


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FA# 10071055  
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GUILDFORD, CT 06437



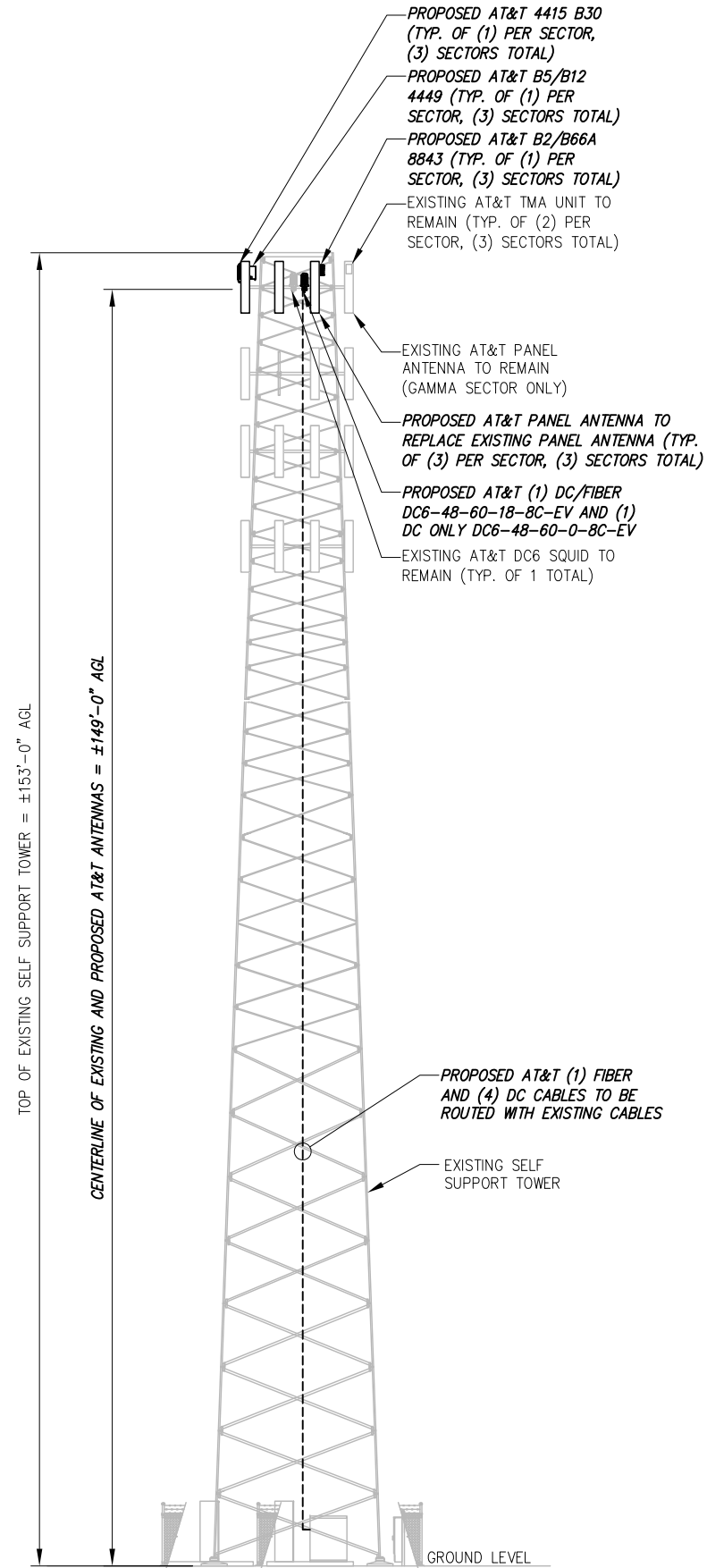
Drawing Scale: AS NOTED

Date: 02/22/19

**CD**

Drawing Title: **OVERALL & ENLARGED SITE PLAN**

Drawing Number: **C2**



**NOTE:**

- INFINIGY ENGINEERING HAS NOT EVALUATED THE TOWER LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSIS.
- FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNT, SEE 'MOUNT ANALYSIS REPORT' COMPLETED BY INFINIGY, DATED 01/07/19.

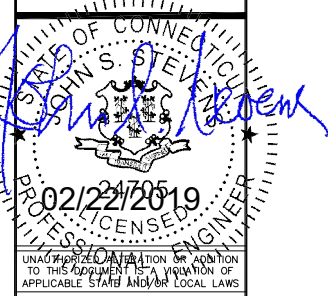
**SEPARATION NOTE:**

- 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNA
- 6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE

FINAL ANTENNA CONFIGURATION & CABLE SCHEDULE BASED ON LTE RFDS DATED 02/12/19, V 3.00

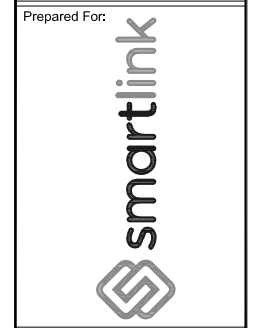
SECTOR	ANTENNA POSITION	ANTENNA STATUS & TECHNOLOGY	ANTENNA MANF/MODEL	TMA/DIPLEXER	RRUS	AZIMUTH	ANTENNA CL HEIGHT	CABLE FEEDER		RAYCAP UNIT
								TYPE	LENGTH	
ALPHA	A-1	(P) LTE 1900	CCI HPA-65R-BU6AA	--	(1) (P) B2/B66A 8843	60°	±149'	(2) (E) 1-5/8" COAX	±175'	(1) (E) DC6 'SQUID' (1) (P) DC6-48-60-18-8C-EV (1) (P) DC6-48-60-0-8C-EV
	A-2	(P) LTE AWS	CCI HPA-65R-BU6AA	--	--	60°	±149'	(1) (E) FIBER CABLE (2) (E) DC CABLES	--	
	A-3	(P) LTE 700/850/WCS /5G 850	KATHREIN 800-10965	--	(1) (P) B5/B12 4449 (1) (P) 4415 B30	60°	±149'	SEE A-2 FOR CABLE INFORMATION	--	
	A-4	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	70°	±149'	SEE A-2 FOR CABLE INFORMATION	--	
BETA	B-1	(P) LTE 1900	CCI HPA-65R-BU6AA	--	(1) (P) B2/B66A 8843	170°	±149'	(2) (E) 1-5/8" COAX	±175'	
	B-2	(P) LTE AWS	CCI HPA-65R-BU6AA	--	--	170°	±149'	(1) (P) FIBER CABLE (4) (P) DC CABLES	--	
	B-3	(P) LTE 700/850/WCS /5G 850	KATHREIN 800-10965	--	(1) (P) B5/B12 4449 (1) (P) 4415 B30	170°	±149'	SEE A-2 FOR CABLE INFORMATION	--	
	B-4	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	180°	±149'	SEE A-2 FOR CABLE INFORMATION	--	
GAMMA	G-1	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	280°	±149'	(2) (E) 1-5/8" COAX	±175'	
	G-2	(P) LTE 1900	CCI HPA-65R-BU6AA	--	(1) (P) B2/B66A 8843	300°	±149'	SEE A-2 FOR CABLE INFORMATION	--	
	G-3	(P) LTE AWS	CCI HPA-65R-BU6AA	--	--	300°	±149'	SEE A-2 FOR CABLE INFORMATION	--	
	G-4	(P) LTE 700/850/WCS /5G 850	KATHREIN 800-10965	--	(1) (P) B5/B12 4449 (1) (P) 4415 B30	300°	±149'	SEE A-2 FOR CABLE INFORMATION	--	

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 FA# 10071055  
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 GUILDFORD, CT 06437



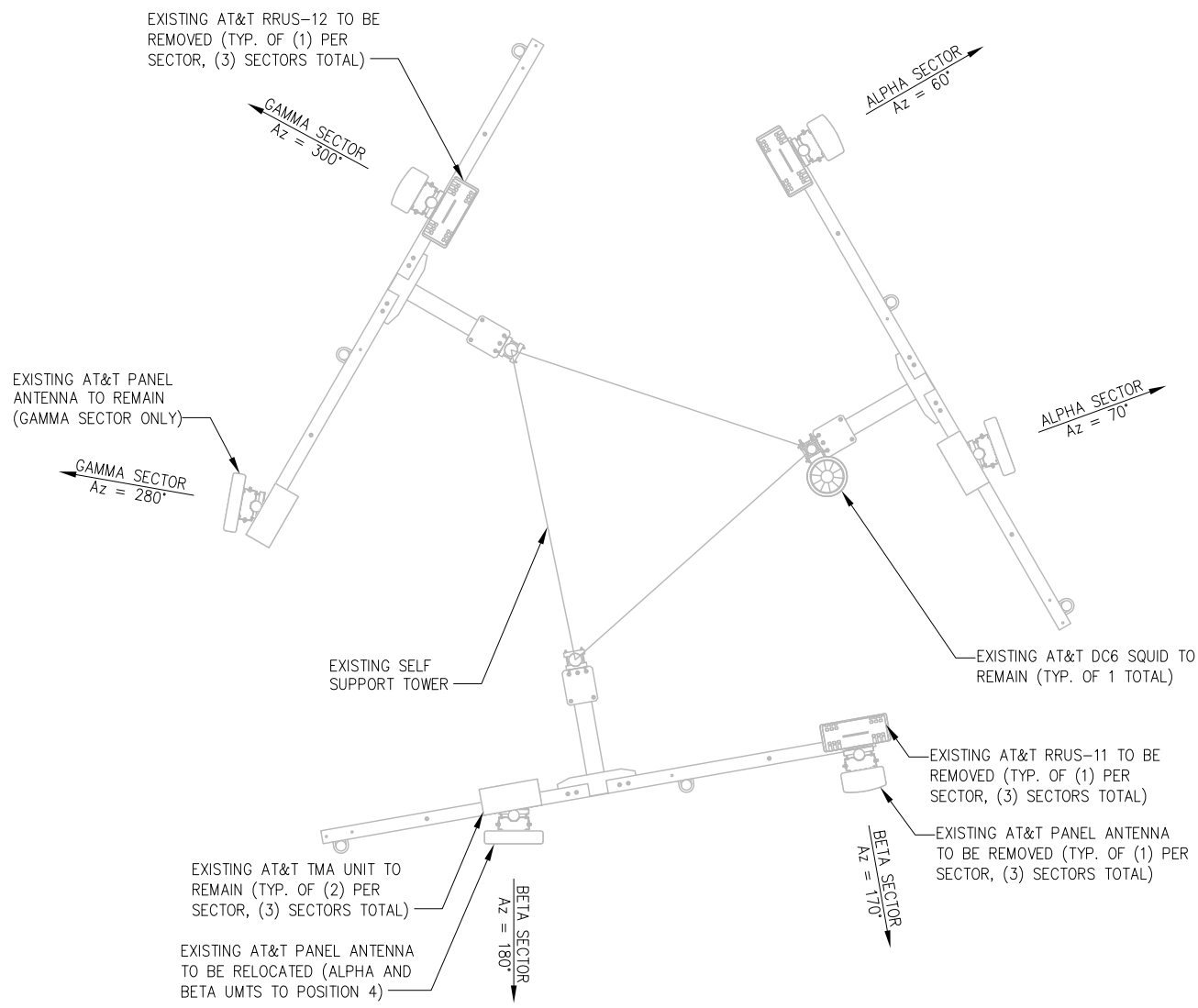
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Drawing Title:  
**ELEVATION VIEW**

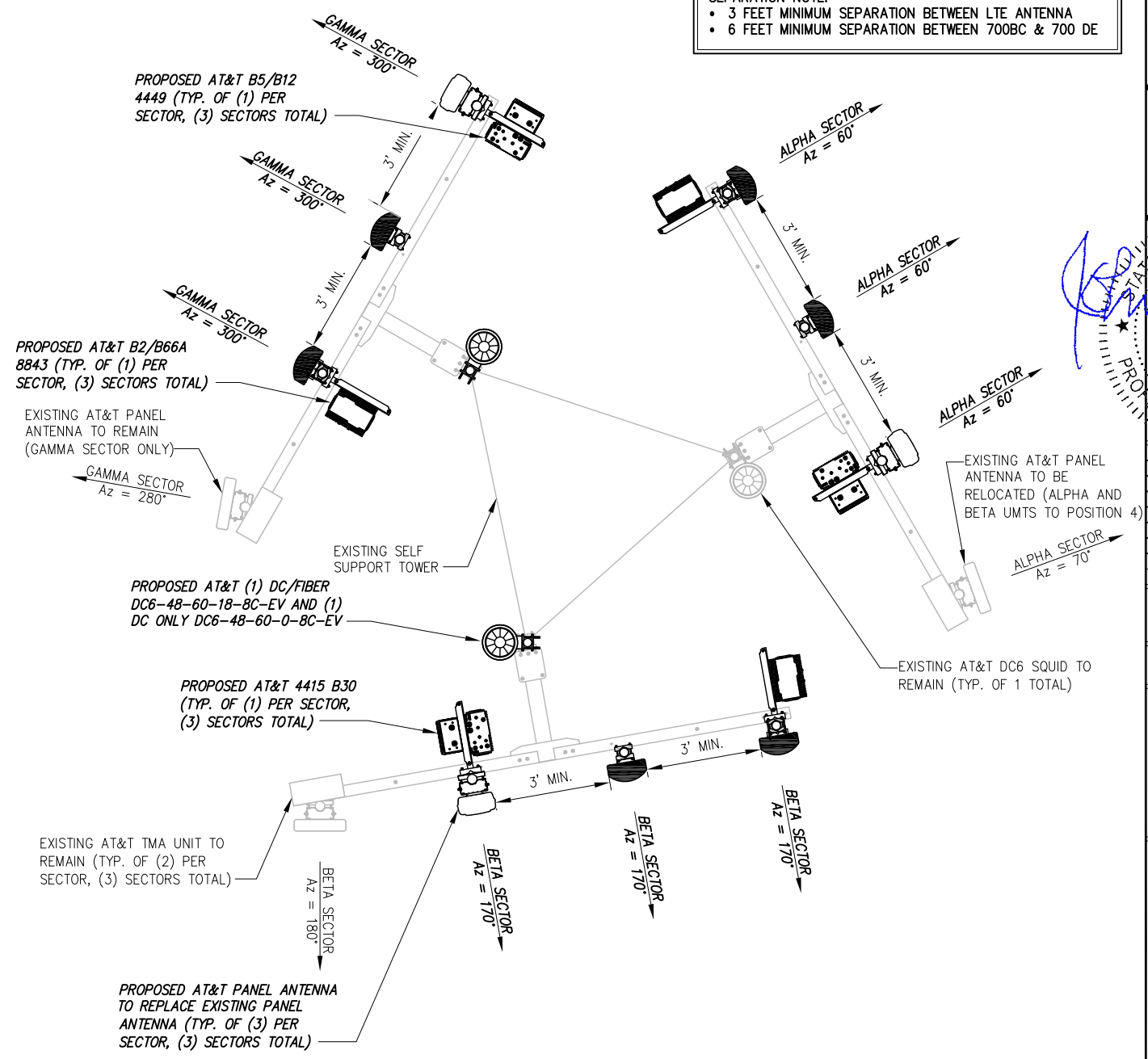
Drawing Number:  
**C3**

**1** ELEVATION VIEW  
 NOT TO SCALE

**2** AT&T ANTENNA SCHEDULE  
 NOT TO SCALE



1 ANTENNA ORIENTATION PLAN (EXISTING)  
NOT TO SCALE



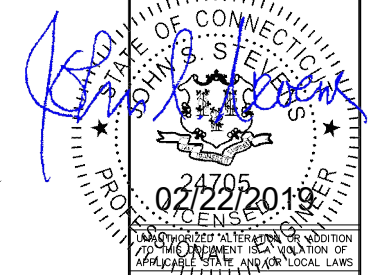
2 PROPOSED ANTENNA ORIENTATION PLAN  
NOT TO SCALE

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- FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNT, SEE "MOUNT ANALYSIS REPORT" COMPLETED BY INFINIGY, DATED 01/07/19.

**SEPARATION NOTE:**

- 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNA
- 6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE



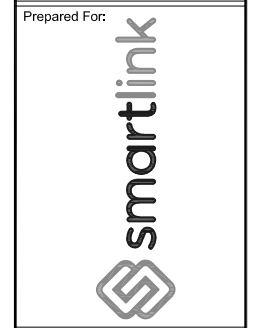
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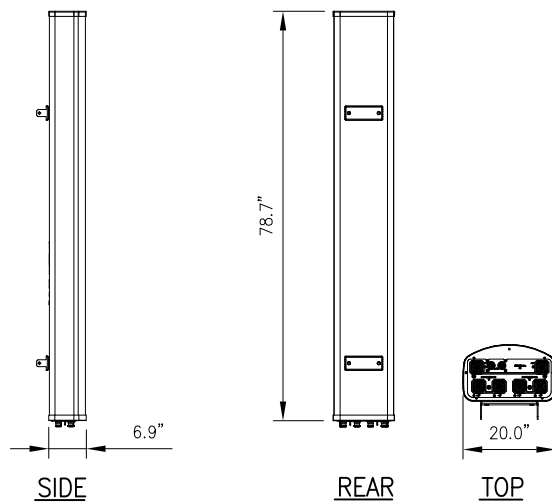
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FA# 10071055  
331 KILLINGWORTH ROAD  
GUILDFORD, CT 06437



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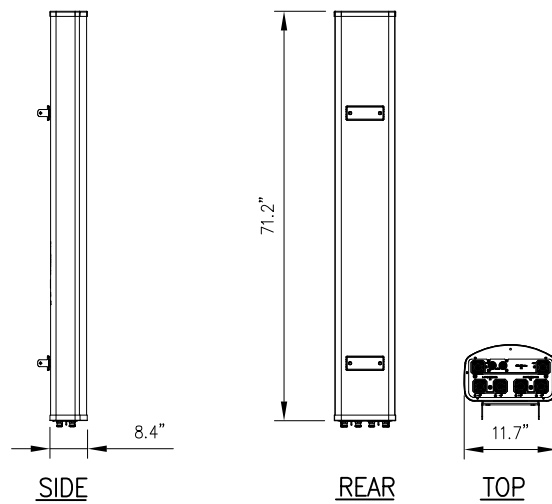
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**ANTENNA ORIENTATION PLAN**

Drawing Number:  
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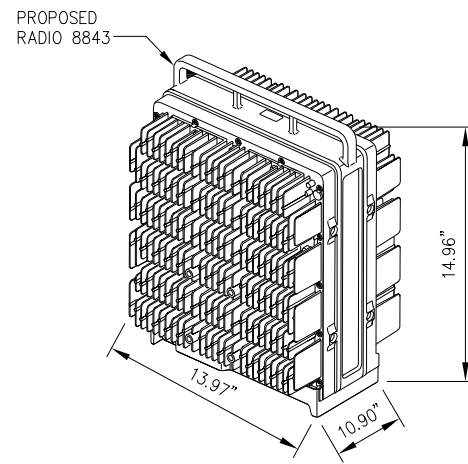
<b>KATHREIN MODEL NO.:</b>	<b>800-10965</b>
RADOME MATERIAL:	FIBERGLASS,
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	78.7"x20.0"x6.9"
WEIGHT, W/ PRE-MOUNTED BRACKETS:	108.6 LBS
CONNECTOR:	7-16 DIN FEMALE

**1 ANTENNA DETAIL**  
--- NOT TO SCALE



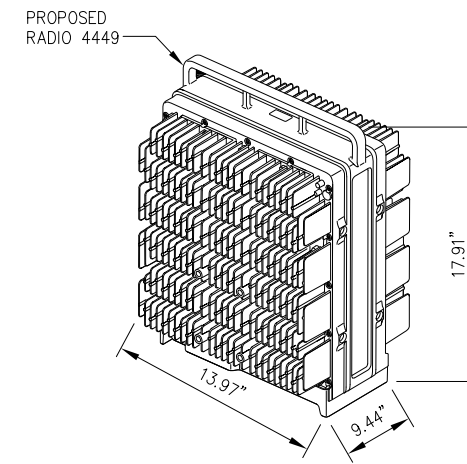
<b>CCI MODEL NO.:</b>	<b>HPA-65R-BU6AA</b>
RADOME MATERIAL:	FIBERGLASS,
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	71.2"x11.7"x8.4"
WEIGHT, W/ PRE-MOUNTED BRACKETS:	43.0 LBS
CONNECTOR:	7-16 DIN FEMALE

**2 ANTENNA DETAIL**  
--- NOT TO SCALE



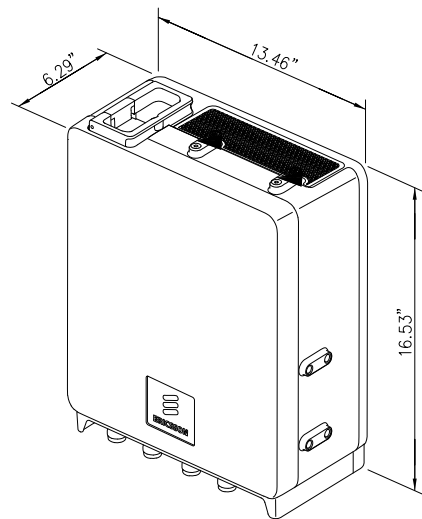
<b>RADIO 8843 SPECIFICATIONS</b>
• HxWxD, (INCHES) : 14.96"x13.97"x10.90"
• WEIGHT (LBS) : 71.87
• COLOR : GRAY

**3 ERICSSON RADIO 8843 DETAIL**  
--- NOT TO SCALE



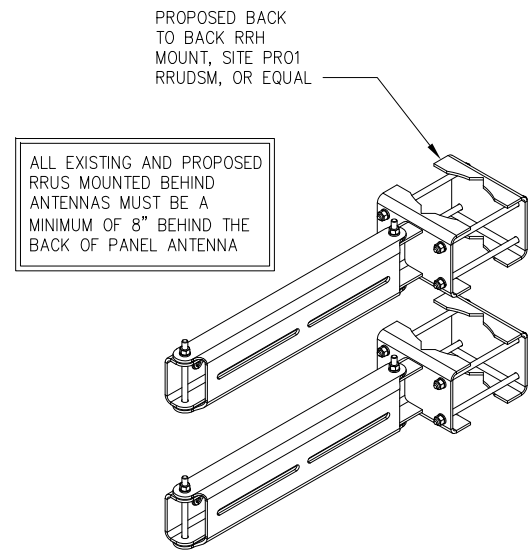
<b>RADIO 4449 SPECIFICATIONS</b>
• HxWxD, (INCHES) : 17.91"x13.97"x9.44"
• WEIGHT (LBS) : 70.54
• COLOR : GRAY

**4 ERICSSON RADIO 4449 DETAIL**  
--- NOT TO SCALE

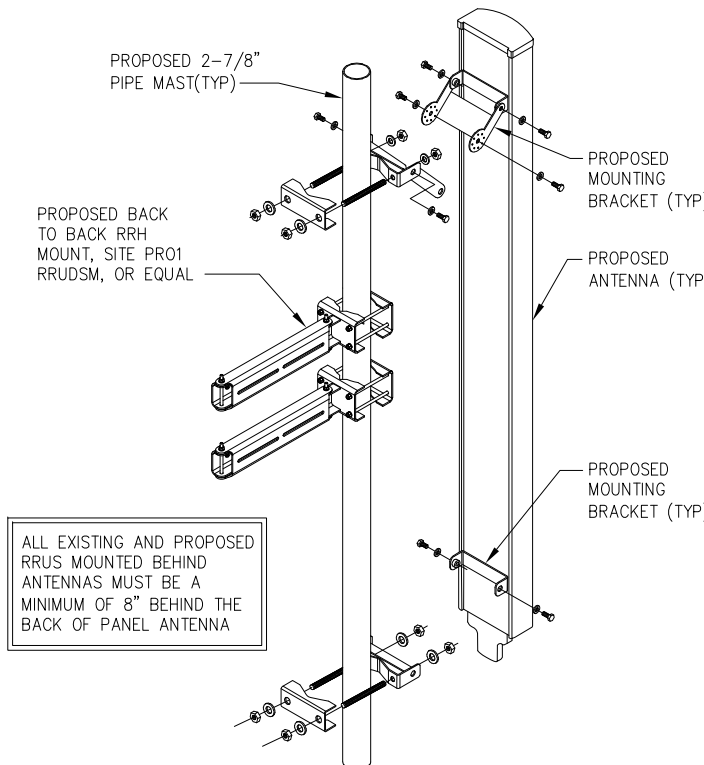


<b>RADIO 4415 SPECIFICATIONS</b>
• HxWxD, (INCHES): 16.53"x13.46"x6.29"
• WEIGHT (LBS): 47.4
• COLOR: NCS S 1002-B/NCS S 6502-B

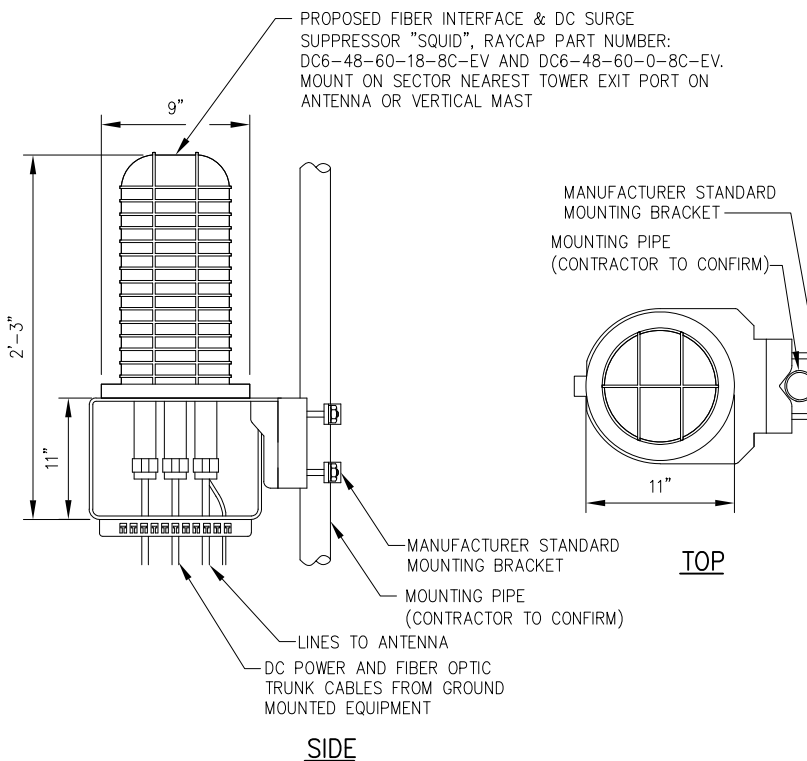
**5 ERICSSON RADIO 4415 DETAIL**  
--- NOT TO SCALE



**6 BACK TO BACK PIPE MOUNT DETAIL**  
--- NOT TO SCALE



**7 MOUNTING DETAIL**  
--- NOT TO SCALE



**8 SQUID DETAIL**  
--- NOT TO SCALE

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24705  
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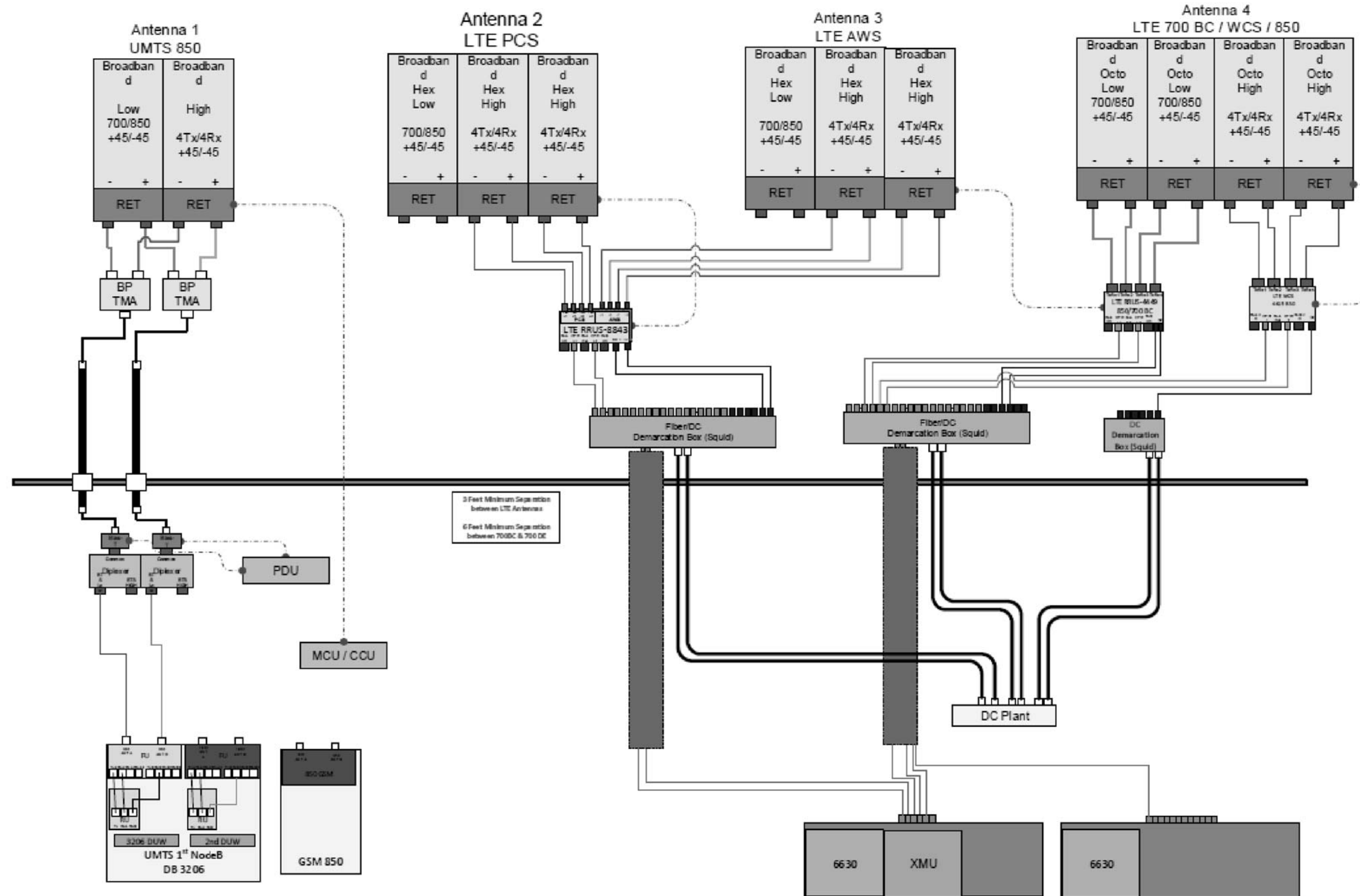
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Prepared For: smartlink

Drawing Scale: AS NOTED  
Date: 02/22/19  
Drawing Title: EQUIPMENT DETAILS  
Drawing Number: C5





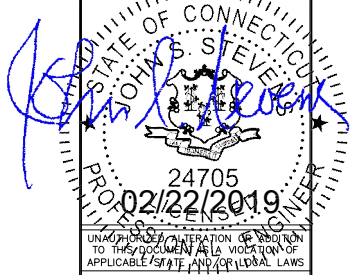
3 Feet Minimum Separation  
between LTE Antennas  
6 Feet Minimum Separation  
between 700BC & 700 DC

ALPHA/BETA/GAMMA

1 PLUMBING DIAGRAM (FINAL CONFIGURATION)  
-- NOT TO SCALE

**INFINIGY**

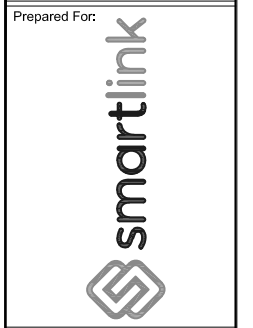
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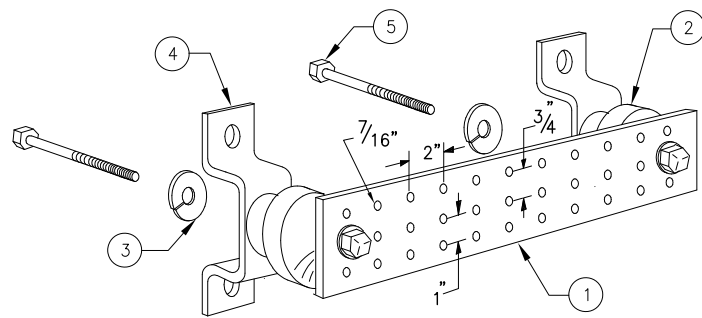
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02/22/19

**CD**

Drawing Title  
**PLUMBING DIAGRAM**

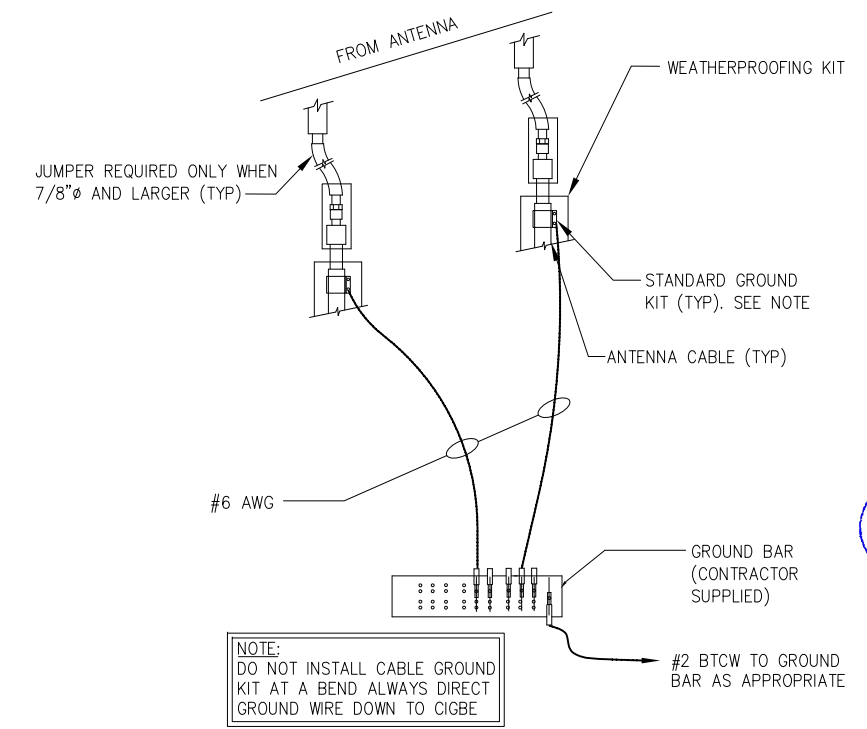
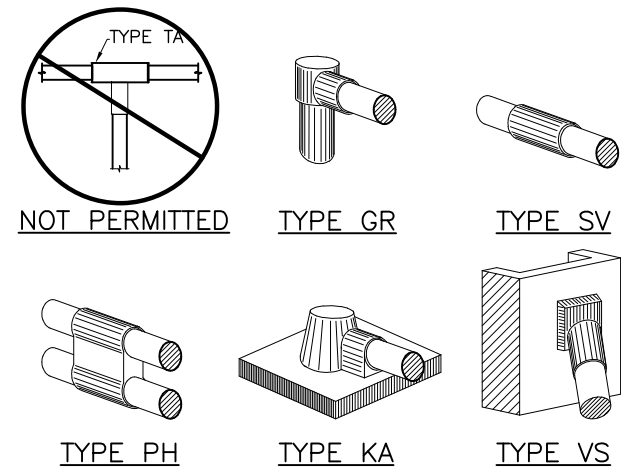
Drawing Number  
**C6**

\*BASED ON LTE RFDS, V. 3.0, DATED 02/12/19



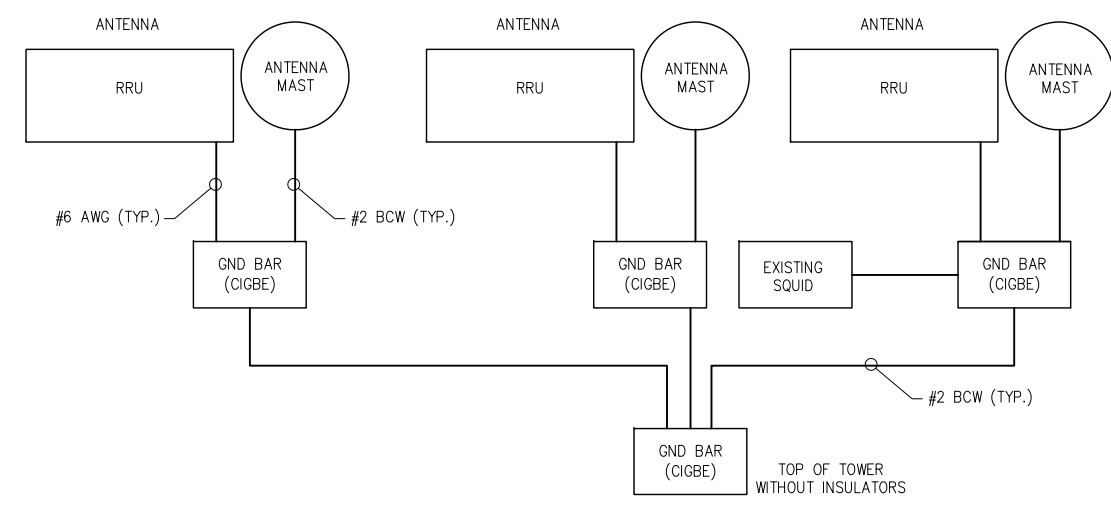
**LEGEND**

- 1 - SOLID TINNED COPPER GROUND BAR, 1/4"x 4"x 20" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
- 2 - INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
- 3 - 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
- 4 - WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056
- 5 - 5/8-11 X 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
- 6 - GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY
- 7 - GROUND BARS SHALL NEITHER BE FIELD FABRICATED NOR NEW HOLES DRILLED
- 8 - GROUND LUGS SHALL MATCH THE HOLE SPACING ON THE BAR
- 9 - HARDWARE DIAMETER SHALL BE MINIMUM 3/8"



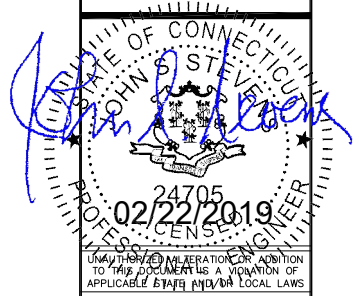
NOTE:  
DO NOT INSTALL CABLE GROUND KIT AT A BEND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

**3 CONNECTION OF GROUND WIRES TO GROUNDING BARS @ ANTENNAS**  
NOT TO SCALE



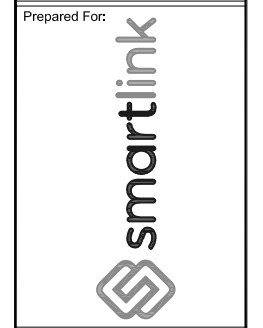
**4 SCHEMATIC DIAGRAM GROUNDING SYSTEM**  
NOT TO SCALE

**INFINIGY**  
INFINIGY ENGINEERING, PLLC  
1033 Waterlily Shaker Rd  
Albany, NY 12205  
Office # (518) 690-0790  
Fax # (518) 690-0793



2	REVISED FOR PERMIT	BMM	02/22/19
1	ISSUED FOR PERMIT	BMM	02/01/19
0	ISSUED FOR REVIEW	BMM	01/02/19
No.	Submittal / Revision	App'd	Date
	Drawn: BMM	Date: 01/02/19	
	Designed: ASW	Date: 01/02/19	
	Checked: AD	Date: 01/02/19	
Project Number: 1106-A0001-C			

Project Title:  
**GUILDFORD EAST**  
CTL05641  
FA# 10071055  
331 KILLINGWORTH ROAD  
GUILDFORD, CT 06437



Drawing Scale: AS NOTED  
Date: 02/22/19  
**CD**

Drawing Title:  
**GROUNDING DETAILS**

Drawing Number:  
**C7**



**Tower Engineering Solutions**

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

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## Structural Analysis Report

**Existing 152 ft Rohn Self Supporting Tower**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT13065-A**

**Customer Site Name: Guilford**

**Carrier Name: AT&T (App#: 106408, v2)**

**Carrier Site ID / Name: CTL05641 / Guilford - Killingworth Road**

**Site Location: 331 Killingworth Road (Rt 80)**

**Guilford, Connecticut**

**New Haven County**

**Latitude: 41.353164**

**Longitude: -72.688252**

### Analysis Result:

**Max Structural Usage: 99.4% [Pass]**

**Max Foundation Usage: 63% [Pass]**

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

**Report Prepared By : Ram Kodali**





**Tower Engineering Solutions**

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1320 Greenway Drive, Suite 600, Irving, Texas 75038

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## **Structural Analysis Report**

**Existing 152 ft Rohn Self Supporting Tower**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT13065-A**

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**Carrier Name: AT&T (App#: 106408, v2)**

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### **Analysis Result:**

**Max Structural Usage: 99.4% [Pass]**

**Max Foundation Usage: 63% [Pass]**

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

**Report Prepared By : Ram Kodali**

## Introduction

The purpose of this report is to summarize the analysis results on the 152 ft Rohn Self Supporting Tower to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

## Sources of Information

<b>Tower Drawings</b>	Rohn, Dwg # C851129, dated 8/6/1985
<b>Foundation Drawing</b>	FDH, Project # 09-03151E N1, dated 6/10/2009
<b>Geotechnical Report</b>	FDH, Project # 09-03151EG1, dated 5/5/2009
<b>Modification Drawings</b>	All-Points Technology Corp., Job # CT2001D1, dated 4/28/05 FDH, Project # 09-03151E S2, dated 9/4/09 FDH, Project # 11-10199E S2, dated 4/19/12 FDH, Project # 12-04638E S3, dated 2/6/13 FDH, Project # 15BEQG1400, dated 2/27/15 FDH, Project # 14664X1400, dated 5/29/14

## Analysis Criteria

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

<b>Wind Speed Used in the Analysis:</b>	Ultimate Design Wind Speed $V_{ult} = 130$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 101$ mph (3-Sec. Gust)
<b>Wind Speed with Ice:</b>	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
<b>Operational Wind Speed:</b>	60 mph + 0" Radial ice
<b>Standard/Codes:</b>	ANSI/TIA/EIA 222-G / 2015 IBC / 2018 Connecticut State Building Code
<b>Exposure Category:</b>	B
<b>Structure Class:</b>	II
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft

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

## Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	157.0	1	Phillips Dodge 201-7 Omni	Leg	(1) 7/8"	TCI Cablevision
-	149.0	6	Powerwave Allgon 7770 - Panel	(3) Sector Frames	(12) 1 5/8" (1) 1/2" Fiber & (2) 3/4" DC in (1) 3" Innerduct	AT&T
-		3	KMW AM-X-CD-16-65-00T - Panel			
-		6	Powerwave LGP21401			
-		6	Powerwave LGP21901			
-		6	Ericsson RRUS 11			
-		3	Ericsson RRUS 12			
-		2	Raycap DC6-48-60-18-8F			
13	139.0	3	Alcatel Lucent 1900 MHz	(3) Sector Frames	(4) 1-1/4" Fiber	Sprint
14		3	Alcatel Lucent 800 MHz			
15		3	Alcatel Lucent TD-RRH8x20-25			
16		3	Alcatel Lucent 800 MHz Filters			
17		4	RFS ACU-A20-N RET			
18	138.0	3	RFS APXVSP18-C-A20 - Panel	(3) Sector Frames	(13) 1 5/8"	Verizon
19		3	RFS APXV/TM14-C-I20 - Panel			
20	128.0	4	Andrew HBXX-6516DS-A2M - Panel	(3) Sector Frames	(13) 1 5/8"	Verizon
21		2	Andrew HBXX-6517DS-A2M - Panel			
22		4	Andrew LNX-6513DS-A1M - Panel			
23		2	Andrew LNX-6514DS-A1M - Panel			
24		6	RFS FD9R6004/2C-3L			
25		3	Alcatel Lucent RRH2x60-AWS			
26		3	Alcatel Lucent RRH2X60-PCS			
27		1	RFS DB-T1-6Z-8AB-OZ			
28	83.5	1	DB26 GPS	Leg	(1) 1/2"	Sprint

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
2	149.0	3	Powerwave Allgon 7770 - Panel	(3) Sector Frames	(12) 1 5/8" (1) 1/2" Fiber & (2) 3/4" DC in (1) 3" Innerduct	AT&T
3		6	HPA-65R-BU6AA - Panel			
4		3	Kathrein 800 10965 - Panel			
5		6	Powerwave LGP21401 TMA			
6		6	Powerwave 7020.00 RET			
7		3	Powerwave 7070			
8		3	Ericsson Radio 4449 B5/B12			
9		3	Ericsson RRUS 4415 B30			
10		3	Ericsson RRUS 8843 B2 B66A			
11		2	Raycap DC6-48-60-18-8F			
12		1	Raycap DC6-48-60-0-8C			

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

## Analysis Results

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

Tower Component	Legs	Diagonals	Horizontals
Max. Usage:	<b>99.4%</b>	<b>83.8%</b>	<b>22.0%</b>
Pass/Fail	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

## Foundations

	Compression (Kips)	Uplift (Kips)	Shear (Kips)
Analysis Reactions	194.0	165.2	21.2

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

## **Operational Condition (Rigidity)**

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.1940 degrees under the operational wind speed as specified in the Analysis Criteria.

## **Conclusions**

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



## Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

## Structure: CT13065-A-SBA

<b>Site Name:</b> Guilford	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Type:</b> Self Support	<b>Base Shape:</b> Triangle	<b>Basic WS:</b> 101.00
<b>Height:</b> 152.00 (ft)	<b>Base Width:</b> 20.78	<b>Basic Ice WS:</b> 50.00
<b>Base Elev:</b> 0.00 (ft)	<b>Top Width:</b> 6.52	<b>Operational WS:</b> 60.00



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### Section Properties

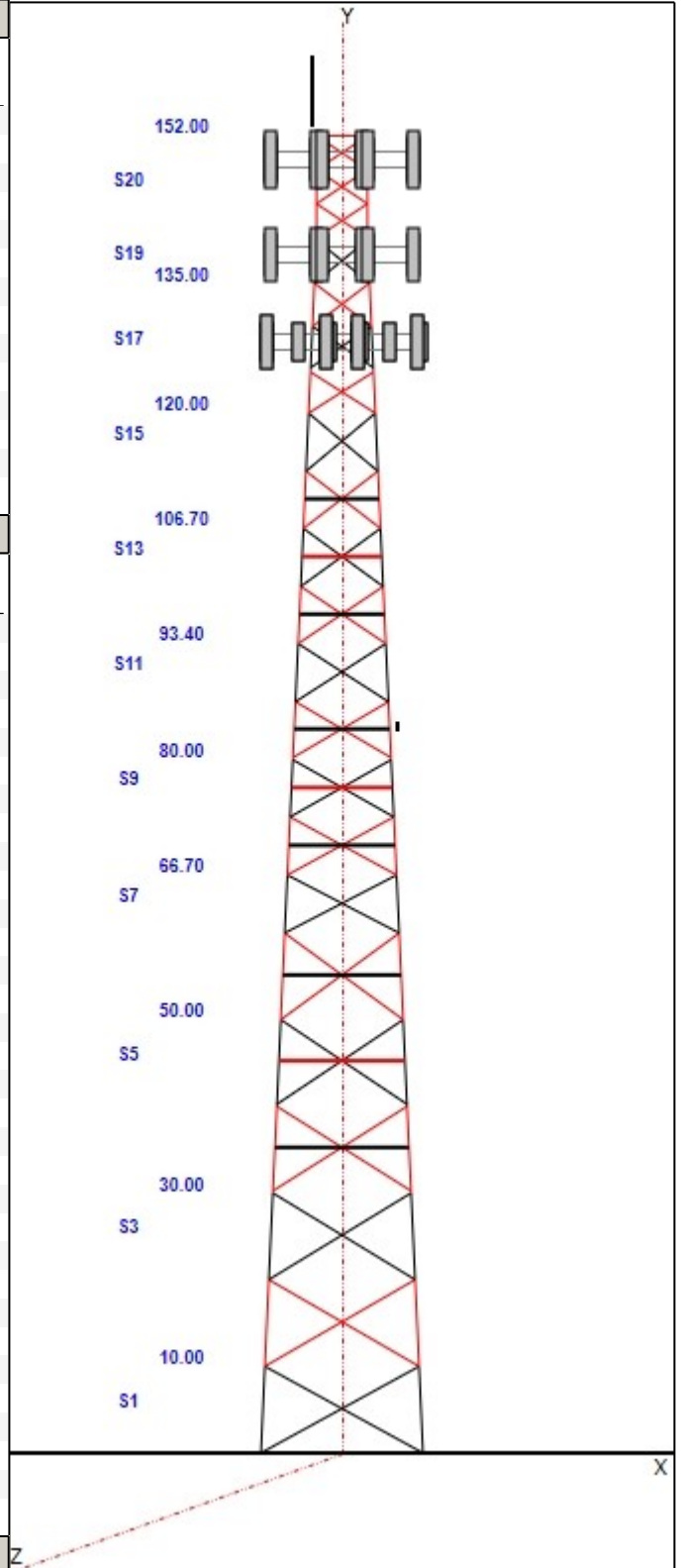
Sect	Leg Members	Diagonal Members	Horizontal Members
1-2	MOD 5"PST+6"PX1/2P	SAE 3.5X3.5X0.25	
3	MOD 4"PX+5"PX1/2P	SAE 3X3X0.375	
4	PX 4" DIA PIPE	SAE 3X3X0.375	
5-6	PX 4" DIA PIPE	SAE 3X3X0.25	
7	MOD 3"PX+4"PX1/2P	SAE 2.5X2.5X0.25	
8	PX 3" DIA PIPE	SAE 2.5X2.5X0.25	
9	PX 3" DIA PIPE	SAE 2.5X2.5X0.1875	
10	PX 2-1/2" DIA PIPE	SAE 2X2X0.375	
11	MOD 2.5"PX+3.5"PX1/2	SAE 2X2X0.375	
12	PX 2-1/2" DIA PIPE	SAE 2X2X0.375	
13-15	PX 2-1/2" DIA PIPE	DAE 2X2X0.125	
16-17	PST 2-1/2" DIA PIPE	SAE 1.75X1.75X0.25	
18-19	PST 2-1/2" DIA PIPE	SAE 1.75X1.75X0.125	
20	PST 2" DIA PIPE	SAE 1.5X1.5X0.125	SAE 2X2X0.125

### Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description
150.00	157.00	1	Phillips Dodge 201-7 Omni
149.00	149.00	3	Sector Frames
149.00	149.00	3	Powerwave Allgon 7770
149.00	149.00	6	HPA-65R-BU6AA
149.00	149.00	6	Powerwave LGP21401 TMA
149.00	149.00	3	4449 B5/B12
149.00	149.00	3	RRUS 4415 B30
149.00	149.00	6	7020.00 RET
149.00	149.00	2	Raycap DC6-48-60-18-8F
149.00	149.00	3	800 10965
149.00	149.00	3	7070
149.00	149.00	3	RRUS 8843 B2 B66A
149.00	149.00	1	DC6-48-60-0-8C
138.00	138.00	3	Sector Frames
138.00	138.00	3	RFS APXVSP18-C-A20
138.00	138.00	3	RFS APXVTM14-C-I20
138.00	139.00	3	Alcatel Lucent 1900 MHz RRHs
138.00	139.00	3	Alcatel Lucent 800 MHz RRHs
138.00	139.00	3	Alcatel Lucent 800 MHz Filters
138.00	139.00	3	Alcatel Lucent TD-RRH8x20-25 RRHs
138.00	139.00	4	RFS ACU-A20-N RETs
128.00	128.00	3	Sector Frames
128.00	128.00	4	Andrew HBXX-6516DS-A2M
128.00	128.00	2	Andrew HBXX-6517DS-A2M
128.00	128.00	4	Andrew LNX-6513DS-A1M
128.00	128.00	3	Alcatel Lucent RRH2x60-AWS
128.00	128.00	3	Alcatel Lucent RRH2X60-PCS
128.00	128.00	6	RFS FD9R6004/2C-3L
128.00	128.00	2	Andrew LNX-6514DS-A1M
128.00	128.00	1	RFS DB-T1-6Z-8AB-0Z
83.50	83.50	1	DB26 GPS
83.50	83.50	1	Pipe Mount

### Linear Appurtenances

Elev From (ft)	Elev To (ft)	Qty	Description
----------------	--------------	-----	-------------



**Structure: CT13065-A-SBA**

<b>Site Name:</b> Guilford	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Type:</b> Self Support	<b>Base Shape:</b> Triangle	<b>Basic WS:</b> 101.00
<b>Height:</b> 152.00 (ft)	<b>Base Width:</b> 20.78	<b>Basic Ice WS:</b> 50.00
<b>Base Elev:</b> 0.00 (ft)	<b>Top Width:</b> 6.52	<b>Operational WS:</b> 60.00



Page: 2

0.00	152.00	1	Climbing Ladder
8.00	150.00	1	7/8" Coax
0.00	149.00	1	W/G Ladder
10.00	149.00	12	1 5/8" Coax
10.00	149.00	1	1/2" Fiber
10.00	149.00	1	3" Innerduct
10.00	149.00	2	3/4" DC
0.00	138.00	1	W/G Ladder
8.00	138.00	4	1-1/4" Fiber
0.00	128.00	1	W/G Ladder
8.00	128.00	1	1 5/8" Coax
8.00	128.00	12	1 5/8" Coax
0.00	120.00	1	W/G Ladder
8.00	83.50	1	1/2" Coax

**Base Reactions**

	Leg	Overturning
Max Uplift:	-165.18 (kips)	Moment: 3284.45 (ft-kips)
Max Down:	193.97 (kips)	Total Down: 34.40 (kips)
Max Shear:	21.18 (kips)	Total Shear: 35.33 (kips)

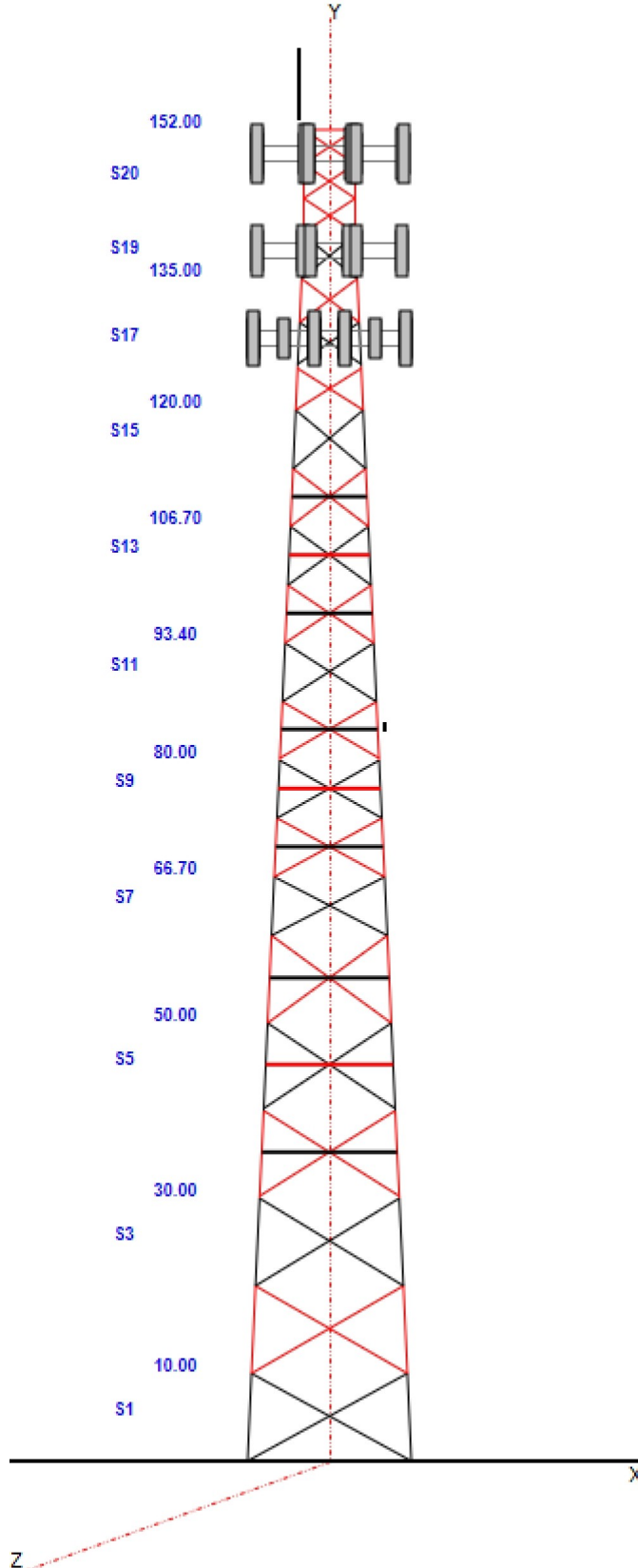
Structure: CT13065-A-SBA

Site Name: Guilford  
Type: Self Support  
Height: 152.00 (ft)  
Base Elev: 0.00 (ft)

Base Shape: Triangle  
Base Width: 20.78  
Top Width: 6.52

Code: EIA/TIA-222-G  
Basic WS: 101.00  
Basic Ice WS: 50.00  
Operational WS: 60.00

2/25/2019  
Page: 3

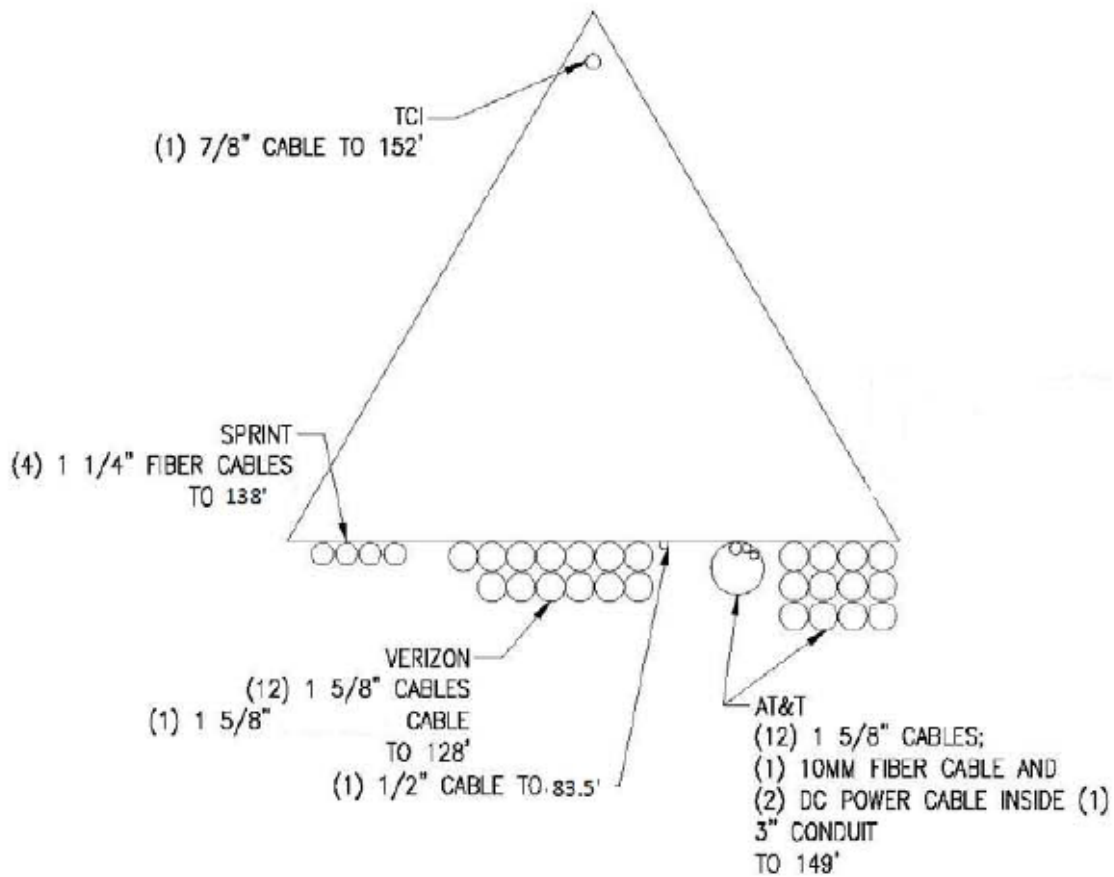


Structure: CT13065-A-SBA - Coax Line Placement

Type: Self Support  
Site Name: Guilford  
Height: 152.00 (ft)

2/25/2019

Page: 4



## Loading Summary

<b>Structure:</b> CT13065-A-SBA	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Site Name:</b> Guilford	<b>Exposure:</b> B	
<b>Height:</b> 152.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



Page: 5

### Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice		Ice		Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
			Weight (lb)	CaAa (sf)	Weight (lb)	CaAa (sf)						
150.00	Phillips Dodge 201-7 Omni	1	4.00	1.070	36.24	4.001	99.600	1.300	1.300	1.00	1.00	7.000
149.00	Sector Frames	3	350.00	14.000	622.91	21.018	0.000	0.000	0.000	0.75	0.75	0.000
149.00	Powerwave Allgon 7770	3	35.00	5.500	169.73	6.562	55.000	11.000	5.000	0.80	0.75	0.000
149.00	HPA-65R-BU6AA	6	43.00	7.860	252.75	9.138	71.200	11.700	8.400	0.80	0.88	0.000
149.00	Powerwave LGP21401 TMA	6	17.50	0.000	45.63	1.231	14.000	7.000	2.700	0.80	0.67	0.000
149.00	4449 B5/B12	3	71.00	1.970	124.24	2.516	17.900	13.200	9.400	0.80	0.67	0.000
149.00	RRUS 4415 B30	3	44.10	1.860	91.41	2.431	13.500	16.500	4.800	0.80	0.67	0.000
149.00	7020.00 RET	6	2.20	0.400	12.40	0.883	4.900	8.300	2.400	0.80	0.67	0.000
149.00	Raycap DC6-48-60-18-8F	2	20.00	1.260	72.62	1.918	23.500	9.700	9.700	0.80	0.67	0.000
149.00	800 10965	3	108.60	13.810	405.83	15.386	78.700	20.000	6.900	0.80	0.71	0.000
149.00	7070	3	5.50	1.500	31.37	2.453	19.000	1.700	8.100	0.80	0.67	0.000
149.00	RRUS 8843 B2 B66A	3	72.00	1.640	118.72	2.135	14.900	13.200	10.900	0.80	0.67	0.000
149.00	DC6-48-60-0-8C	1	16.00	4.780	139.40	5.662	18.300	10.200	31.400	0.80	0.67	0.000
138.00	Sector Frames	3	400.00	17.500	953.63	31.306	0.000	0.000	0.000	0.75	0.75	0.000
138.00	RFS APXVSPP18-C-A20	3	57.00	8.020	254.62	9.303	72.000	11.800	7.000	0.80	0.83	0.000
138.00	RFS APXVTM14-C-I20	3	56.00	6.340	214.74	7.443	56.300	12.600	6.300	0.80	0.79	0.000
138.00	Alcatel Lucent 1900 MHz RRHs	3	44.00	3.800	152.22	5.178	23.000	13.000	17.000	0.80	0.67	1.000
138.00	Alcatel Lucent 800 MHz RRHs	3	53.00	2.490	126.32	3.624	19.700	13.000	10.800	0.80	0.67	1.000
138.00	Alcatel Lucent 800 MHz Filters	3	61.80	2.910	151.74	4.116	19.700	13.000	15.200	0.80	0.67	1.000
138.00	Alcatel Lucent TD-RRH8x20-25	3	70.00	4.050	179.31	4.856	26.100	18.600	6.700	0.80	0.67	1.000
138.00	RFS ACU-A20-N RETs	4	1.00	0.140	5.26	0.434	4.000	2.000	3.500	0.80	0.67	1.000
128.00	Sector Frames	3	400.00	17.500	949.47	31.202	0.000	0.000	0.000	0.75	0.75	0.000
128.00	Andrew HBXX-6516DS-A2M	4	30.60	5.430	171.92	6.426	50.900	12.000	6.500	0.80	0.77	0.000
128.00	Andrew HBXX-6517DS-A2M	2	40.70	8.550	240.60	9.836	74.900	12.000	6.500	0.80	0.77	0.000
128.00	Andrew LNX-6513DS-A1M	4	30.40	5.830	184.95	6.901	54.700	11.900	7.100	0.80	0.83	0.000
128.00	Alcatel Lucent RRH2x60-AWS	3	55.00	3.500	133.72	4.277	37.000	11.000	6.000	0.80	0.67	0.000
128.00	Alcatel Lucent RRH2X60-PCS	3	55.00	2.200	137.85	2.825	22.000	12.000	9.400	0.80	0.67	0.000
128.00	RFS FD9R6004/2C-3L	6	3.10	0.360	11.00	0.796	5.800	6.500	1.500	0.80	0.67	0.000
128.00	Andrew LNX-6514DS-A1M	2	33.10	8.090	230.84	9.350	72.000	11.900	7.100	0.80	0.80	0.000
128.00	RFS DB-T1-6Z-8AB-OZ	1	18.90	4.800	159.90	5.659	24.000	24.000	10.000	1.00	1.00	0.000
83.50	DB26 GPS	1	10.00	1.000	37.65	1.671	12.000	9.000	6.000	1.00	1.00	0.000
83.50	Pipe Mount	1	45.00	2.000	80.55	3.317	0.000	0.000	0.000	1.00	1.00	0.000
<b>Totals:</b>		<b>98</b>	<b>6,738.30</b>		<b>19,374.48</b>						<b>Number of Appurtenances :</b>	<b>32</b>

## Loading Summary

<b>Structure:</b> CT13065-A-SBA	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Site Name:</b> Guilford	<b>Exposure:</b> B	
<b>Height:</b> 152.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



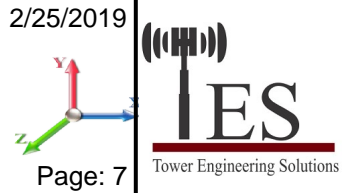
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### Linear Appurtenances Properties

Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	152.00	Climbing Ladder	1	1.00	6.90	100.00	1	Individual NR		N	1.00	1.00	
8.00	150.00	7/8" Coax	1	1.11	0.52	100.00	2	Individual NR		N	1.00	1.00	
0.00	149.00	W/G Ladder	1	1.50	6.00	100.00	3	Individual NR		N	1.00	1.00	
10.00	149.00	1 5/8" Coax	12	1.98	1.04	33.30	3	Block		N	0.50	1.00	
10.00	149.00	1/2" Fiber	1	0.00	0.16	100.00	3	Individual NR		N	1.00	1.00	0
10.00	149.00	3" Innerduct	1	3.00	0.25	100.00	3	Individual NR		N	1.00	1.00	
10.00	149.00	3/4" DC	2	0.00	0.40	100.00	3	Individual IR		N	1.00	1.00	0
0.00	138.00	W/G Ladder	1	1.50	6.00	100.00	3	Individual NR		N	1.00	1.00	
8.00	138.00	1-1/4" Fiber	4	1.25	0.95	100.00	3	Individual IR		N	1.00	1.00	
0.00	128.00	W/G Ladder	1	1.50	6.00	100.00	3	Individual NR		N	1.00	1.00	
8.00	128.00	1 5/8" Coax	1	1.98	1.04	100.00	3	Individual NR		N	1.00	1.00	
8.00	128.00	1 5/8" Coax	12	1.98	1.04	50.00	3	Block		N	0.50	1.00	
0.00	120.00	W/G Ladder	1	1.50	6.00	100.00	1	Individual NR		N	1.00	1.00	
8.00	83.50	1/2" Coax	1	0.65	0.16	100.00	3	Individual NR		N	1.00	1.00	

## Section Forces

<b>Structure:</b> CT13065-A-SBA	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Site Name:</b> Guilford	<b>Exposure:</b> B	
<b>Height:</b> 152.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.6W Normal Wind	1.2D + 1.6W 101 mph Wind at Normal To Face
<b>Wind Load Factor:</b> 1.60	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.20	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

Sect Seq	Wind Height (ft)	Total Flat Area (psf)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Ice Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	5.0	15.54	12.899	10.01	0.00	0.11	2.92	1.00	1.00	0.00	18.02	9.69	0.00	2,258.8	0.0	1113.32	215.67	1,328.99
2	15.0	15.54	12.376	10.01	0.00	0.11	2.91	1.00	1.00	0.00	17.51	35.45	0.00	2,558.6	0.0	1077.03	673.98	1,751.01
3	25.0	15.54	10.180	8.14	0.00	0.10	2.97	1.00	1.00	0.00	14.67	35.45	0.00	2,603.3	0.0	921.29	673.98	1,595.27
4	35.0	16.25	13.993	7.51	0.00	0.12	2.88	1.00	1.00	0.00	18.23	35.45	0.00	2,403.1	0.0	1158.53	704.92	1,863.45
5	45.0	17.46	12.625	7.51	0.00	0.12	2.88	1.00	1.00	0.00	16.81	35.45	0.00	1,993.7	0.0	1149.34	757.40	1,906.74
6	55.0	18.49	12.068	7.51	0.00	0.13	2.86	1.00	1.00	0.00	16.22	35.45	0.00	1,958.0	0.0	1167.72	802.10	1,969.81
7	63.4	19.25	6.441	5.03	0.00	0.12	2.90	1.00	1.00	0.00	9.20	23.75	0.00	1,304.2	0.0	698.53	559.55	1,258.08
8	70.0	19.81	9.039	3.92	0.00	0.14	2.81	1.00	1.00	0.00	11.26	23.75	0.00	1,255.0	0.0	853.53	575.86	1,429.39
9	76.7	20.34	8.631	3.86	0.00	0.14	2.80	1.00	1.00	0.00	10.82	23.40	0.00	1,109.9	0.0	837.02	582.15	1,419.17
10	83.3	20.82	6.574	3.22	0.00	0.12	2.90	1.00	1.00	0.00	8.39	23.58	0.00	1,201.1	0.0	688.47	601.65	1,290.11
11	90.0	21.29	4.365	4.47	0.00	0.11	2.92	1.00	1.00	0.00	6.87	23.39	0.00	1,195.6	0.0	580.96	611.13	1,192.09
12	96.7	21.73	6.421	3.17	0.00	0.13	2.84	1.00	1.00	0.00	8.21	23.04	0.00	1,209.9	0.0	690.45	614.39	1,304.84
13	103.3	22.14	5.911	3.22	0.00	0.13	2.85	1.00	1.00	0.00	7.73	23.39	0.00	983.1	0.0	662.50	635.67	1,298.16
14	110.0	22.54	5.382	3.17	0.00	0.13	2.84	1.00	1.00	0.00	7.18	23.04	0.00	968.2	0.0	624.23	637.43	1,261.66
15	116.6	22.92	3.631	3.22	0.00	0.11	2.92	1.00	1.00	0.00	5.45	23.39	0.00	856.0	0.0	495.29	658.04	1,153.33
16	122.5	23.25	2.725	2.40	0.00	0.12	2.89	1.00	1.00	0.00	4.08	16.83	0.00	574.8	0.0	372.32	474.27	846.60
17	127.5	23.51	2.593	2.40	0.00	0.12	2.87	1.00	1.00	0.00	3.95	13.85	0.00	523.7	0.0	362.45	393.56	756.01
18	132.5	23.77	2.514	2.40	0.00	0.13	2.85	1.00	1.00	0.00	3.87	9.39	0.00	370.4	0.0	356.21	267.23	623.44
19	137.5	24.03	2.395	2.40	0.00	0.14	2.82	1.00	1.00	0.00	3.75	8.30	0.00	347.4	0.0	346.31	240.67	586.97
20	146.0	24.44	6.622	4.75	0.00	0.14	2.81	1.00	1.00	0.00	9.31	12.37	0.00	639.4	0.0	868.78	372.10	1,240.88
													<b>26,314.4</b>	<b>0.0</b>				
													<b>26,076.01</b>					

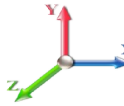


## Section Forces

**Structure:** CT13065-A-SBA  
**Site Name:** Guilford  
**Height:** 152.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Topography:** 1

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

2/25/2019  
  
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**Load Case:** 1.2D + 1.6W 60° Wind

1.2D + 1.6W 101 mph Wind at 60° From Face

**Wind Load Factor:** 1.60

**Wind Importance Factor:** 1.00

**Dead Load Factor:** 1.20

**Ice Dead Load Factor:** 0.00

**Ice Importance Factor:** 1.00

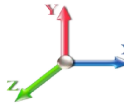
Sect Seq	Wind Height (ft)	Total Flat Area (psf)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	5.0	15.54	12.899	10.01	0.00	0.11	2.92	0.80	1.00	0.00	15.44	9.69	0.00	2,258.8	0.0	953.96	215.67	1,169.62
2	15.0	15.54	12.376	10.01	0.00	0.11	2.91	0.80	1.00	0.00	15.03	35.45	0.00	2,558.6	0.0	924.74	673.98	1,598.72
3	25.0	15.54	10.180	8.14	0.00	0.10	2.97	0.80	1.00	0.00	12.64	35.45	0.00	2,603.3	0.0	793.45	673.98	1,467.43
4	35.0	16.25	13.993	7.51	0.00	0.12	2.88	0.80	1.00	0.00	15.43	35.45	0.00	2,403.1	0.0	980.62	704.92	1,685.55
5	45.0	17.46	12.625	7.51	0.00	0.12	2.88	0.80	1.00	0.00	14.29	35.45	0.00	1,993.7	0.0	976.72	757.40	1,734.12
6	55.0	18.49	12.068	7.51	0.00	0.13	2.86	0.80	1.00	0.00	13.81	35.45	0.00	1,958.0	0.0	993.97	802.10	1,796.06
7	63.4	19.25	6.441	5.03	0.00	0.12	2.90	0.80	1.00	0.00	7.91	23.75	0.00	1,304.2	0.0	600.73	559.55	1,160.28
8	70.0	19.81	9.039	3.92	0.00	0.14	2.81	0.80	1.00	0.00	9.45	23.75	0.00	1,255.0	0.0	716.46	575.86	1,292.32
9	76.7	20.34	8.631	3.86	0.00	0.14	2.80	0.80	1.00	0.00	9.09	23.40	0.00	1,109.9	0.0	703.45	582.15	1,285.61
10	83.3	20.82	6.574	3.22	0.00	0.12	2.90	0.80	1.00	0.00	7.08	23.58	0.00	1,201.1	0.0	580.59	601.65	1,182.23
11	90.0	21.29	4.365	4.47	0.00	0.11	2.92	0.80	1.00	0.00	6.00	23.39	0.00	1,195.6	0.0	507.13	611.13	1,118.26
12	96.7	21.73	6.421	3.17	0.00	0.13	2.84	0.80	1.00	0.00	6.93	23.04	0.00	1,209.9	0.0	582.50	614.39	1,196.89
13	103.3	22.14	5.911	3.22	0.00	0.13	2.85	0.80	1.00	0.00	6.55	23.39	0.00	983.1	0.0	561.19	635.67	1,196.85
14	110.0	22.54	5.382	3.17	0.00	0.13	2.84	0.80	1.00	0.00	6.10	23.04	0.00	968.2	0.0	530.58	637.43	1,168.01
15	116.6	22.92	3.631	3.22	0.00	0.11	2.92	0.80	1.00	0.00	4.72	23.39	0.00	856.0	0.0	429.26	658.04	1,087.29
16	122.5	23.25	2.725	2.40	0.00	0.12	2.89	0.80	1.00	0.00	3.54	16.83	0.00	574.8	0.0	322.60	474.27	796.87
17	127.5	23.51	2.593	2.40	0.00	0.12	2.87	0.80	1.00	0.00	3.43	13.85	0.00	523.7	0.0	314.86	393.56	708.42
18	132.5	23.77	2.514	2.40	0.00	0.13	2.85	0.80	1.00	0.00	3.37	9.39	0.00	370.4	0.0	309.95	267.23	577.18
19	137.5	24.03	2.395	2.40	0.00	0.14	2.82	0.80	1.00	0.00	3.27	8.30	0.00	347.4	0.0	302.12	240.67	542.79
20	146.0	24.44	6.622	4.75	0.00	0.14	2.81	0.80	1.00	0.00	7.99	12.37	0.00	639.4	0.0	745.24	372.10	1,117.34
													<b>26,314.4</b>	<b>0.0</b>			<b>23,881.85</b>	

## Section Forces

**Structure:** CT13065-A-SBA  
**Site Name:** Guilford  
**Height:** 152.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Topography:** 1

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

2/25/2019  
  
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**Load Case:** 1.2D + 1.6W 90° Wind

1.2D + 1.6W 101 mph Wind at 90° From Face

**Wind Load Factor:** 1.60

**Wind Importance Factor:** 1.00

**Dead Load Factor:** 1.20

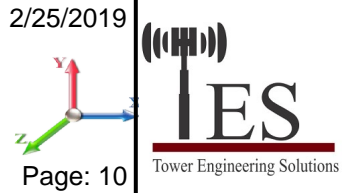
**Ice Dead Load Factor:** 0.00

**Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	Total Flat Area (psf)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Ice Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	5.0	15.54	12.899	10.01	0.00	0.11	2.92	0.85	1.00	0.00	16.09	9.69	0.00	2,258.8	0.0	993.80	215.67	1,209.47
2	15.0	15.54	12.376	10.01	0.00	0.11	2.91	0.85	1.00	0.00	15.65	35.45	0.00	2,558.6	0.0	962.81	673.98	1,636.79
3	25.0	15.54	10.180	8.14	0.00	0.10	2.97	0.85	1.00	0.00	13.15	35.45	0.00	2,603.3	0.0	825.41	673.98	1,499.39
4	35.0	16.25	13.993	7.51	0.00	0.12	2.88	0.85	1.00	0.00	16.13	35.45	0.00	2,403.1	0.0	1025.10	704.92	1,730.02
5	45.0	17.46	12.625	7.51	0.00	0.12	2.88	0.85	1.00	0.00	14.92	35.45	0.00	1,993.7	0.0	1019.87	757.40	1,777.27
6	55.0	18.49	12.068	7.51	0.00	0.13	2.86	0.85	1.00	0.00	14.41	35.45	0.00	1,958.0	0.0	1037.40	802.10	1,839.50
7	63.4	19.25	6.441	5.03	0.00	0.12	2.90	0.85	1.00	0.00	8.24	23.75	0.00	1,304.2	0.0	625.18	559.55	1,184.73
8	70.0	19.81	9.039	3.92	0.00	0.14	2.81	0.85	1.00	0.00	9.90	23.75	0.00	1,255.0	0.0	750.73	575.86	1,326.59
9	76.7	20.34	8.631	3.86	0.00	0.14	2.80	0.85	1.00	0.00	9.52	23.40	0.00	1,109.9	0.0	736.85	582.15	1,319.00
10	83.3	20.82	6.574	3.22	0.00	0.12	2.90	0.85	1.00	0.00	7.41	23.58	0.00	1,201.1	0.0	607.56	601.65	1,209.20
11	90.0	21.29	4.365	4.47	0.00	0.11	2.92	0.85	1.00	0.00	6.21	23.39	0.00	1,195.6	0.0	525.59	611.13	1,136.72
12	96.7	21.73	6.421	3.17	0.00	0.13	2.84	0.85	1.00	0.00	7.25	23.04	0.00	1,209.9	0.0	609.49	614.39	1,223.88
13	103.3	22.14	5.911	3.22	0.00	0.13	2.85	0.85	1.00	0.00	6.84	23.39	0.00	983.1	0.0	586.51	635.67	1,222.18
14	110.0	22.54	5.382	3.17	0.00	0.13	2.84	0.85	1.00	0.00	6.37	23.04	0.00	968.2	0.0	553.99	637.43	1,191.42
15	116.6	22.92	3.631	3.22	0.00	0.11	2.92	0.85	1.00	0.00	4.90	23.39	0.00	856.0	0.0	445.77	658.04	1,103.80
16	122.5	23.25	2.725	2.40	0.00	0.12	2.89	0.85	1.00	0.00	3.67	16.83	0.00	574.8	0.0	335.03	474.27	809.31
17	127.5	23.51	2.593	2.40	0.00	0.12	2.87	0.85	1.00	0.00	3.56	13.85	0.00	523.7	0.0	326.75	393.56	720.31
18	132.5	23.77	2.514	2.40	0.00	0.13	2.85	0.85	1.00	0.00	3.49	9.39	0.00	370.4	0.0	321.52	267.23	588.75
19	137.5	24.03	2.395	2.40	0.00	0.14	2.82	0.85	1.00	0.00	3.39	8.30	0.00	347.4	0.0	313.17	240.67	553.83
20	146.0	24.44	6.622	4.75	0.00	0.14	2.81	0.85	1.00	0.00	8.32	12.37	0.00	639.4	0.0	776.12	372.10	1,148.22
													<b>26,314.4</b>	<b>0.0</b>	<b>24,430.39</b>			

## Section Forces

<b>Structure:</b> CT13065-A-SBA	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Site Name:</b> Guilford	<b>Exposure:</b> B	
<b>Height:</b> 152.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



<b>Load Case:</b> 0.9D + 1.6W Normal Wind	0.9D + 1.6W 101 mph Wind at Normal To Face
<b>Wind Load Factor:</b> 1.60	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 0.90	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

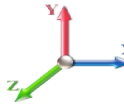
Sect Seq	Wind Height (ft)	Total Flat Area (psf)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Ice Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	5.0	15.54	12.899	10.01	0.00	0.11	2.92	1.00	1.00	0.00	18.02	9.69	0.00	1,694.1	0.0	1113.32	215.67	1,328.99
2	15.0	15.54	12.376	10.01	0.00	0.11	2.91	1.00	1.00	0.00	17.51	35.45	0.00	1,918.9	0.0	1077.03	673.98	1,751.01
3	25.0	15.54	10.180	8.14	0.00	0.10	2.97	1.00	1.00	0.00	14.67	35.45	0.00	1,952.5	0.0	921.29	673.98	1,595.27
4	35.0	16.25	13.993	7.51	0.00	0.12	2.88	1.00	1.00	0.00	18.23	35.45	0.00	1,802.3	0.0	1158.53	704.92	1,863.45
5	45.0	17.46	12.625	7.51	0.00	0.12	2.88	1.00	1.00	0.00	16.81	35.45	0.00	1,495.3	0.0	1149.34	757.40	1,906.74
6	55.0	18.49	12.068	7.51	0.00	0.13	2.86	1.00	1.00	0.00	16.22	35.45	0.00	1,468.5	0.0	1167.72	802.10	1,969.81
7	63.4	19.25	6.441	5.03	0.00	0.12	2.90	1.00	1.00	0.00	9.20	23.75	0.00	978.2	0.0	698.53	559.55	1,258.08
8	70.0	19.81	9.039	3.92	0.00	0.14	2.81	1.00	1.00	0.00	11.26	23.75	0.00	941.3	0.0	853.53	575.86	1,429.39
9	76.7	20.34	8.631	3.86	0.00	0.14	2.80	1.00	1.00	0.00	10.82	23.40	0.00	832.4	0.0	837.02	582.15	1,419.17
10	83.3	20.82	6.574	3.22	0.00	0.12	2.90	1.00	1.00	0.00	8.39	23.58	0.00	900.9	0.0	688.47	601.65	1,290.11
11	90.0	21.29	4.365	4.47	0.00	0.11	2.92	1.00	1.00	0.00	6.87	23.39	0.00	896.7	0.0	580.96	611.13	1,192.09
12	96.7	21.73	6.421	3.17	0.00	0.13	2.84	1.00	1.00	0.00	8.21	23.04	0.00	907.4	0.0	690.45	614.39	1,304.84
13	103.3	22.14	5.911	3.22	0.00	0.13	2.85	1.00	1.00	0.00	7.73	23.39	0.00	737.3	0.0	662.50	635.67	1,298.16
14	110.0	22.54	5.382	3.17	0.00	0.13	2.84	1.00	1.00	0.00	7.18	23.04	0.00	726.1	0.0	624.23	637.43	1,261.66
15	116.6	22.92	3.631	3.22	0.00	0.11	2.92	1.00	1.00	0.00	5.45	23.39	0.00	642.0	0.0	495.29	658.04	1,153.33
16	122.5	23.25	2.725	2.40	0.00	0.12	2.89	1.00	1.00	0.00	4.08	16.83	0.00	431.1	0.0	372.32	474.27	846.60
17	127.5	23.51	2.593	2.40	0.00	0.12	2.87	1.00	1.00	0.00	3.95	13.85	0.00	392.8	0.0	362.45	393.56	756.01
18	132.5	23.77	2.514	2.40	0.00	0.13	2.85	1.00	1.00	0.00	3.87	9.39	0.00	277.8	0.0	356.21	267.23	623.44
19	137.5	24.03	2.395	2.40	0.00	0.14	2.82	1.00	1.00	0.00	3.75	8.30	0.00	260.5	0.0	346.31	240.67	586.97
20	146.0	24.44	6.622	4.75	0.00	0.14	2.81	1.00	1.00	0.00	9.31	12.37	0.00	479.6	0.0	868.78	372.10	1,240.88
													<b>19,735.8</b>	<b>0.0</b>				

## Section Forces

**Structure:** CT13065-A-SBA  
**Site Name:** Guilford  
**Height:** 152.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Topography:** 1

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

2/25/2019  
  
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**Load Case:** 0.9D + 1.6W 60° Wind

0.9D + 1.6W 101 mph Wind at 60° From Face

**Wind Load Factor:** 1.60

**Wind Importance Factor:** 1.00

**Dead Load Factor:** 0.90

**Ice Dead Load Factor:** 0.00

**Ice Importance Factor:** 1.00

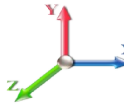
Sect Seq	Wind Height (ft)	Total Flat Area (psf)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	5.0	15.54	12.899	10.01	0.00	0.11	2.92	0.80	1.00	0.00	15.44	9.69	0.00	1,694.1	0.0	953.96	215.67	1,169.62
2	15.0	15.54	12.376	10.01	0.00	0.11	2.91	0.80	1.00	0.00	15.03	35.45	0.00	1,918.9	0.0	924.74	673.98	1,598.72
3	25.0	15.54	10.180	8.14	0.00	0.10	2.97	0.80	1.00	0.00	12.64	35.45	0.00	1,952.5	0.0	793.45	673.98	1,467.43
4	35.0	16.25	13.993	7.51	0.00	0.12	2.88	0.80	1.00	0.00	15.43	35.45	0.00	1,802.3	0.0	980.62	704.92	1,685.55
5	45.0	17.46	12.625	7.51	0.00	0.12	2.88	0.80	1.00	0.00	14.29	35.45	0.00	1,495.3	0.0	976.72	757.40	1,734.12
6	55.0	18.49	12.068	7.51	0.00	0.13	2.86	0.80	1.00	0.00	13.81	35.45	0.00	1,468.5	0.0	993.97	802.10	1,796.06
7	63.4	19.25	6.441	5.03	0.00	0.12	2.90	0.80	1.00	0.00	7.91	23.75	0.00	978.2	0.0	600.73	559.55	1,160.28
8	70.0	19.81	9.039	3.92	0.00	0.14	2.81	0.80	1.00	0.00	9.45	23.75	0.00	941.3	0.0	716.46	575.86	1,292.32
9	76.7	20.34	8.631	3.86	0.00	0.14	2.80	0.80	1.00	0.00	9.09	23.40	0.00	832.4	0.0	703.45	582.15	1,285.61
10	83.3	20.82	6.574	3.22	0.00	0.12	2.90	0.80	1.00	0.00	7.08	23.58	0.00	900.9	0.0	580.59	601.65	1,182.23
11	90.0	21.29	4.365	4.47	0.00	0.11	2.92	0.80	1.00	0.00	6.00	23.39	0.00	896.7	0.0	507.13	611.13	1,118.26
12	96.7	21.73	6.421	3.17	0.00	0.13	2.84	0.80	1.00	0.00	6.93	23.04	0.00	907.4	0.0	582.50	614.39	1,196.89
13	103.3	22.14	5.911	3.22	0.00	0.13	2.85	0.80	1.00	0.00	6.55	23.39	0.00	737.3	0.0	561.19	635.67	1,196.85
14	110.0	22.54	5.382	3.17	0.00	0.13	2.84	0.80	1.00	0.00	6.10	23.04	0.00	726.1	0.0	530.58	637.43	1,168.01
15	116.6	22.92	3.631	3.22	0.00	0.11	2.92	0.80	1.00	0.00	4.72	23.39	0.00	642.0	0.0	429.26	658.04	1,087.29
16	122.5	23.25	2.725	2.40	0.00	0.12	2.89	0.80	1.00	0.00	3.54	16.83	0.00	431.1	0.0	322.60	474.27	796.87
17	127.5	23.51	2.593	2.40	0.00	0.12	2.87	0.80	1.00	0.00	3.43	13.85	0.00	392.8	0.0	314.86	393.56	708.42
18	132.5	23.77	2.514	2.40	0.00	0.13	2.85	0.80	1.00	0.00	3.37	9.39	0.00	277.8	0.0	309.95	267.23	577.18
19	137.5	24.03	2.395	2.40	0.00	0.14	2.82	0.80	1.00	0.00	3.27	8.30	0.00	260.5	0.0	302.12	240.67	542.79
20	146.0	24.44	6.622	4.75	0.00	0.14	2.81	0.80	1.00	0.00	7.99	12.37	0.00	479.6	0.0	745.24	372.10	1,117.34
													<b>19,735.8</b>	<b>0.0</b>			<b>23,881.85</b>	

## Section Forces

**Structure:** CT13065-A-SBA  
**Site Name:** Guilford  
**Height:** 152.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Topography:** 1

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

2/25/2019  
  
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**Load Case:** 0.9D + 1.6W 90° Wind

0.9D + 1.6W 101 mph Wind at 90° From Face

**Wind Load Factor:** 1.60

**Wind Importance Factor:** 1.00

**Dead Load Factor:** 0.90

**Ice Dead Load Factor:** 0.00

**Ice Importance Factor:** 1.00

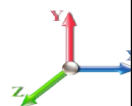
Sect Seq	Wind Height (ft)	Total Flat Area (psf)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Ice Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	5.0	15.54	12.899	10.01	0.00	0.11	2.92	0.85	1.00	0.00	16.09	9.69	0.00	1,694.1	0.0	993.80	215.67	1,209.47
2	15.0	15.54	12.376	10.01	0.00	0.11	2.91	0.85	1.00	0.00	15.65	35.45	0.00	1,918.9	0.0	962.81	673.98	1,636.79
3	25.0	15.54	10.180	8.14	0.00	0.10	2.97	0.85	1.00	0.00	13.15	35.45	0.00	1,952.5	0.0	825.41	673.98	1,499.39
4	35.0	16.25	13.993	7.51	0.00	0.12	2.88	0.85	1.00	0.00	16.13	35.45	0.00	1,802.3	0.0	1025.10	704.92	1,730.02
5	45.0	17.46	12.625	7.51	0.00	0.12	2.88	0.85	1.00	0.00	14.92	35.45	0.00	1,495.3	0.0	1019.87	757.40	1,777.27
6	55.0	18.49	12.068	7.51	0.00	0.13	2.86	0.85	1.00	0.00	14.41	35.45	0.00	1,468.5	0.0	1037.40	802.10	1,839.50
7	63.4	19.25	6.441	5.03	0.00	0.12	2.90	0.85	1.00	0.00	8.24	23.75	0.00	978.2	0.0	625.18	559.55	1,184.73
8	70.0	19.81	9.039	3.92	0.00	0.14	2.81	0.85	1.00	0.00	9.90	23.75	0.00	941.3	0.0	750.73	575.86	1,326.59
9	76.7	20.34	8.631	3.86	0.00	0.14	2.80	0.85	1.00	0.00	9.52	23.40	0.00	832.4	0.0	736.85	582.15	1,319.00
10	83.3	20.82	6.574	3.22	0.00	0.12	2.90	0.85	1.00	0.00	7.41	23.58	0.00	900.9	0.0	607.56	601.65	1,209.20
11	90.0	21.29	4.365	4.47	0.00	0.11	2.92	0.85	1.00	0.00	6.21	23.39	0.00	896.7	0.0	525.59	611.13	1,136.72
12	96.7	21.73	6.421	3.17	0.00	0.13	2.84	0.85	1.00	0.00	7.25	23.04	0.00	907.4	0.0	609.49	614.39	1,223.88
13	103.3	22.14	5.911	3.22	0.00	0.13	2.85	0.85	1.00	0.00	6.84	23.39	0.00	737.3	0.0	586.51	635.67	1,222.18
14	110.0	22.54	5.382	3.17	0.00	0.13	2.84	0.85	1.00	0.00	6.37	23.04	0.00	726.1	0.0	553.99	637.43	1,191.42
15	116.6	22.92	3.631	3.22	0.00	0.11	2.92	0.85	1.00	0.00	4.90	23.39	0.00	642.0	0.0	445.77	658.04	1,103.80
16	122.5	23.25	2.725	2.40	0.00	0.12	2.89	0.85	1.00	0.00	3.67	16.83	0.00	431.1	0.0	335.03	474.27	809.31
17	127.5	23.51	2.593	2.40	0.00	0.12	2.87	0.85	1.00	0.00	3.56	13.85	0.00	392.8	0.0	326.75	393.56	720.31
18	132.5	23.77	2.514	2.40	0.00	0.13	2.85	0.85	1.00	0.00	3.49	9.39	0.00	277.8	0.0	321.52	267.23	588.75
19	137.5	24.03	2.395	2.40	0.00	0.14	2.82	0.85	1.00	0.00	3.39	8.30	0.00	260.5	0.0	313.17	240.67	553.83
20	146.0	24.44	6.622	4.75	0.00	0.14	2.81	0.85	1.00	0.00	8.32	12.37	0.00	479.6	0.0	776.12	372.10	1,148.22
													<b>19,735.8</b>	<b>0.0</b>			<b>24,430.39</b>	

## Section Forces

**Structure:** CT13065-A-SBA  
**Site Name:** Guilford  
**Height:** 152.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Topography:** 1

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

2/25/2019  
  
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**Load Case:** 1.2D + 1.0Di + 1.0Wi Normal Wind

1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face

**Wind Load Factor:** 1.00

**Wind Importance Factor:** 1.00

**Dead Load Factor:** 1.20

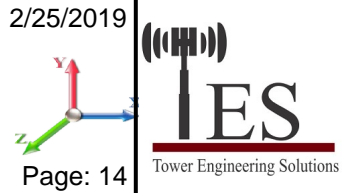
**Ice Dead Load Factor:** 1.00

**Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total	Total	Ice	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Ice Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat Area (sqft)	Round Area (sqft)	Round Area (sqft)							Linear Area (sqft)	Linear Area (sqft)					
1	5.0	3.81	12.899	23.52	13.51	0.17	2.69	1.00	1.00	1.24	26.31	21.37	1.24	3,974.5	1715.8	228.82	82.13	310.95
2	15.0	3.81	12.376	24.67	14.66	0.19	2.65	1.00	1.00	1.39	26.49	59.58	11.55	5,344.8	2786.2	226.88	212.19	439.07
3	25.0	3.81	10.180	23.13	14.99	0.18	2.68	1.00	1.00	1.46	23.38	60.67	12.16	5,307.2	2703.8	202.63	217.67	420.30
4	35.0	3.98	13.993	22.50	14.98	0.20	2.58	1.00	1.00	1.51	26.94	61.42	12.57	5,595.9	3192.8	235.33	229.43	464.77
5	45.0	4.28	12.625	22.42	14.91	0.21	2.57	1.00	1.00	1.55	25.54	61.99	12.89	5,150.3	3156.5	238.60	249.17	487.77
6	55.0	4.53	12.068	22.35	14.84	0.22	2.54	1.00	1.00	1.58	24.98	62.46	13.16	5,129.1	3171.1	244.31	265.72	510.03
7	63.4	4.72	6.441	17.07	12.03	0.23	2.49	1.00	1.00	1.60	16.36	42.08	8.94	3,303.8	1999.6	163.14	185.75	348.89
8	70.0	4.86	9.039	15.73	11.82	0.26	2.41	1.00	1.00	1.62	18.28	42.24	9.03	3,549.0	2294.0	181.67	190.67	372.34
9	76.7	4.98	8.631	15.36	11.50	0.27	2.38	1.00	1.00	1.63	17.69	41.75	8.98	3,360.2	2250.3	178.51	193.11	371.61
10	83.3	5.10	6.574	14.49	11.28	0.25	2.45	1.00	1.00	1.65	15.04	42.35	8.31	3,246.3	2045.2	159.77	198.75	358.52
11	90.0	5.22	4.365	15.58	11.11	0.24	2.45	1.00	1.00	1.66	13.46	42.29	7.41	3,002.0	1806.4	146.52	199.39	345.91
12	96.7	5.32	6.421	13.94	10.78	0.27	2.38	1.00	1.00	1.67	14.65	41.78	7.35	3,223.5	2013.6	157.70	199.88	357.58
13	103.3	5.43	5.911	13.83	10.61	0.27	2.37	1.00	1.00	1.68	14.09	42.52	7.51	3,323.7	2340.6	153.82	207.26	361.07
14	110.0	5.52	5.382	13.45	10.28	0.28	2.34	1.00	1.00	1.69	13.37	41.99	7.44	3,229.2	2261.0	147.00	208.00	355.00
15	116.6	5.62	3.631	13.34	10.12	0.27	2.38	1.00	1.00	1.70	11.50	42.73	7.60	2,900.2	2044.3	130.78	216.06	346.84
16	122.5	5.70	2.725	10.72	8.32	0.30	2.28	1.00	1.00	1.71	9.16	29.90	5.70	1,850.3	1275.5	101.33	150.58	251.90
17	127.5	5.76	2.593	10.49	8.09	0.31	2.26	1.00	1.00	1.72	8.92	25.82	5.15	1,684.1	1160.3	98.77	130.64	229.41
18	132.5	5.83	2.514	10.37	7.97	0.33	2.22	1.00	1.00	1.72	8.82	19.67	4.31	1,370.2	999.8	97.08	99.18	196.26
19	137.5	5.89	2.395	10.16	7.76	0.34	2.19	1.00	1.00	1.73	8.63	16.97	4.33	1,283.1	935.7	94.53	86.48	181.01
20	146.0	5.99	6.622	26.87	22.12	0.40	2.07	1.00	1.00	1.74	23.69	24.43	8.12	2,654.3	2014.8	249.59	126.95	376.54
														<b>68,481.8</b>	<b>42167.4</b>			<b>7,085.77</b>

## Section Forces

<b>Structure:</b> CT13065-A-SBA	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Site Name:</b> Guilford	<b>Exposure:</b> B	
<b>Height:</b> 152.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II

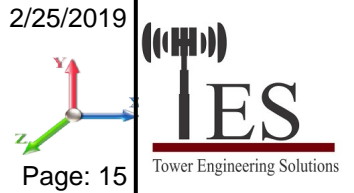


<b>Load Case:</b> 1.2D + 1.0Di + 1.0Wi 60° Wind	1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face
<b>Wind Load Factor:</b> 1.00	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.20	
<b>Ice Dead Load Factor:</b> 1.00	<b>Ice Importance Factor:</b> 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Area		Ice Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Ice Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Linear Area (sqft)						
1	5.0	3.81	12.899	23.52	13.51	0.17	2.69	0.80	1.00	1.24	23.73	21.37	1.24	3,974.5	1715.8	206.38	82.13	288.51	
2	15.0	3.81	12.376	24.67	14.66	0.19	2.65	0.80	1.00	1.39	24.01	59.58	11.55	5,344.8	2786.2	205.68	212.19	417.87	
3	25.0	3.81	10.180	23.13	14.99	0.18	2.68	0.80	1.00	1.46	21.35	60.67	12.16	5,307.2	2703.8	184.98	217.67	402.66	
4	35.0	3.98	13.993	22.50	14.98	0.20	2.58	0.80	1.00	1.51	24.14	61.42	12.57	5,595.9	3192.8	210.88	229.43	440.31	
5	45.0	4.28	12.625	22.42	14.91	0.21	2.57	0.80	1.00	1.55	23.01	61.99	12.89	5,150.3	3156.5	215.01	249.17	464.18	
6	55.0	4.53	12.068	22.35	14.84	0.22	2.54	0.80	1.00	1.58	22.57	62.46	13.16	5,129.1	3171.1	220.71	265.72	486.43	
7	63.4	4.72	6.441	17.07	12.03	0.23	2.49	0.80	1.00	1.60	15.07	42.08	8.94	3,303.8	1999.6	150.30	185.75	336.04	
8	70.0	4.86	9.039	15.73	11.82	0.26	2.41	0.80	1.00	1.62	16.47	42.24	9.03	3,549.0	2294.0	163.71	190.67	354.38	
9	76.7	4.98	8.631	15.36	11.50	0.27	2.38	0.80	1.00	1.63	15.97	41.75	8.98	3,360.2	2250.3	161.09	193.11	354.20	
10	83.3	5.10	6.574	14.49	11.28	0.25	2.45	0.80	1.00	1.65	13.72	42.35	8.31	3,246.3	2045.2	145.80	198.75	344.55	
11	90.0	5.22	4.365	15.58	11.11	0.24	2.45	0.80	1.00	1.66	12.58	42.29	7.41	3,002.0	1806.4	137.01	199.39	336.41	
12	96.7	5.32	6.421	13.94	10.78	0.27	2.38	0.80	1.00	1.67	13.37	41.78	7.35	3,223.5	2013.6	143.88	199.88	343.76	
13	103.3	5.43	5.911	13.83	10.61	0.27	2.37	0.80	1.00	1.68	12.91	42.52	7.51	3,323.7	2340.6	140.91	207.26	348.17	
14	110.0	5.52	5.382	13.45	10.28	0.28	2.34	0.80	1.00	1.69	12.29	41.99	7.44	3,229.2	2261.0	135.16	208.00	343.16	
15	116.6	5.62	3.631	13.34	10.12	0.27	2.38	0.80	1.00	1.70	10.77	42.73	7.60	2,900.2	2044.3	122.52	216.06	338.58	
16	122.5	5.70	2.725	10.72	8.32	0.30	2.28	0.80	1.00	1.71	8.61	29.90	5.70	1,850.3	1275.5	95.30	150.58	245.87	
17	127.5	5.76	2.593	10.49	8.09	0.31	2.26	0.80	1.00	1.72	8.41	25.82	5.15	1,684.1	1160.3	93.03	130.64	223.67	
18	132.5	5.83	2.514	10.37	7.97	0.33	2.22	0.80	1.00	1.72	8.32	19.67	4.31	1,370.2	999.8	91.54	99.18	190.73	
19	137.5	5.89	2.395	10.16	7.76	0.34	2.19	0.80	1.00	1.73	8.15	16.97	4.33	1,283.1	935.7	89.28	86.48	175.76	
20	146.0	5.99	6.622	26.87	22.12	0.40	2.07	0.80	1.00	1.74	22.36	24.43	8.12	2,654.3	2014.8	235.63	126.95	362.58	
														<b>68,481.8</b>	<b>42167.4</b>				<b>6,797.82</b>

## Section Forces

<b>Structure:</b> CT13065-A-SBA	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Site Name:</b> Guilford	<b>Exposure:</b> B	
<b>Height:</b> 152.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



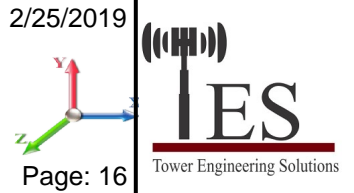
<b>Load Case:</b> 1.2D + 1.0Di + 1.0Wi 90° Wind	1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face
<b>Wind Load Factor:</b> 1.00	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.20	
<b>Ice Dead Load Factor:</b> 1.00	<b>Ice Importance Factor:</b> 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Area		Ice Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Ice Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Linear Area (sqft)						
1	5.0	3.81	12.899	23.52	13.51	0.17	2.69	0.85	1.00	1.24	24.38	21.37	1.24	3,974.5	1715.8	211.99	82.13	294.12	
2	15.0	3.81	12.376	24.67	14.66	0.19	2.65	0.85	1.00	1.39	24.63	59.58	11.55	5,344.8	2786.2	210.98	212.19	423.17	
3	25.0	3.81	10.180	23.13	14.99	0.18	2.68	0.85	1.00	1.46	21.86	60.67	12.16	5,307.2	2703.8	189.39	217.67	407.07	
4	35.0	3.98	13.993	22.50	14.98	0.20	2.58	0.85	1.00	1.51	24.84	61.42	12.57	5,595.9	3192.8	216.99	229.43	446.43	
5	45.0	4.28	12.625	22.42	14.91	0.21	2.57	0.85	1.00	1.55	23.65	61.99	12.89	5,150.3	3156.5	220.91	249.17	470.08	
6	55.0	4.53	12.068	22.35	14.84	0.22	2.54	0.85	1.00	1.58	23.17	62.46	13.16	5,129.1	3171.1	226.61	265.72	492.33	
7	63.4	4.72	6.441	17.07	12.03	0.23	2.49	0.85	1.00	1.60	15.40	42.08	8.94	3,303.8	1999.6	153.51	185.75	339.26	
8	70.0	4.86	9.039	15.73	11.82	0.26	2.41	0.85	1.00	1.62	16.93	42.24	9.03	3,549.0	2294.0	168.20	190.67	358.87	
9	76.7	4.98	8.631	15.36	11.50	0.27	2.38	0.85	1.00	1.63	16.40	41.75	8.98	3,360.2	2250.3	165.45	193.11	358.55	
10	83.3	5.10	6.574	14.49	11.28	0.25	2.45	0.85	1.00	1.65	14.05	42.35	8.31	3,246.3	2045.2	149.29	198.75	348.04	
11	90.0	5.22	4.365	15.58	11.11	0.24	2.45	0.85	1.00	1.66	12.80	42.29	7.41	3,002.0	1806.4	139.39	199.39	338.78	
12	96.7	5.32	6.421	13.94	10.78	0.27	2.38	0.85	1.00	1.67	13.69	41.78	7.35	3,223.5	2013.6	147.33	199.88	347.22	
13	103.3	5.43	5.911	13.83	10.61	0.27	2.37	0.85	1.00	1.68	13.20	42.52	7.51	3,323.7	2340.6	144.14	207.26	351.39	
14	110.0	5.52	5.382	13.45	10.28	0.28	2.34	0.85	1.00	1.69	12.56	41.99	7.44	3,229.2	2261.0	138.12	208.00	346.12	
15	116.6	5.62	3.631	13.34	10.12	0.27	2.38	0.85	1.00	1.70	10.96	42.73	7.60	2,900.2	2044.3	124.59	216.06	340.64	
16	122.5	5.70	2.725	10.72	8.32	0.30	2.28	0.85	1.00	1.71	8.75	29.90	5.70	1,850.3	1275.5	96.80	150.58	247.38	
17	127.5	5.76	2.593	10.49	8.09	0.31	2.26	0.85	1.00	1.72	8.54	25.82	5.15	1,684.1	1160.3	94.47	130.64	225.11	
18	132.5	5.83	2.514	10.37	7.97	0.33	2.22	0.85	1.00	1.72	8.44	19.67	4.31	1,370.2	999.8	92.93	99.18	192.11	
19	137.5	5.89	2.395	10.16	7.76	0.34	2.19	0.85	1.00	1.73	8.27	16.97	4.33	1,283.1	935.7	90.59	86.48	177.07	
20	146.0	5.99	6.622	26.87	22.12	0.40	2.07	0.85	1.00	1.74	22.69	24.43	8.12	2,654.3	2014.8	239.12	126.95	366.07	
														<b>68,481.8</b>	<b>42167.4</b>				<b>6,869.81</b>



## Section Forces

<b>Structure:</b> CT13065-A-SBA	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Site Name:</b> Guilford	<b>Exposure:</b> B	
<b>Height:</b> 152.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



<b>Load Case:</b> 1.0D + 1.0W Normal Wind	1.0D + 1.0W 60 mph Wind at Normal To Face
<b>Wind Load Factor:</b> 1.00	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.00	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

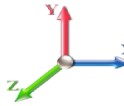
Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Ice Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
											Linear Area (sqft)	Linear Area (sqft)					
1	5.0	5.48 12.899	10.01	0.00	0.11	2.92	1.00	1.00	0.00	18.55	9.69	0.00	1,882.3	0.0	252.74	47.57	300.31
2	15.0	5.48 12.376	10.01	0.00	0.11	2.91	1.00	1.00	0.00	18.03	35.45	0.00	2,132.1	0.0	244.66	148.66	393.31
3	25.0	5.48 10.180	8.14	0.00	0.10	2.97	1.00	1.00	0.00	14.77	35.45	0.00	2,169.5	0.0	204.60	148.66	353.26
4	35.0	5.74 13.993	7.51	0.00	0.12	2.88	1.00	1.00	0.00	18.24	35.45	0.00	2,002.6	0.0	255.75	155.48	411.23
5	45.0	6.16 12.625	7.51	0.00	0.12	2.88	1.00	1.00	0.00	16.87	35.45	0.00	1,661.5	0.0	254.41	167.06	421.47
6	55.0	6.53 12.068	7.51	0.00	0.13	2.86	1.00	1.00	0.00	16.32	35.45	0.00	1,631.7	0.0	259.08	176.92	436.00
7	63.4	6.79 6.441	5.03	0.00	0.12	2.90	1.00	1.00	0.00	9.29	23.75	0.00	1,086.8	0.0	155.47	123.42	278.89
8	70.0	6.99 9.039	3.92	0.00	0.14	2.81	1.00	1.00	0.00	11.26	23.75	0.00	1,045.9	0.0	188.26	127.01	315.28
9	76.7	7.18 8.631	3.86	0.00	0.14	2.80	1.00	1.00	0.00	10.82	23.40	0.00	924.9	0.0	184.62	128.40	313.02
10	83.3	7.35 6.574	3.22	0.00	0.12	2.90	1.00	1.00	0.00	8.39	23.58	0.00	1,001.0	0.0	151.85	132.70	284.56
11	90.0	7.51 4.365	4.47	0.00	0.11	2.92	1.00	1.00	0.00	6.89	23.39	0.00	996.3	0.0	128.56	134.80	263.35
12	96.7	7.67 6.421	3.17	0.00	0.13	2.84	1.00	1.00	0.00	8.21	23.04	0.00	1,008.3	0.0	152.29	135.51	287.80
13	103.3	7.81 5.911	3.22	0.00	0.13	2.85	1.00	1.00	0.00	7.73	23.39	0.00	819.3	0.0	146.12	140.21	286.33
14	110.0	7.96 5.382	3.17	0.00	0.13	2.84	1.00	1.00	0.00	7.18	23.04	0.00	806.8	0.0	137.68	140.60	278.28
15	116.6	8.09 3.631	3.22	0.00	0.11	2.92	1.00	1.00	0.00	5.45	23.39	0.00	713.3	0.0	109.25	145.14	254.39
16	122.5	8.20 2.725	2.40	0.00	0.12	2.89	1.00	1.00	0.00	4.08	16.83	0.00	479.0	0.0	82.12	104.61	186.73
17	127.5	8.30 2.593	2.40	0.00	0.12	2.87	1.00	1.00	0.00	3.95	13.85	0.00	436.4	0.0	79.94	86.81	166.75
18	132.5	8.39 2.514	2.40	0.00	0.13	2.85	1.00	1.00	0.00	3.87	9.39	0.00	308.7	0.0	78.57	58.94	137.51
19	137.5	8.48 2.395	2.40	0.00	0.14	2.82	1.00	1.00	0.00	3.75	8.30	0.00	289.5	0.0	76.38	53.08	129.47
20	146.0	8.63 6.622	4.75	0.00	0.14	2.81	1.00	1.00	0.00	9.31	12.37	0.00	532.9	0.0	191.62	82.07	273.70
													<b>21,928.7</b>	<b>0.0</b>			<b>5,771.63</b>

## Section Forces

**Structure:** CT13065-A-SBA  
**Site Name:** Guilford  
**Height:** 152.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Topography:** 1

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

2/25/2019  
  
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**Load Case:** 1.0D + 1.0W 60° Wind

1.0D + 1.0W 60 mph Wind at 60° From Face

**Wind Load Factor:** 1.00

**Wind Importance Factor:** 1.00

**Dead Load Factor:** 1.00

**Ice Dead Load Factor:** 0.00

**Ice Importance Factor:** 1.00

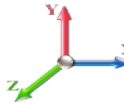
Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Ice Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	5.0	5.48	12.899	10.01	0.00	0.11	2.92	0.80	1.00	0.00	15.97	9.69	0.00	1,882.3	0.0	217.59	47.57	265.16
2	15.0	5.48	12.376	10.01	0.00	0.11	2.91	0.80	1.00	0.00	15.55	35.45	0.00	2,132.1	0.0	211.07	148.66	359.72
3	25.0	5.48	10.180	8.14	0.00	0.10	2.97	0.80	1.00	0.00	12.74	35.45	0.00	2,169.5	0.0	176.40	148.66	325.06
4	35.0	5.74	13.993	7.51	0.00	0.12	2.88	0.80	1.00	0.00	15.44	35.45	0.00	2,002.6	0.0	216.51	155.48	371.99
5	45.0	6.16	12.625	7.51	0.00	0.12	2.88	0.80	1.00	0.00	14.35	35.45	0.00	1,661.5	0.0	216.34	167.06	383.39
6	55.0	6.53	12.068	7.51	0.00	0.13	2.86	0.80	1.00	0.00	13.90	35.45	0.00	1,631.7	0.0	220.76	176.92	397.67
7	63.4	6.79	6.441	5.03	0.00	0.12	2.90	0.80	1.00	0.00	8.00	23.75	0.00	1,086.8	0.0	133.90	123.42	257.32
8	70.0	6.99	9.039	3.92	0.00	0.14	2.81	0.80	1.00	0.00	9.45	23.75	0.00	1,045.9	0.0	158.03	127.01	285.04
9	76.7	7.18	8.631	3.86	0.00	0.14	2.80	0.80	1.00	0.00	9.09	23.40	0.00	924.9	0.0	155.16	128.40	283.56
10	83.3	7.35	6.574	3.22	0.00	0.12	2.90	0.80	1.00	0.00	7.08	23.58	0.00	1,001.0	0.0	128.06	132.70	260.76
11	90.0	7.51	4.365	4.47	0.00	0.11	2.92	0.80	1.00	0.00	6.02	23.39	0.00	996.3	0.0	112.27	134.80	247.07
12	96.7	7.67	6.421	3.17	0.00	0.13	2.84	0.80	1.00	0.00	6.93	23.04	0.00	1,008.3	0.0	128.48	135.51	263.99
13	103.3	7.81	5.911	3.22	0.00	0.13	2.85	0.80	1.00	0.00	6.55	23.39	0.00	819.3	0.0	123.78	140.21	263.99
14	110.0	7.96	5.382	3.17	0.00	0.13	2.84	0.80	1.00	0.00	6.10	23.04	0.00	806.8	0.0	117.03	140.60	257.62
15	116.6	8.09	3.631	3.22	0.00	0.11	2.92	0.80	1.00	0.00	4.72	23.39	0.00	713.3	0.0	94.68	145.14	239.82
16	122.5	8.20	2.725	2.40	0.00	0.12	2.89	0.80	1.00	0.00	3.54	16.83	0.00	479.0	0.0	71.15	104.61	175.76
17	127.5	8.30	2.593	2.40	0.00	0.12	2.87	0.80	1.00	0.00	3.43	13.85	0.00	436.4	0.0	69.45	86.81	156.25
18	132.5	8.39	2.514	2.40	0.00	0.13	2.85	0.80	1.00	0.00	3.37	9.39	0.00	308.7	0.0	68.37	58.94	127.31
19	137.5	8.48	2.395	2.40	0.00	0.14	2.82	0.80	1.00	0.00	3.27	8.30	0.00	289.5	0.0	66.64	53.08	119.72
20	146.0	8.63	6.622	4.75	0.00	0.14	2.81	0.80	1.00	0.00	7.99	12.37	0.00	532.9	0.0	164.37	82.07	246.45
													<b>21,928.7</b>	<b>0.0</b>				<b>5,287.67</b>

## Section Forces

**Structure:** CT13065-A-SBA  
**Site Name:** Guilford  
**Height:** 152.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Topography:** 1

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

2/25/2019  
  
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**Load Case:** 1.0D + 1.0W 90° Wind

1.0D + 1.0W 60 mph Wind at 90° From Face

**Wind Load Factor:** 1.00

**Wind Importance Factor:** 1.00

**Dead Load Factor:** 1.00

**Ice Dead Load Factor:** 0.00

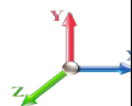
**Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	5.0	5.48	12.899	10.01	0.00	0.11	2.92	0.85	1.00	0.00	16.62	9.69	0.00	1,882.3	0.0	226.38	47.57	273.95
2	15.0	5.48	12.376	10.01	0.00	0.11	2.91	0.85	1.00	0.00	16.17	35.45	0.00	2,132.1	0.0	219.46	148.66	368.12
3	25.0	5.48	10.180	8.14	0.00	0.10	2.97	0.85	1.00	0.00	13.25	35.45	0.00	2,169.5	0.0	183.45	148.66	332.11
4	35.0	5.74	13.993	7.51	0.00	0.12	2.88	0.85	1.00	0.00	16.14	35.45	0.00	2,002.6	0.0	226.32	155.48	381.80
5	45.0	6.16	12.625	7.51	0.00	0.12	2.88	0.85	1.00	0.00	14.98	35.45	0.00	1,661.5	0.0	225.85	167.06	392.91
6	55.0	6.53	12.068	7.51	0.00	0.13	2.86	0.85	1.00	0.00	14.51	35.45	0.00	1,631.7	0.0	230.34	176.92	407.25
7	63.4	6.79	6.441	5.03	0.00	0.12	2.90	0.85	1.00	0.00	8.32	23.75	0.00	1,086.8	0.0	139.30	123.42	262.71
8	70.0	6.99	9.039	3.92	0.00	0.14	2.81	0.85	1.00	0.00	9.90	23.75	0.00	1,045.9	0.0	165.59	127.01	292.60
9	76.7	7.18	8.631	3.86	0.00	0.14	2.80	0.85	1.00	0.00	9.52	23.40	0.00	924.9	0.0	162.52	128.40	290.93
10	83.3	7.35	6.574	3.22	0.00	0.12	2.90	0.85	1.00	0.00	7.41	23.58	0.00	1,001.0	0.0	134.01	132.70	266.71
11	90.0	7.51	4.365	4.47	0.00	0.11	2.92	0.85	1.00	0.00	6.24	23.39	0.00	996.3	0.0	116.34	134.80	251.14
12	96.7	7.67	6.421	3.17	0.00	0.13	2.84	0.85	1.00	0.00	7.25	23.04	0.00	1,008.3	0.0	134.43	135.51	269.95
13	103.3	7.81	5.911	3.22	0.00	0.13	2.85	0.85	1.00	0.00	6.84	23.39	0.00	819.3	0.0	129.37	140.21	269.57
14	110.0	7.96	5.382	3.17	0.00	0.13	2.84	0.85	1.00	0.00	6.37	23.04	0.00	806.8	0.0	122.19	140.60	262.79
15	116.6	8.09	3.631	3.22	0.00	0.11	2.92	0.85	1.00	0.00	4.90	23.39	0.00	713.3	0.0	98.32	145.14	243.46
16	122.5	8.20	2.725	2.40	0.00	0.12	2.89	0.85	1.00	0.00	3.67	16.83	0.00	479.0	0.0	73.90	104.61	178.51
17	127.5	8.30	2.593	2.40	0.00	0.12	2.87	0.85	1.00	0.00	3.56	13.85	0.00	436.4	0.0	72.07	86.81	158.88
18	132.5	8.39	2.514	2.40	0.00	0.13	2.85	0.85	1.00	0.00	3.49	9.39	0.00	308.7	0.0	70.92	58.94	129.86
19	137.5	8.48	2.395	2.40	0.00	0.14	2.82	0.85	1.00	0.00	3.39	8.30	0.00	289.5	0.0	69.07	53.08	122.16
20	146.0	8.63	6.622	4.75	0.00	0.14	2.81	0.85	1.00	0.00	8.32	12.37	0.00	532.9	0.0	171.19	82.07	253.26
													<b>21,928.7</b>	<b>0.0</b>				

## Force/Stress Compression Summary

**Structure:** CT13065-A-SBA  
**Site Name:** Guilford  
**Height:** 152.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II  
**Topography:** 1

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### LEG MEMBERS

Sect	Top Elev	Member	Force (kips)		Load Case	Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls	
			X	Y			Z	KL/R						
1	10	MOD - 5"PST+6"PX1/2P	-188.21	1.2D + 1.6W	Normal Wind	10.02	100	100	100	68.10	50.00	272.55	69.1	Member X
2	20	MOD - 5"PST+6"PX1/2P	-176.67	1.2D + 1.6W	Normal Wind	10.02	100	100	100	68.10	50.00	272.55	64.8	Member X
3	30	MOD - 4"PX+5"PX1/2P	-164.04	1.2D + 1.6W	Normal Wind	10.02	100	100	100	76.37	50.00	219.25	74.8	Member X
4	40	PX - 4" DIA PIPE	-150.71	1.2D + 1.6W	Normal Wind	9.77	50	50	50	39.60	50.00	176.95	85.2	Member X
5	50	PX - 4" DIA PIPE	-138.92	1.2D + 1.6W	Normal Wind	9.77	50	50	50	39.59	50.00	176.96	78.5	Member X
6	60	PX - 4" DIA PIPE	-125.87	1.2D + 1.6W	Normal Wind	10.02	50	50	50	40.61	50.00	175.91	71.6	Member X
7	66.7	MOD - 3"PX+4"PX1/2P	-115.24	1.2D + 1.6W	Normal Wind	6.71	100	100	100	71.98	50.00	160.76	71.7	Member X
8	73.4	PX - 3" DIA PIPE	-106.18	1.2D + 1.6W	Normal Wind	6.71	50	50	50	35.33	50.00	124.05	85.6	Member X
9	80	PX - 3" DIA PIPE	-97.56	1.2D + 1.6W	Normal Wind	6.61	50	50	50	34.80	50.00	124.38	78.4	Member X
10	86.7	PX - 2-1/2" DIA PIPE	-88.48	1.2D + 1.6W	Normal Wind	6.46	50	50	50	41.95	50.00	89.02	99.4	Member X
11	93.4	MOD - 2.5"PX+3.5"PX1/2P	-80.31	1.2D + 1.6W	Normal Wind	6.71	100	100	100	88.36	50.00	104.04	77.2	Member X
12	100	PX - 2-1/2" DIA PIPE	-70.84	1.2D + 1.6W	Normal Wind	6.61	50	50	50	42.93	50.00	88.48	80.1	Member X
13	106.7	PX - 2-1/2" DIA PIPE	-61.69	1.2D + 1.6W	Normal Wind	6.71	50	50	50	43.58	50.00	88.12	70.0	Member X
14	113.3	PX - 2-1/2" DIA PIPE	-52.04	1.2D + 1.6W	Normal Wind	6.61	50	50	50	42.93	50.00	88.49	58.8	Member X
15	120	PX - 2-1/2" DIA PIPE	-42.22	1.2D + 1.6W	Normal Wind	6.71	100	100	100	87.15	50.00	58.10	72.7	Member X
16	125	PST - 2-1/2" DIA PIPE	-33.46	1.2D + 1.6W	Normal Wind	4.76	100	100	100	60.29	50.00	58.78	56.9	Member X
17	130	PST - 2-1/2" DIA PIPE	-25.27	1.2D + 1.6W	Normal Wind	4.76	100	100	100	60.29	50.00	58.78	43.0	Member X
18	135	PST - 2-1/2" DIA PIPE	-18.04	1.2D + 1.6W	Normal Wind	5.01	100	100	100	63.46	50.00	57.12	31.6	Member X
19	140	PST - 2-1/2" DIA PIPE	-11.62	1.2D + 1.6W	Normal Wind	5.01	100	100	100	63.46	50.00	57.12	20.3	Member X
20	152	PST - 2" DIA PIPE	-7.68	1.2D + 1.6W	Normal Wind	0.25	100	100	100	3.81	50.00	48.10	16.0	Member X

### Splices

Sect	Top Elev	Load Case	Top Splice				Bottom Splice					
			Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts
1	10	1.2D + 1.6W Normal Wind	182.40	0.00	0.0			1.2D + 1.6W Normal Wind	194.48	0.00		
2	20	1.2D + 1.6W Normal Wind	170.36	0.00	0.0	1	4	1.2D + 1.6W Normal Wind	182.40	0.00	A354-BC	4
3	30	1.2D + 1.6W Normal Wind	157.61	0.00	0.0			1.2D + 1.6W Normal Wind	170.36	0.00	1 A325-X	4
4	40	1.2D + 1.6W Normal Wind	144.98	0.00	0.0	1	4	1.2D + 1.6W Normal Wind	157.61	0.00	1 A325-X	4
5	50	1.2D + 1.6W Normal Wind	132.47	0.00	0.0			1.2D + 1.6W Normal Wind	144.98	0.00	/8 A325-X	4
6	60	1.2D + 1.6W Normal Wind	119.53	0.00	0.0	1	4	1.2D + 1.6W Normal Wind	132.47	0.00	1 A325-X	4
7	66.7	1.2D + 1.6W Normal Wind	110.56	0.00	0.0			1.2D + 1.6W Normal Wind	119.53	0.00	/8 A325-X	4
8	73.4	1.2D + 1.6W Normal Wind	101.82	0.00	0.0	7/8	4	1.2D + 1.6W Normal Wind	110.56	0.00	1 A325-X	4
9	80	1.2D + 1.6W Normal Wind	92.95	0.00	0.0	7/8	4	1.2D + 1.6W Normal Wind	101.82	0.00	1 A325-X	4
10	86.7	1.2D + 1.6W Normal Wind	84.35	0.00	0.0	7/8	4	1.2D + 1.6W Normal Wind	92.95	0.00	/4 A325-X	4
11	93.4	1.2D + 1.6W Normal Wind	75.53	0.00	0.0	7/8	4	1.2D + 1.6W Normal Wind	84.35	0.00	/8 A325-X	4
12	100	1.2D + 1.6W Normal Wind	66.36	0.00	0.0	7/8	4	1.2D + 1.6W Normal Wind	75.53	0.00	/8 A325-X	4
13	106.7	1.2D + 1.6W Normal Wind	56.82	0.00	0.0	7/8	4	1.2D + 1.6W Normal Wind	66.36	0.00	/8 A325-X	4
14	113.3	1.2D + 1.6W Normal Wind	47.21	0.00	0.0	7/8	4	1.2D + 1.6W Normal Wind	56.82	0.00	/8 A325-X	4
15	120	1.2D + 1.6W Normal Wind	37.27	0.00	0.0	7/8	4	1.2D + 1.6W Normal Wind	47.21	0.00	/8 A325-X	4
16	125	1.2D + 1.6W Normal Wind	29.85	0.00	0.0			1.2D + 1.6W Normal Wind	37.27	0.00	/8 A325-X	4
17	130	1.2D + 1.6W Normal Wind	21.46	0.00	0.0	3/4	4	1.2D + 1.6W Normal Wind	29.85	0.00	/8 A325-X	4
18	135	1.2D + 1.6W Normal Wind	15.00	0.00	0.0	3/4	4	1.2D + 1.6W Normal Wind	21.46	0.00	/8 A325-X	4
19	140	1.2D + 1.6W Normal Wind	8.49	0.00	0.0			1.2D + 1.6W Normal Wind	15.00	0.00		
20	152	1.2D + 1.0Di + 1.0Wi 60° Wind	0.22	0.00	0.0			1.2D + 1.6W Normal Wind	8.49	0.00	/8 A325-X	4

### HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing %	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	10							0.00	0	0				

## Force/Stress Compression Summary

<b>Structure:</b> CT13065-A-SBA	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Site Name:</b> Guilford	<b>Exposure:</b> B	
<b>Height:</b> 152.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



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### HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing %			KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Bear		Use %	Controls
						X	Y	Z						Cap (kips)	Cap (kips)		
2	20									0.00	0	0					
3	30									0.00	0	0					
4	40									0.00	0	0					
5	50									0.00	0	0					
6	60									0.00	0	0					
7	66.7									0.00	0	0					
8	73.4									0.00	0	0					
9	80									0.00	0	0					
10	86.7									0.00	0	0					
11	93.4									0.00	0	0					
12	100									0.00	0	0					
13	106.									0.00	0	0					
14	113.									0.00	0	0					
15	120									0.00	0	0					
16	125									0.00	0	0					
17	130									0.00	0	0					
18	135									0.00	0	0					
19	140									0.00	0	0					
20	152	SAE - 2X2X0.125	-0.62	0.9D + 1.6W Normal Wind	6.52	100	100	100	196.58	36.00	2.81	10	10	972.00	696.0	22	Member Z

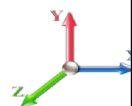
### DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing %			KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Bear		Use %	Controls
						X	Y	Z						Cap (kips)	Cap (kips)		
1	10	SAE - 3.5X3.5X0.25	-6.89	1.2D + 1.6W 90° Wind	22.61	49	49	49	191.59	50.00	10.40	1	1	15.19	11.6	66	Member Z
2	20	SAE - 3.5X3.5X0.25	-6.96	0.9D + 1.6W 90° Wind	21.72	49	49	49	183.99	50.00	11.28	1	1	15.19	11.6	62	Member Z
3	30	SAE - 3X3X0.375	-6.82	0.9D + 1.6W 90° Wind	20.81	49	49	49	208.49	36.00	10.97	1	1	15.19	15.6	62	Member Z
4	40	SAE - 3X3X0.375	-6.51	1.2D + 1.6W 90° Wind	19.77	49	49	49	198.04	36.00	12.15	1	1	15.19	15.6	54	Member Z
5	50	SAE - 3X3X0.25	-6.30	0.9D + 1.6W 90° Wind	18.89	49	49	49	187.63	36.00	9.24	1	1	15.19	10.4	68	Member Z
6	60	SAE - 3X3X0.25	-6.48	1.2D + 1.6W 90° Wind	18.19	49	49	49	180.66	36.00	9.97	1	1	15.19	10.4	65	Member Z
7	66.7	SAE - 2.5X2.5X0.25	-5.42	0.9D + 1.6W 90° Wind	15.83	49	49	49	189.62	36.00	7.48	1	1	9.72	8.26	72	Member Z
8	73.4	SAE - 2.5X2.5X0.25	-5.34	1.2D + 1.6W 90° Wind	15.21	49	49	49	182.11	36.00	8.11	1	1	9.72	8.26	66	Member Z
9	80	SAE - 2.5X2.5X0.1875	-5.20	1.2D + 1.6W 90° Wind	14.54	49	49	49	172.67	36.00	6.83	1	1	9.72	6.20	84	Bolt Bear
10	86.7	SAE - 2X2X0.375	-4.91	1.2D + 1.6W 90° Wind	13.84	49	49	49	209.25	36.00	7.02	1	1	9.72	12.4	70	Member Z
11	93.4	SAE - 2X2X0.375	-4.78	1.2D + 1.6W 90° Wind	13.38	49	49	49	202.25	36.00	7.51	1	1	9.72	12.4	64	Member Z
12	100	SAE - 2X2X0.375	-4.83	1.2D + 1.6W 90° Wind	12.74	49	49	49	192.63	36.00	8.28	1	1	9.72	12.4	58	Member Z
13	106.	DAE - 2X2X0.125	-4.71	1.2D + 1.6W 90° Wind	12.23	49	49	49	195.39	36.00	5.68	1	1	9.72	8.26	83	Member Y
14	113.	DAE - 2X2X0.125	-4.63	1.2D + 1.6W 90° Wind	11.61	49	49	49	185.61	36.00	6.30	1	1	9.72	8.26	74	Member Y
15	120	DAE - 2X2X0.125	-4.58	1.2D + 1.6W 90° Wind	11.13	49	49	49	177.93	36.00	6.85	1	1	9.72	8.26	67	Member Y
16	125	SAE - 1.75X1.75X0.25	-4.35	1.2D + 1.6W 90° Wind	9.58	50	50	50	168.63	36.00	6.44	1	1	9.72	8.26	68	Member Z
17	130	SAE - 1.75X1.75X0.25	-4.20	1.2D + 1.6W 90° Wind	9.13	50	50	50	160.67	36.00	7.09	1	1	9.72	8.26	59	Member Z
18	135	SAE - 1.75X1.75X0.125-2.87		1.2D + 1.6W 90° Wind	8.86	50	50	50	153.16	36.00	4.04	1	1	9.72	4.13	71	Member Z
19	140	SAE - 1.75X1.75X0.125-3.01		1.2D + 1.6W 90° Wind	8.45	50	50	50	146.10	36.00	4.44	1	1	9.72	4.13	73	Bolt Bear
20	152	SAE - 1.5X1.5X0.125	-1.85	1.2D + 1.6W Normal Wind	7.63	50	50	50	154.74	36.00	3.40	1	1	9.72	4.13	54	Member Z

## Force/Stress Tension Summary

**Structure:** CT13065-A-SBA  
**Site Name:** Guilford  
**Height:** 152.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

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### LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	10	MOD - 5"PST+6"PX1/2P	160.56	0.9D + 1.6W 60° Wind	50	382.59	42.0	Member
2	20	MOD - 5"PST+6"PX1/2P	150.43	0.9D + 1.6W 60° Wind	50	382.59	39.3	Member
3	30	MOD - 4"PX+5"PX1/2P	140.10	0.9D + 1.6W 60° Wind	50	335.85	41.7	Member
4	40	PX - 4" DIA PIPE	135.73	0.9D + 1.6W 60° Wind	50	198.45	68.4	Member
5	50	PX - 4" DIA PIPE	125.58	0.9D + 1.6W 60° Wind	50	198.45	63.3	Member
6	60	PX - 4" DIA PIPE	108.45	0.9D + 1.6W 60° Wind	50	198.45	54.6	Member
7	66.7	MOD - 3"PX+4"PX1/2P	99.34	0.9D + 1.6W 60° Wind	50	234.80	42.3	Member
8	73.4	PX - 3" DIA PIPE	91.64	0.9D + 1.6W 60° Wind	50	135.90	67.4	Member
9	80	PX - 3" DIA PIPE	84.13	0.9D + 1.6W 60° Wind	50	135.90	61.9	Member
10	86.7	PX - 2-1/2" DIA PIPE	80.78	0.9D + 1.6W 60° Wind	50	101.25	79.8	Member
11	93.4	MOD - 2.5"PX+3.5"PX1/2P	68.93	0.9D + 1.6W 60° Wind	50	184.12	37.4	Member
12	100	PX - 2-1/2" DIA PIPE	60.63	0.9D + 1.6W 60° Wind	50	101.25	59.9	Member
13	106.7	PX - 2-1/2" DIA PIPE	52.48	0.9D + 1.6W 60° Wind	50	101.25	51.8	Member
14	113.3	PX - 2-1/2" DIA PIPE	43.69	0.9D + 1.6W 60° Wind	50	101.25	43.1	Member
15	120	PX - 2-1/2" DIA PIPE	34.74	0.9D + 1.6W 60° Wind	50	101.25	34.3	Member
16	125	PST - 2-1/2" DIA PIPE	26.59	0.9D + 1.6W 60° Wind	50	76.68	34.7	Member
17	130	PST - 2-1/2" DIA PIPE	23.36	0.9D + 1.6W 60° Wind	50	76.68	30.5	Member
18	135	PST - 2-1/2" DIA PIPE	13.40	0.9D + 1.6W 60° Wind	50	76.68	17.5	Member
19	140	PST - 2-1/2" DIA PIPE	7.48	0.9D + 1.6W 60° Wind	50	76.68	9.8	Member
20	152	PST - 2" DIA PIPE	5.36	0.9D + 1.6W 60° Wind	50	48.15	11.1	Member

### Splices

Sect	Top Elev	Top Splice					Bottom Splice							
		Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	
1	10	0.9D + 1.6W 60° Wind	155.07	0.00	0.0			0.9D + 1.6W 60° Wind	166.2	0.00				
2	20	0.9D + 1.6W 60° Wind	144.46	212.04	68.1	1	4	0.9D + 1.6W 60° Wind	155.0	242.28	64.0	1	A354-BC	4
3	30	0.9D + 1.6W 60° Wind	134.06	0.00	0.0			0.9D + 1.6W 60° Wind	144.4	212.04	68.1	1	A325-X	4
4	40	0.9D + 1.6W 60° Wind	124.36	212.04	58.6	1	4	0.9D + 1.6W 60° Wind	134.0	212.04	63.2	1	A325-X	4
5	50	0.9D + 1.6W 60° Wind	113.90	0.00	0.0			0.9D + 1.6W 60° Wind	124.3	166.24	74.8	7/8	A325-X	4
6	60	0.9D + 1.6W 60° Wind	102.27	212.04	48.2	1	4	0.9D + 1.6W 60° Wind	113.9	212.04	53.7	1	A325-X	4
7	66.7	0.9D + 1.6W 60° Wind	94.92	0.00	0.0			0.9D + 1.6W 60° Wind	102.2	166.24	61.5	7/8	A325-X	4
8	73.4	0.9D + 1.6W 60° Wind	87.40	166.24	52.6	7/8	4	0.9D + 1.6W 60° Wind	94.92	212.04	44.8	1	A325-X	4
9	80	0.9D + 1.6W 60° Wind	79.70	166.24	47.9	7/8	4	0.9D + 1.6W 60° Wind	87.40	212.04	41.2	1	A325-X	4
10	86.7	0.9D + 1.6W 60° Wind	72.45	166.24	43.6	7/8	4	0.9D + 1.6W 60° Wind	79.70	120.40	66.2	3/4	A325-X	4
11	93.4	0.9D + 1.6W 60° Wind	64.34	166.24	38.7	7/8	4	0.9D + 1.6W 60° Wind	72.45	166.24	43.6	7/8	A325-X	4
12	100	0.9D + 1.6W 60° Wind	56.24	166.24	33.8	7/8	4	0.9D + 1.6W 60° Wind	64.34	166.24	38.7	7/8	A325-X	4
13	106.7	0.9D + 1.6W 60° Wind	47.71	166.24	28.7	7/8	4	0.9D + 1.6W 60° Wind	56.24	82.84	67.9	5/8	A325-X	4
14	113.3	0.9D + 1.6W 60° Wind	38.97	166.24	23.4	7/8	4	0.9D + 1.6W 60° Wind	47.71	166.24	28.7	7/8	A325-X	4
15	120	0.9D + 1.6W 60° Wind	29.82	166.24	17.9	7/8	4	0.9D + 1.6W 60° Wind	38.97	166.24	23.4	7/8	A325-X	4
16	125	0.9D + 1.6W 60° Wind	23.30	0.00	0.0			0.9D + 1.6W 60° Wind	29.82	82.84	36.0	5/8	A325-X	4
17	130	0.9D + 1.6W 60° Wind	15.30	120.40	12.7	3/4	4	0.9D + 1.6W 60° Wind	23.30	166.24	14.0	7/8	A325-X	4
18	135	0.9D + 1.6W 60° Wind	10.45	120.40	8.7	3/4	4	0.9D + 1.6W 60° Wind	15.30	166.24	9.2	7/8	A325-X	4
19	140	0.9D + 1.6W 60° Wind	4.43	0.00	0.0			0.9D + 1.6W 60° Wind	10.45	0.00				
20	152		0.00	0.00	0.0			0.9D + 1.6W 60° Wind	4.43	82.84	5.3	5/8	A325-X	4

### HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	10	-			50	0.00	0	0					
2	20	-			50	0.00	0	0					

## Force/Stress Tension Summary

<b>Structure:</b> CT13065-A-SBA	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Site Name:</b> Guilford	<b>Exposure:</b> B	
<b>Height:</b> 152.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



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### HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
3	30	-			36	0.00	0	0					
4	40	-			36	0.00	0	0					
5	50	-			36	0.00	0	0					
6	60	-			36	0.00	0	0					
7	66.7	-			36	0.00	0	0					
8	73.4	-			36	0.00	0	0					
9	80	-			36	0.00	0	0					
10	86.7	-			36	0.00	0	0					
11	93.4	-			36	0.00	0	0					
12	100	-			36	0.00	0	0					
13	106.7	-			36	0.00	0	0					
14	113.3	-			36	0.00	0	0					
15	120	-			36	0.00	0	0					
16	125	-			36	0.00	0	0					
17	130	-			36	0.00	0	0					
18	135	-			36	0.00	0	0					
19	140	-			36	0.00	0	0					
20	152	SAE - 2X2X0.125	0.68	1.2D + 1.6W 60° Wind	36	-318.96	100	100	972.00	696.00	288.19	0.2	Member

### DIAGONAL MEMBERS

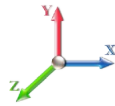
Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	10	SAE - 3.5X3.5X0.25	6.69	0.9D + 1.6W 90° Wind	50	54.94	1	1	15.19	11.69	23.91	57.3	Bolt Bear
2	20	SAE - 3.5X3.5X0.25	6.90	0.9D + 1.6W 90° Wind	50	54.94	1	1	15.19	11.69	23.91	59.0	Bolt Bear
3	30	SAE - 3X3X0.375	6.73	0.9D + 1.6W 90° Wind	36	59.66	1	1	15.19	15.65	19.77	44.3	Bolt Shear
4	40	SAE - 3X3X0.375	6.23	0.9D + 1.6W 90° Wind	36	59.66	1	1	15.19	15.65	19.77	41.0	Bolt Shear
5	50	SAE - 3X3X0.25	6.23	1.2D + 1.6W 90° Wind	36	40.86	1	1	15.19	10.43	13.18	59.8	Bolt Bear
6	60	SAE - 3X3X0.25	6.24	0.9D + 1.6W 90° Wind	36	40.86	1	1	15.19	10.43	13.18	59.8	Bolt Bear
7	66.7	SAE - 2.5X2.5X0.25	5.45	1.2D + 1.6W 90° Wind	36	33.73	1	1	9.72	8.26	11.69	65.9	Bolt Bear
8	73.4	SAE - 2.5X2.5X0.25	5.17	0.9D + 1.6W 90° Wind	36	33.73	1	1	9.72	8.26	11.69	62.5	Bolt Bear
9	80	SAE - 2.5X2.5X0.1875	5.13	1.2D + 1.6W 90° Wind	36	25.60	1	1	9.72	6.20	9.79	82.7	Bolt Bear
10	86.7	SAE - 2X2X0.375	4.80	0.9D + 1.6W 90° Wind	36	36.72	1	1	9.72	12.40	13.46	49.4	Bolt Shear
11	93.4	SAE - 2X2X0.375	4.83	1.2D + 1.6W 90° Wind	36	36.72	1	1	9.72	12.40	13.46	49.7	Bolt Shear
12	100	SAE - 2X2X0.375	4.67	1.2D + 1.6W 90° Wind	36	36.72	1	1	9.72	12.40	13.46	48.0	Bolt Shear
13	106.7	DAE - 2X2X0.125	4.66	1.2D + 1.6W 90° Wind	36	28.77	1	1	9.72	8.26	8.97	56.4	Bolt Bear
14	113.3	DAE - 2X2X0.125	4.59	1.2D + 1.6W 90° Wind	36	28.77	1	1	9.72	8.26	8.97	55.5	Bolt Bear
15	120	DAE - 2X2X0.125	4.50	1.2D + 1.6W 90° Wind	36	28.77	1	1	9.72	8.26	8.97	54.5	Bolt Bear
16	125	SAE - 1.75X1.75X0.25	4.35	1.2D + 1.6W 90° Wind	36	21.33	1	1	9.72	8.26	7.61	57.1	Blck Shear
17	130	SAE - 1.75X1.75X0.25	4.14	1.2D + 1.6W 90° Wind	36	21.33	1	1	9.72	8.26	7.61	54.4	Blck Shear
18	135	SAE - 1.75X1.75X0.125	2.90	1.2D + 1.6W 90° Wind	36	11.15	1	1	9.72	4.13	3.81	76.3	Blck Shear
19	140	SAE - 1.75X1.75X0.125	2.92	0.9D + 1.6W 90° Wind	36	11.15	1	1	9.72	4.13	3.81	76.6	Blck Shear
20	152	SAE - 1.5X1.5X0.125	1.77	0.9D + 1.6W 90° Wind	36	9.20	1	1	9.72	4.13	3.81	46.4	Blck Shear

## Support Forces Summary

**Structure:** CT13065-A-SBA  
**Site Name:** Guilford  
**Height:** 152.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Topography:** 1

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

2/25/2019  
  
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Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal Wind	1	0.01	193.97	-21.18	
	1a	7.05	-79.76	-7.09	
	1b	-7.07	-79.80	-7.06	
1.2D + 1.6W 60° Wind	1	-2.41	98.48	-10.30	
	1a	-10.14	98.44	3.05	
	1b	-16.19	-162.52	-9.34	
1.2D + 1.6W 90° Wind	1	-2.83	11.46	-0.62	
	1a	-16.01	164.04	7.59	
	1b	-14.89	-141.09	-6.97	
0.9D + 1.6W Normal Wind	1	0.01	190.90	-21.00	
	1a	7.20	-82.54	-7.17	
	1b	-7.22	-82.56	-7.15	
0.9D + 1.6W 60° Wind	1	-2.41	95.52	-10.13	
	1a	-9.99	95.46	2.96	
	1b	-16.34	-165.18	-9.42	
0.9D + 1.6W 90° Wind	1	-2.83	8.59	-0.45	
	1a	-15.86	160.99	7.50	
	1b	-15.04	-143.78	-7.05	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.00	73.90	-5.64	
	1a	1.46	6.20	-1.59	
	1b	-1.47	6.14	-1.59	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.62	50.77	-3.00	
	1a	-2.91	50.80	0.96	
	1b	-3.87	-15.32	-2.24	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-0.72	28.74	-0.51	
	1a	-4.39	67.16	2.11	
	1b	-3.51	-9.65	-1.61	
1.0D + 1.0W Normal Wind	1	0.00	48.50	-5.00	
	1a	1.13	-9.90	-1.31	
	1b	-1.13	-9.93	-1.31	
1.0D + 1.0W 60° Wind	1	-0.52	27.59	-2.61	
	1a	-2.53	27.60	0.86	
	1b	-3.03	-26.53	-1.75	
1.0D + 1.0W 90° Wind	1	-0.61	9.55	-0.58	
	1a	-3.76	41.21	1.82	
	1b	-2.76	-22.09	-1.24	

### Max Reactions

Leg	Overturning
Max Uplift: -165.18 (kips)	Moment: 3284.45 (ft-kips)
Max Down: 193.97 (kips)	Total Down: 34.40 (kips)
Max Shear: 21.18 (kips)	Total Shear: 35.33 (kips)



## Analysis Summary

<b>Structure:</b> CT13065-A-SBA	<b>Code:</b> EIA/TIA-222-G	2/25/2019
<b>Site Name:</b> Guilford	<b>Exposure:</b> B	
<b>Height:</b> 152.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II
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### Max Reactions

	Leg	Overturning
Max Uplift:	-165.18 (kips)	Moment: 3284.45 (ft-kips)
Max Down:	193.97 (kips)	Total Down: 34.40 (kips)
Max Shear:	21.18 (kips)	Total Shear: 35.33 (kips)

### Anchor Bolts

Bolt Size (in.): 1.00	Number Bolts: 4
Yield Strength (Ksi): 92.00	Tensile Strength (Ksi): 120.00
Detail Type: C	

**Interaction Ratio: 0.88**

### Max Usages

Max Leg: 99.4% (1.2D + 1.6W Normal Wind - Sect 10)  
 Max Diag: 83.8% (1.2D + 1.6W 90° Wind - Sect 9)  
 Max Horiz: 22.0% (0.9D + 1.6W Normal Wind - Sect 20)

### Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.6W 101 mph Wind at 60° From Face	86.70	0.3239	0.0507	0.4820
	130.00	0.8201	0.1209	0.7469
	140.00	0.9634	0.1458	0.9004
	148.08	1.0810	0.1447	0.8518
0.9D + 1.6W 101 mph Wind at 90° From Face	86.70	0.3288	0.0416	0.4665
	130.00	0.8284	-0.2209	0.7581
	140.00	0.9729	-0.2615	0.8709
	148.08	1.0910	-0.2627	0.8388
0.9D + 1.6W 101 mph Wind at Normal To Face	86.70	0.3381	0.0172	0.5020
	130.00	0.8513	-0.0185	0.7821
	140.00	0.9994	-0.0203	0.9989
	148.08	1.1210	-0.0214	0.9204
1.0D + 1.0W 60 mph Wind at 60° From Face	86.70	0.0670	0.0049	0.0987
	130.00	0.1686	-0.0129	0.1534
	140.00	0.1979	-0.0169	0.1832
	148.08	0.2219	-0.0128	0.1735
1.0D + 1.0W 60 mph Wind at 90° From Face	86.70	0.0681	0.0031	0.0951
	130.00	0.1704	-0.0154	0.1569
	140.00	0.1999	-0.0202	0.1773
	148.08	0.2241	-0.0158	0.1728
1.0D + 1.0W 60 mph Wind at Normal To Face	86.70	0.0719	0.0045	0.1071
	130.00	0.1808	-0.0052	0.1659
	140.00	0.2122	-0.0055	0.2110
	148.08	0.2380	-0.0050	0.1939

1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	86.70	0.0813	0.0059	0.1178
	130.00	0.2038	-0.0152	0.1819
	140.00	0.2384	-0.0195	0.2178
	148.08	0.2668	-0.0154	0.2049
-----				
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	86.70	0.0820	0.0038	0.1116
	130.00	0.2048	-0.0186	0.1857
	140.00	0.2395	-0.0242	0.2108
	148.08	0.2679	-0.0207	0.2064
-----				
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	86.70	0.0834	0.0053	0.1245
	130.00	0.2077	-0.0064	0.1881
	140.00	0.2430	-0.0068	0.2347
	148.08	0.2719	-0.0060	0.2365
-----				
1.2D + 1.6W 101 mph Wind at 60° From Face	86.70	0.3244	0.0510	0.4828
	130.00	0.8216	0.1216	0.7484
	140.00	0.9653	0.1466	0.9027
	148.08	1.0831	0.1456	0.8535
-----				
1.2D + 1.6W 101 mph Wind at 90° From Face	86.70	0.3293	0.0417	0.4670
	130.00	0.8299	-0.2217	0.7598
	140.00	0.9748	-0.2624	0.8732
	148.08	1.0931	-0.2636	0.8412
-----				
1.2D + 1.6W 101 mph Wind at Normal To Face	86.70	0.3385	0.0173	0.5031
	130.00	0.8528	-0.0188	0.7838
	140.00	1.0012	-0.0206	1.0009
	148.08	1.1231	-0.0217	0.9216
-----				



# Self Supporting Tower Footing Design

Date  
2/25/2019

<b>Customer Name:</b>	SBA Communications Corp	<b>EIA/TIA Standard:</b>	EIA-222-G
<b>Site Name:</b>		<b>Structure Height (Ft.):</b>	152
<b>Site Nmber:</b>	CT13065-A-SBA	<b>Engineer Name:</b>	Rama K.
<b>Engr. Number:</b>	69905	<b>Manager Login Req'd:</b>	

**Foundation Info Obtained from:**

Mapping Operation

**Structure Type:**

Self Supporting Tower

**Analysis or Design?**

Analysis

**Base Reactions (Factored):**

Axial Load (Kips):	194.0	Shear Force (Kips):	21.2
Uplift Force (Kips):	165.2	Moment (Kips-ft):	0.0

Allowable overstress %: 5.0%

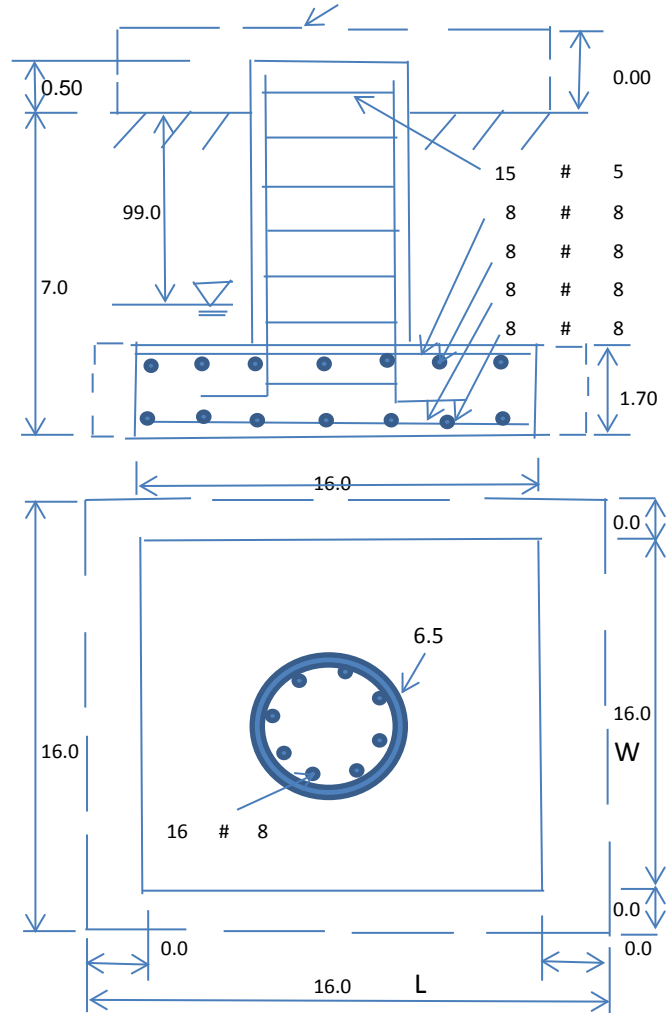
**Foundation Geometries:**

Pad Base with toe - Yes/No ?	No	Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	6.500	Depth of Base BG (ft.):	7.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	1.70
Length of Pad (ft.):	16	Width of Pad (ft.):	16

Final Length of pad (ft)	16.0	Final width of pad (ft):	16.0
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**Material Properties and Reabr Info:**

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	36	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	16	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	8	Qty. of Rebar in Pad (W):	8	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	8	Qty. of Rebar in Pad (W):	8	



**Soil Design Parameters:**

Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf	
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad: 30
Ultimate Bearing Pressure (psf):	10000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad: 30
					Angle from Bottm of Pad: 25

**Foundation Analysis and Design:**

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	1749.52	Total Dry Soil Weight (Kips):	209.94
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	209.94	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	627.66	Total Dry Concrete Weight (Kips):	94.15
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	94.15	Total Vertical Load on Base (Kips):	498.10

**Check Soil Capacities:**

Calculated Maxium Net Soil Pressure under the base (psf):	1012.25	<	Allowable Factored Soil Bearing (psf):	7500	0.13	OK!
Calculated Foundation Allowable Axail Capacity (Kips):	1920.0	>	Design Factored Axial Load (Kips):	219	0.11	OK!
Calculated Foundation Uplift Capacity (Kips):	263.45	>	Design Factored Uplift Load (Kips):	165	0.63	OK!

Load/  
Capacity  
Ratio

**Check the capacities of Reinforcing Concrete:**

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00

Load/  
Capacity  
Ratio

**(1) Concrete Pier:**

Vertical Steel Rebar Area (sq. in./each):	0.79	Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	1569.6	> Design Factored Moment (Mu, Kips-Ft)	122.8	0.08	OK!
Calculated Shear Capacity (Kips):	624.7	> Design Factored Shear (Kips):	21.2	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	682.6	> Design Factored Tension (Tu Kips):	165.2	0.24	OK!
Calculated Compression Capacity (Pn, Kips):	6319.3	> Design Factored Axial Load (Pu Kips):	194.0	0.03	OK!
Moment & Axial Strength Combination:	0.08	OK! Check Tie Spacing (Design/Required):		0.5	OK!
Pier Reinforcement Ratio:	0.003				

**(2).Concrete Pad:**

One-Way Design Shear Capacity (L-Dir. Kips);	266.6	> One-Way Factored Shear (L-Dir Kips):	44.9	0.17	OK!
One-Way Design Shear Capacity (W-Dir. Kips):	266.6	> One-Way Factored Shear (W-Dir Kips)	44.9	0.17	OK!
Two-Way Design Shear Capacity (Kips):	827.9	> Two-Way Factored Shear (Kips):	153.2	0.19	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct. ):	0.0019	Lower Steel Pad Reinf. Ratio (W-Direct	0.0019		OK!
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	469.6	> Moment at Bottom ( L-Direct. K-Ft):	151.5	0.32	OK!
Lower Steel Pad Moment Capacity (W-Dir. Kips-ft):	469.6	> Moment at Bottom ( W-Dir. Kips-Ft):	151.5	0.32	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct. ):	0.0019	Upper Steel Reinf. Ratio (W-Direct. ):	0.0019		OK!
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	469.6	> Moment at the top (L-Dir Kips-Ft):	100.9	0.21	OK!
Upper Steel Pad Moment Capacity (W-Dir. Kips-ft):	469.6	> Moment at the top (W-Dir Kips-Ft):	100.9	0.21	OK!

**Rebar Info Assumption per ACI when Foundation info was obtained from an mapping operation:**

Concrete Strength (Psi):	3000	Vertical bar yield (ksi)	60	Pad Rebar Yield (Ksi):	60
Vertical Rebar Size #:	8	Vertical Rebar Area (sq. in./each):	0.8	Min. Qty. of Vertical Rebars:	31
Pad Steel Rebar Size (#):	8	Vertical Rebar Area (sq. in./each):	0.79		
Min. Qty. of Rebars in L-Direction:	12	Min. Qty. of Rebars in W-Direction:	12		

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1033 WATERVLIE SHAKER RD, ALBANY, NY 12205

## Mount Analysis Report

January 7, 2019

Site Name	Guildford East
Site #	CTL05641
FA #	10071055
PTN #	2051A0KPHF/2051A0KQ9P/2051A0KQ95 2051A0KQBH/2051A0KQBJ
PACE #	MRCTB035166/MRCTB035212/MRCTB05185 MRCTB035359/MRCTB035362
Client	Smartlink
Carrier	AT&T
Infinigy Job #	499-006
Site Location	331 Killingworth Road Guilford, CT 06477 41° 21' 11.49" N NAD83 72° 41' 21.48" W NAD83
Mount Centerline EL.	149.0 ft
Mount Classification	Sector Frame
Mount Usage	<b>86.4%</b>
Overall Result	<b>Pass</b>

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA code requirements. The mounts and connections for the proposed carrier are therefore deemed adequate to support the final loading configuration as listed in this report.



Kevin Berger Jr.

AZ CA CO FL GA MD NC NH NJ NY TX WA

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Structure Usages.....	4
Mount Connection Reactions.....	4
Assumptions and Limitations.....	5
Calculations.....	Appended

## **Introduction**

Infinigy Engineering has been requested to perform a mount analysis on the existing AT&T mounts. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using RISA-3D Version 17.0.2 analysis software.

## **Supporting Documentation**

<b>RFDS</b>	AT&T RFDS ID #2571994, dated December 14, 2018
<b>Construction Drawing</b>	Infinigy Engineering Job #499-006, dated January 2, 2019
<b>Photos</b>	Infinigy Engineering Job #499-006, dated November 18, 2018
<b>Previous Analysis</b>	Fullerton Engineering Consultants, Inc., dated June 24, 2016

## **Analysis Code Requirements**

Wind Speed	101 mph (3-Second Gust, $V_{ASD}$ ) / 130 mph (3-Second Gust, $V_{ULT}$ )
Wind Speed w/ ice	50 mph (3-Second Gust, $V_{ASD}$ ) w/ 0.75" ice
TIA Revision	ANSI/TIA-222-G
Adopted IBC	2015 IBC/ 2018 Connecticut State Building Code
Structure Class	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft

## **Conclusion**

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA code requirements. The mounts and connections for the proposed carrier are therefore deemed adequate to support the final loading configuration as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Kevin Berger Jr.  
1033 Watervliet Shaker Road  
Albany NY 12205  
(O) 518-690-0790 | [Structural@Infinigy.com](mailto:Structural@Infinigy.com)

## Mount Analysis Report

January 7, 2018

### Final Configuration Loading

Mount CL (ft)	Rad. HT(ft)	Vert. O/S(ft)	Horiz. O/S(ft) <sup>(1)</sup>	Qty	Appurtenance <sup>(2),(3)</sup>	Carrier
149.0	149.0	0.0	4.2, 8.3	6	CCI HPA-65R-BU6AA	AT&T
			0.5	3	Kathrein 800-10965	
			12.3	3	Powerwave 7770	
			0.5	3	Ericsson RRUS-4415 B30	
			0.5	3	Ericsson RRUS-4449 B5/B12	
			8.3	3	Ericsson RRUS-8843 B2/B66A	
			12.3	6	Powerwave LGP 21401	
			--	3	Raycap DC6-48-60-18-8F	

(1)Horizontal Offset is defined as the distance from the left most edge of the mount face horizontal when viewed facing the tower.

(2)Radios are mounted behind antennas at respective locations see appended documents for vertical locations.

(3)Raycaps are mounted on tower legs.

### Structure Usages

Standoff	86.4%	Pass
Horizontal	61.0%	Pass
Mount Pipe	69.3%	Pass
<b>Results</b>	<b>86.4%</b>	<b>Pass</b>

### Mount Connection Reactions

Reaction Data	Design Reactions	Analysis Reactions	Result
Tension (lb)	12340.0	1243.6	10.1%
Shear (lb)	7770.0	1419.0	18.3%
Unity Check	--	--	28.4%

\*Assumed (2) 1/2" A307 Anchors. Contractor to field to verify anchor diameters prior to proper installation.

- Mount Connection reactions are acceptable per code calculate capacity.

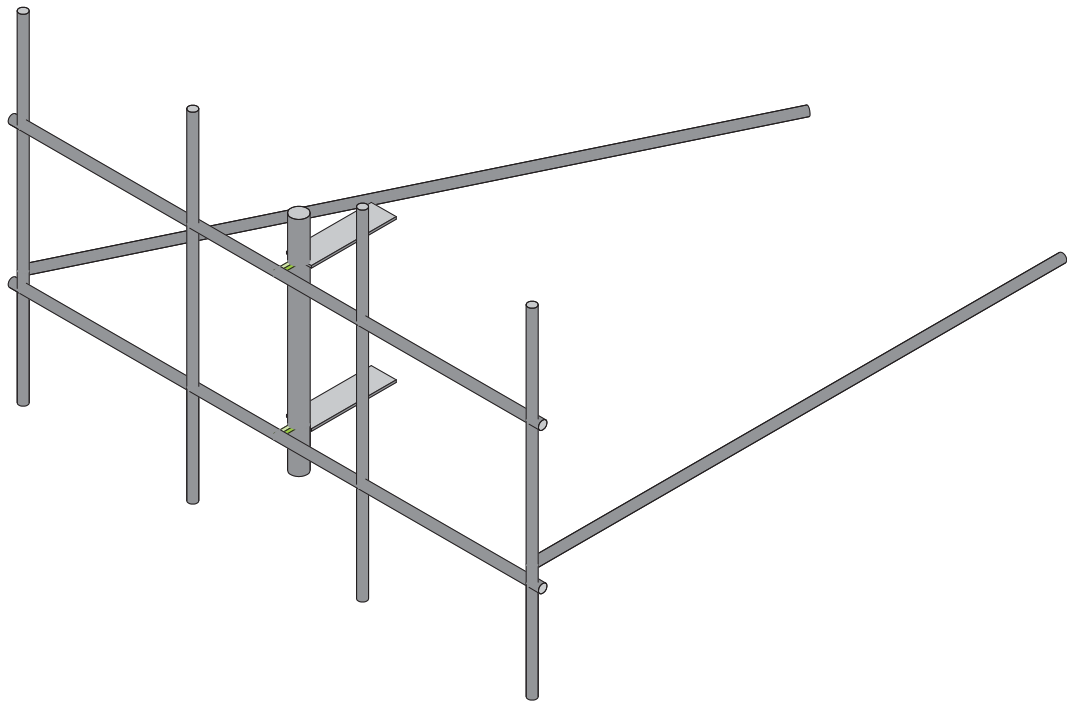
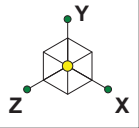


## **Assumptions and Limitations**

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of “like new” and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure’s condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

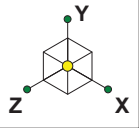
Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the proposed carriers mount structure only and does not reflect adequacy of the existing tower, other mounts, or coax mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.

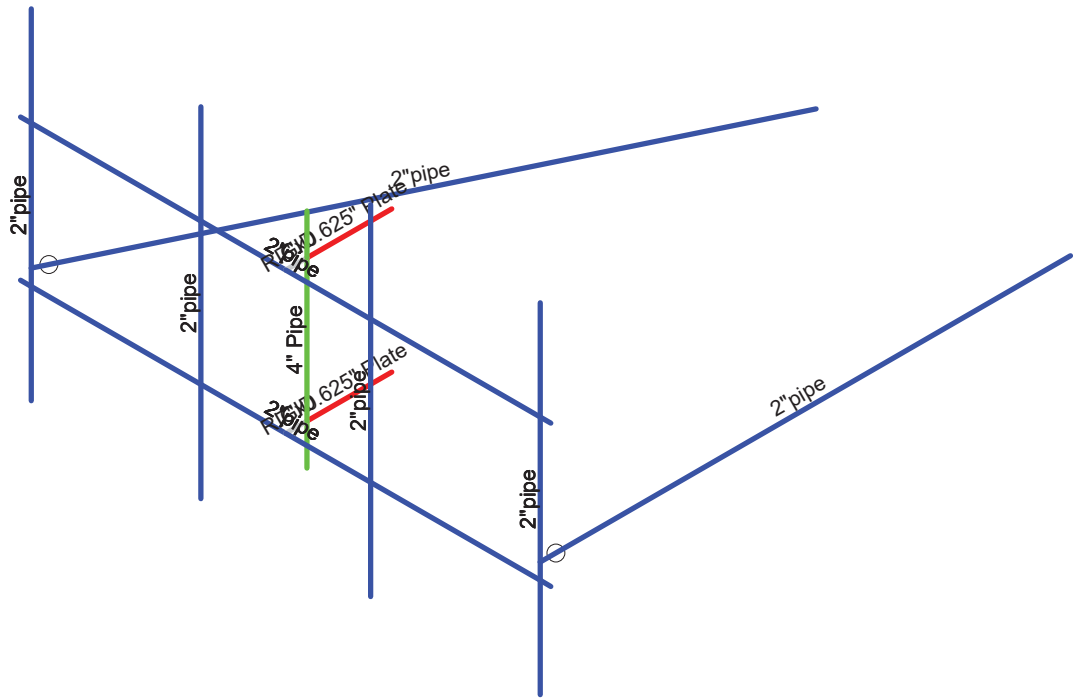


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Infinigy Engineering, PLLC.	CTL05641	Final Configuration
KLB		Jan 7, 2019 at 10:47 AM
499-006		CTL05641.r3d

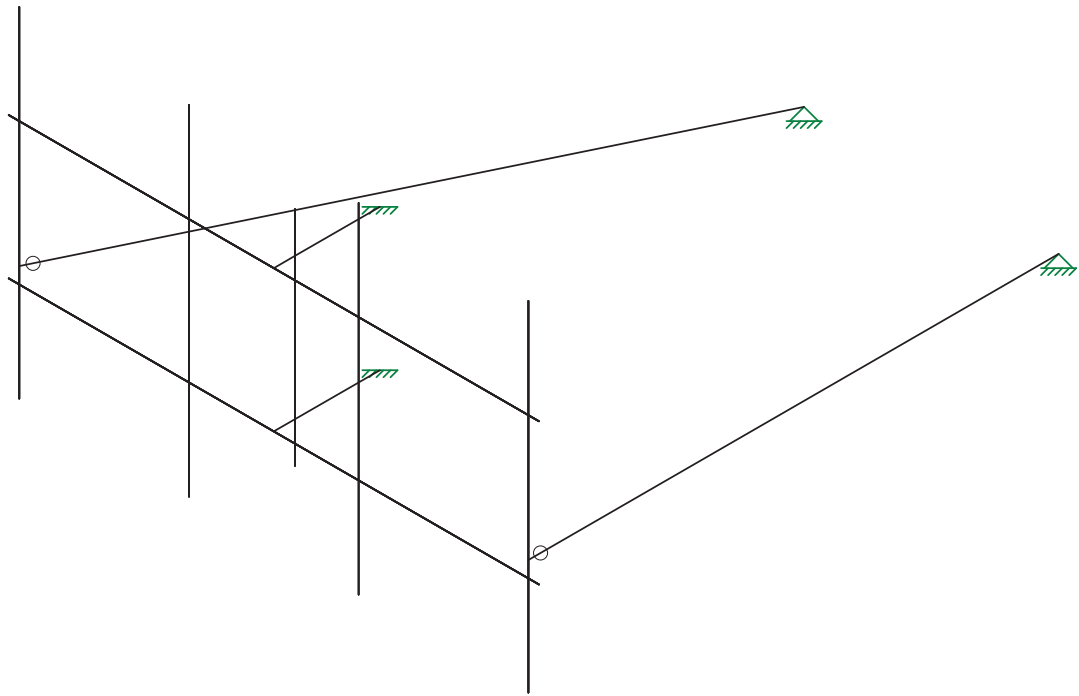
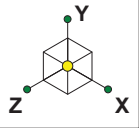


Section Sets	
<span style="color: blue;">█</span>	2" pipe
<span style="color: green;">█</span>	4" Pipe
<span style="color: red;">█</span>	7"x0.625" Plate
<span style="color: gray;">█</span>	RIGID



Envelope Only Solution

Infinigy Engineering, PLLC.	CTL05641	Section Sets
KLB		Jan 7, 2019 at 10:47 AM
499-006		CTL05641.r3d



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KLB

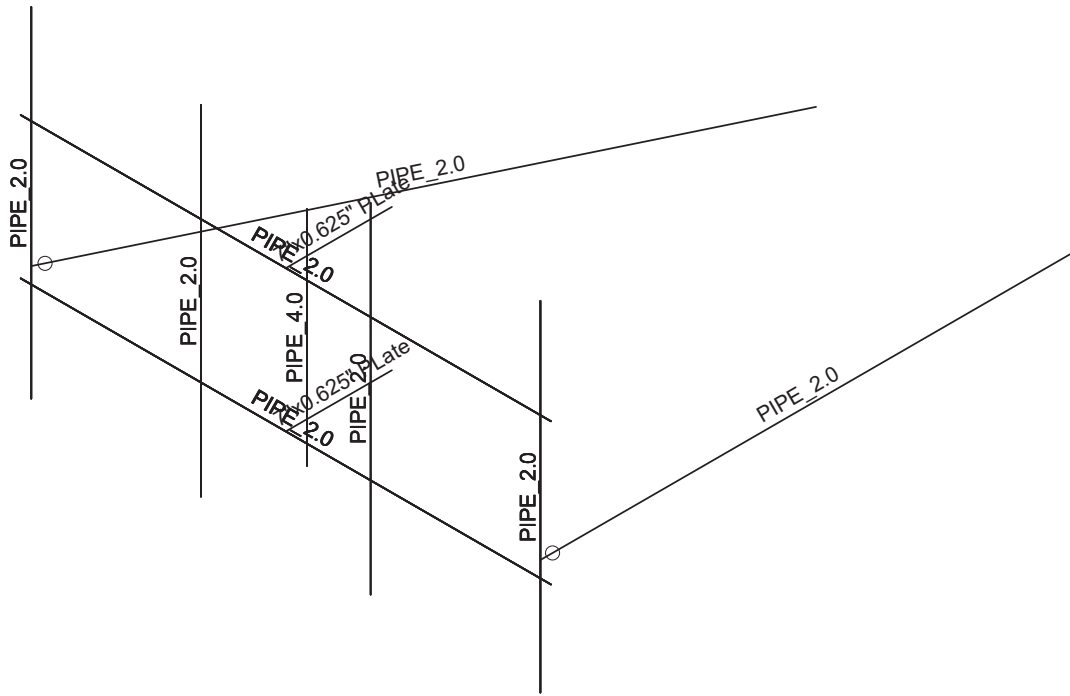
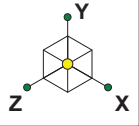
499-006

CTL05641

Wire Frame

Jan 7, 2019 at 10:47 AM

CTL05641.r3d



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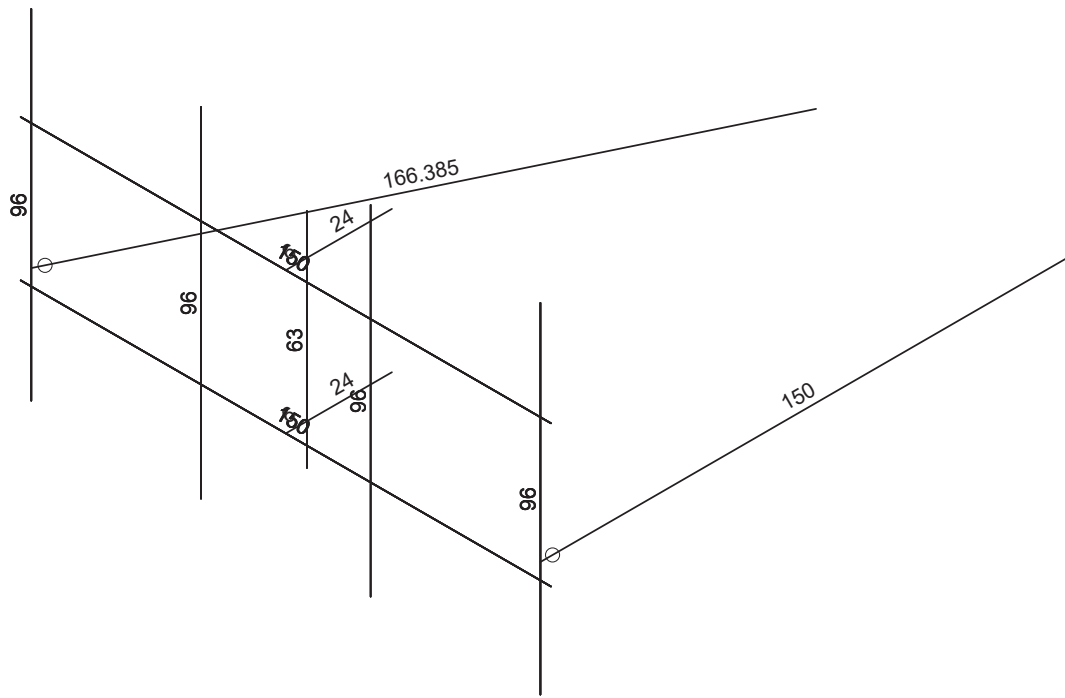
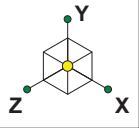
499-006

CTL05641

Member Shape

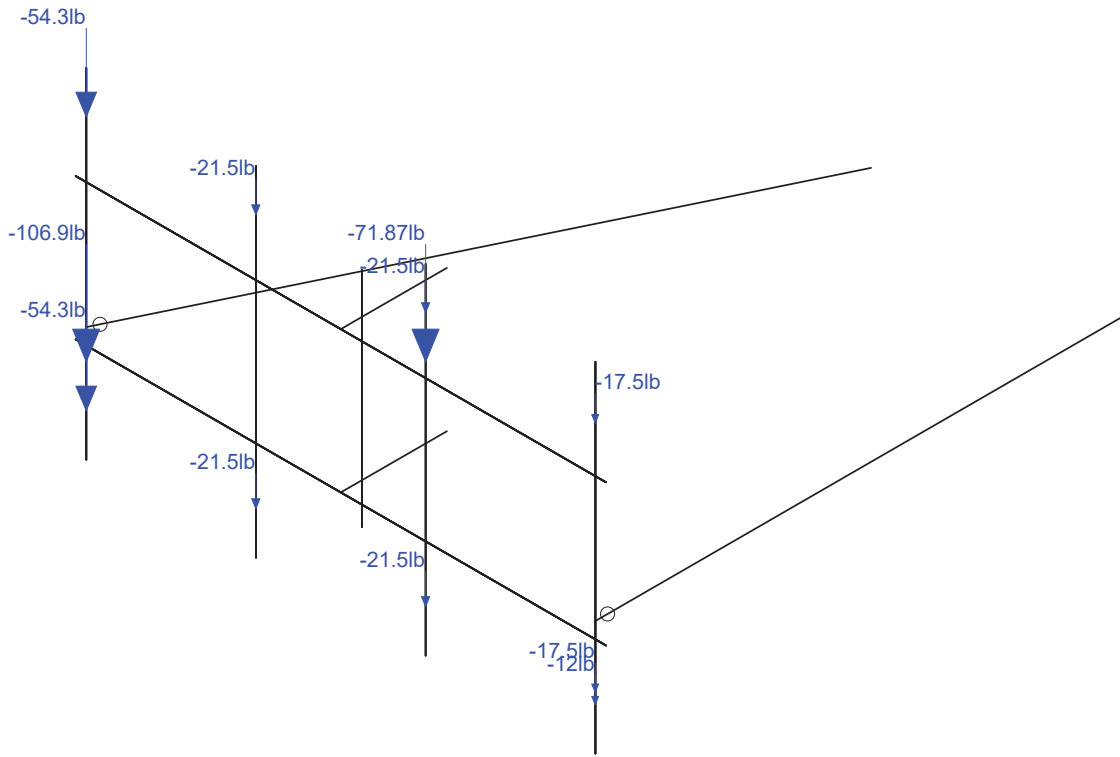
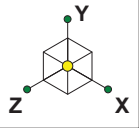
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CTL05641.r3d



Member Length (in) Displayed  
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499-006		CTL05641.r3d



Loads: BLC 1, Self Weight  
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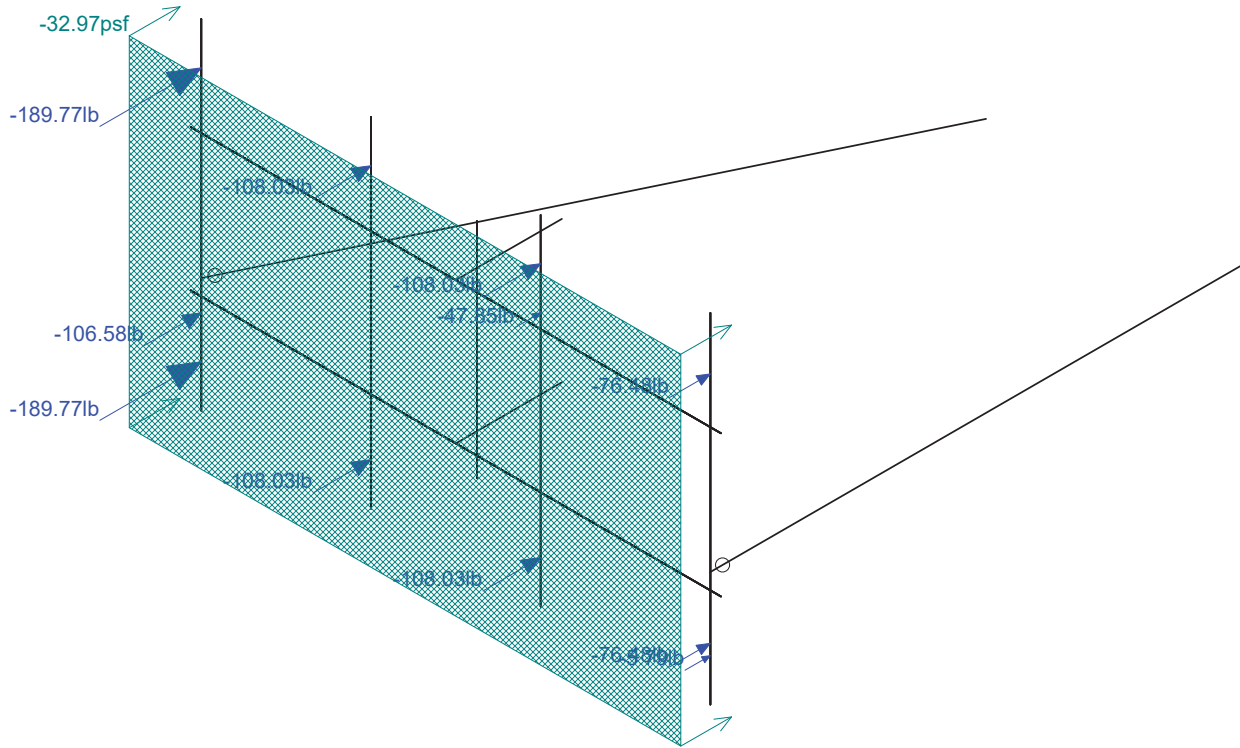
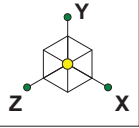
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499-006

CTL05641

Self-Weight

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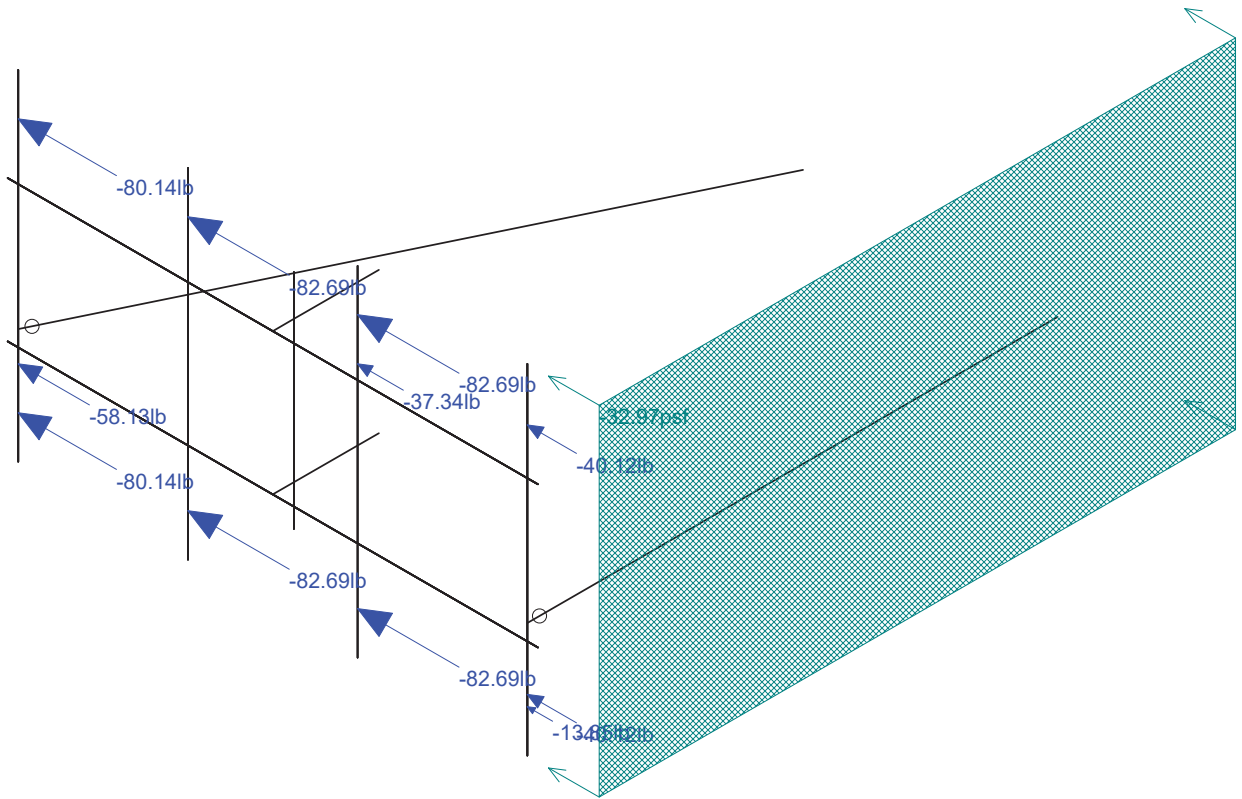
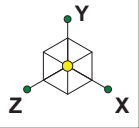
CTL05641.r3d



Loads: BLC 2, Wind Load AZI 000  
Envelope Only Solution

Infinigy Engineering, PLLC.	CTL05641	Wind Load 000
KLB		Jan 7, 2019 at 10:49 AM
499-006		CTL05641.r3d





Loads: BLC 3, Wind Load AZI 090  
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Infinigy Engineering, PLLC.

KLB

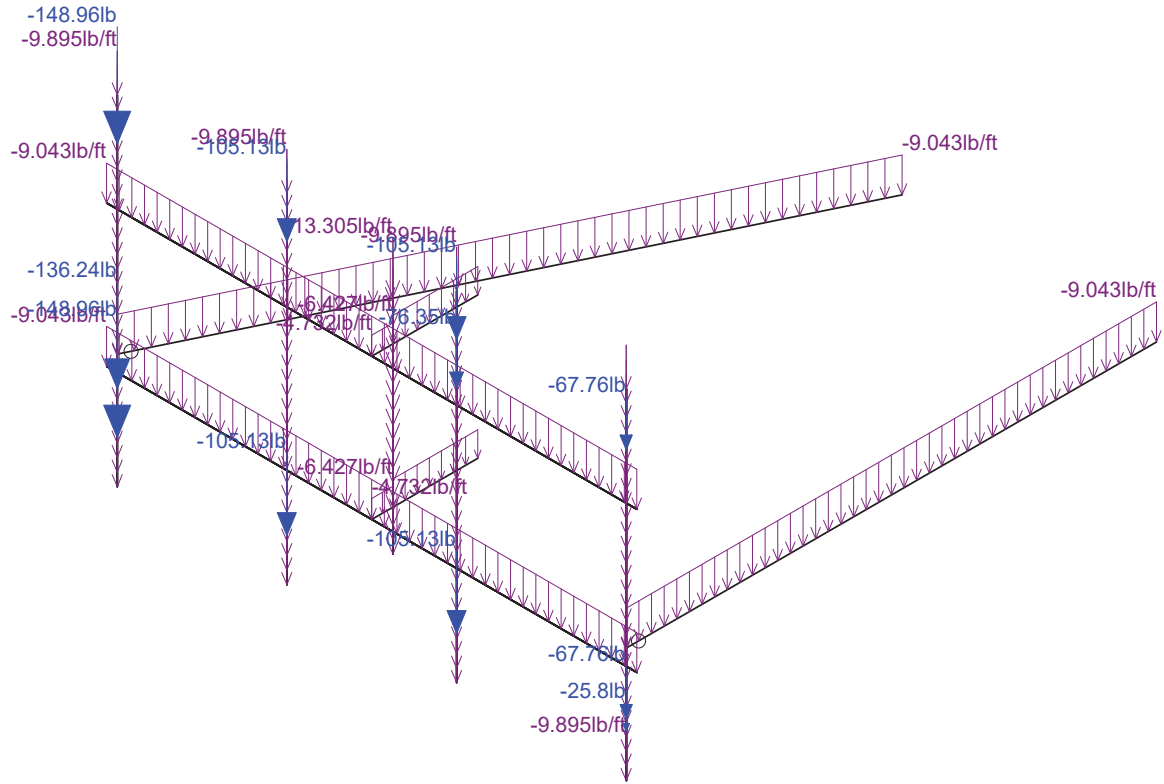
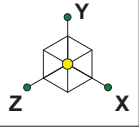
499-006

CTL05641

Wind Load 090

Jan 7, 2019 at 10:51 AM

CTL05641.r3d



Loads: BLC 4, Ice Weight  
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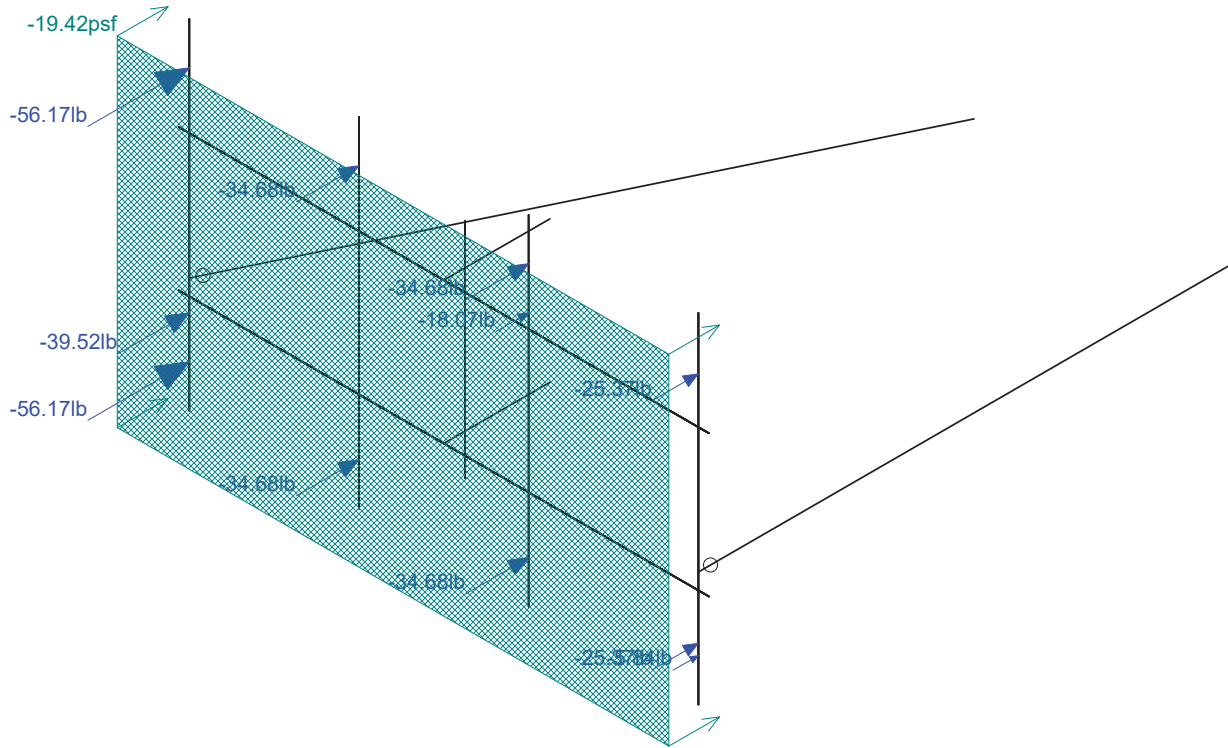
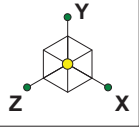
499-006

CTL05641

Ice Weight

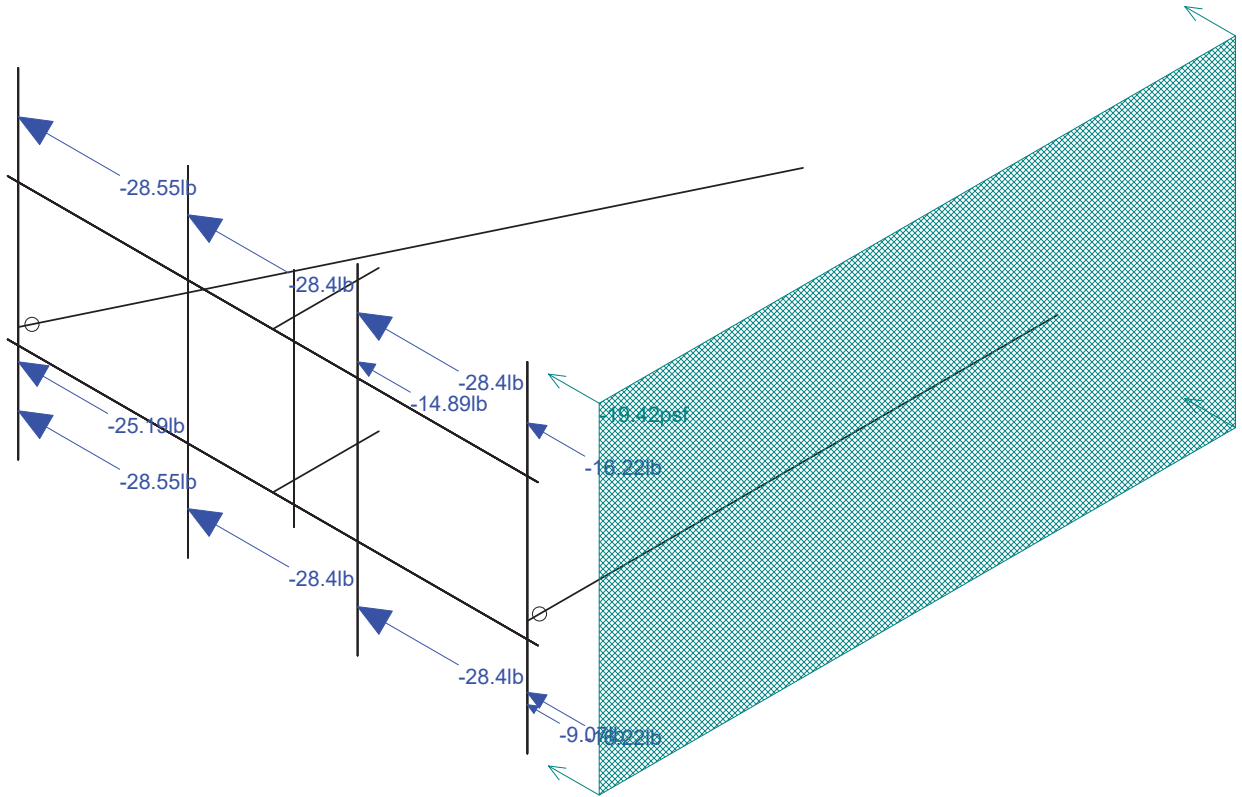
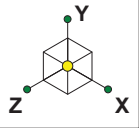
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CTL05641.r3d



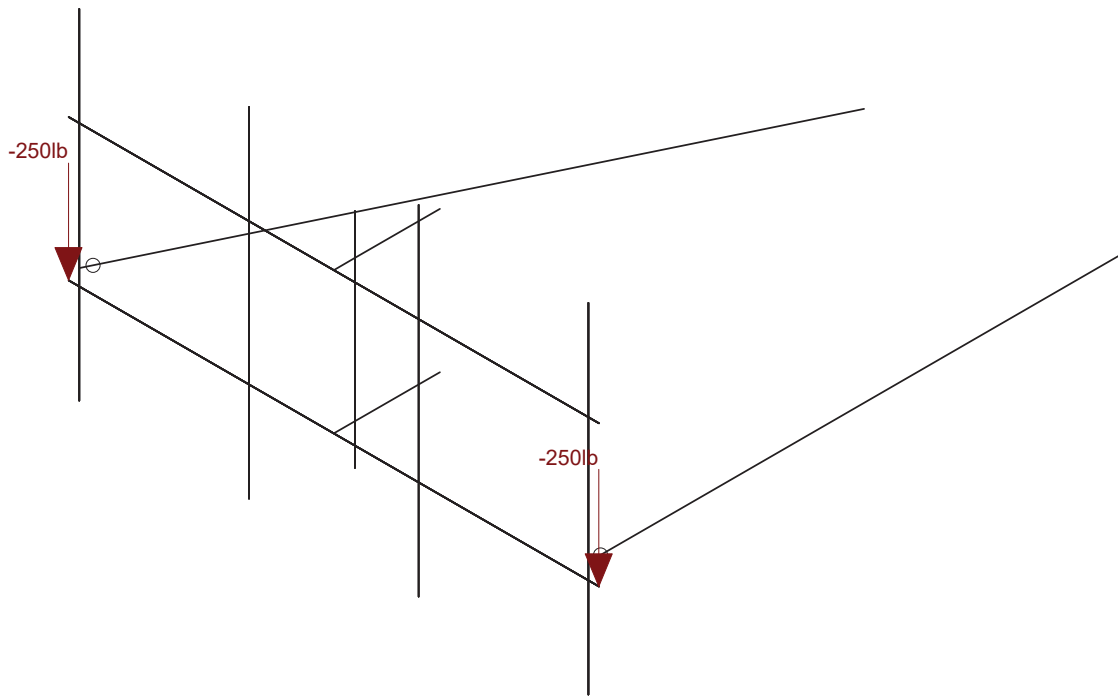
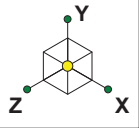
Loads: BLC 5, Wind + Ice Load AZI 000  
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Infinigy Engineering, PLLC.	CTL05641	Wind+Ice 000
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499-006		CTL05641.r3d



Loads: BLC 6, Wind + Ice Load AZI 090  
Envelope Only Solution

Infinigy Engineering, PLLC.	CTL05641	Wind+Ice 090
KLB		Jan 7, 2019 at 10:50 AM
499-006		CTL05641.r3d



Loads: BLC 7, Service Live 1  
Envelope Only Solution

Infinigy Engineering, PLLC.  
KLB  
499-006

CTL05641

Service Load

Jan 7, 2019 at 10:49 AM

CTL05641.r3d

Site Name:	CTL05641
Client:	Smartlink
Carrier:	AT&T
Engineer:	KLB
Date:	1/7/2019



INFINIGY WIND LOAD CALCULATOR 3.0.2

Site Information Inputs:

Adopted Building Code:	2015 IBC
Structure Load Standard:	TIA-222-G
Antenna Load Standard:	TIA-222-G
Structure Risk Category:	II
Structure Type:	Mount - Sector
Number of Sectors:	3
Structure Shape 1:	Round

Rooftop Inputs:

Rooftop Wind Speed-Up?:	No
-------------------------	----

Wind Loading Inputs:

Design Wind Velocity:	101	mph (nominal 3-second gust)
Wind Centerline 1 ( $z_1$ ):	149.0	ft
Side Face Angle ( $\theta$ ):	60	degrees
Exposure Category:	B	
Topographic Category:	1	

Wind with No Ice		
$q_z$ (psf)	Gh	$F_{ST}$ (psf)
27.48	1.00	32.97

Wind with Ice		
$q_z$ (psf)	Gh	$F_{ST}$ (psf)
6.73	1.00	19.42

Ice Loading Inputs:

Is Ice Loading Needed?:	Yes	
Ice Wind Velocity:	50	mph (nominal 3-second gust)
Base Ice Thickness:	0.75	in

Input Appurtenance Information and Load Placements:

Appurtenance Name	Elevation (ft)	Total Quantity	$K_a$	Front Shape	Side Shape	$q_z$ (psf)	EPA (ft <sup>2</sup> )	Fz (lbs)	Fx (lbs)	Fz(60) (lbs)	Fx(30) (lbs)
CCI HPA-65R-BU6AA	149.0	3	1.00	Flat	Flat	27.48	7.86	216.06	165.38	178.05	203.39
CCI HPA-65R-BU6AA	149.0	3	1.00	Flat	Flat	27.48	7.86	216.06	165.38	178.05	203.39
Kathrein 800-10965	149.0	3	1.00	Flat	Flat	27.48	13.81	379.54	160.27	215.09	324.72
Powerwave 7770	149.0	3	1.00	Flat	Flat	27.48	5.57	152.96	80.25	98.43	134.79
Ericsson RRUS-4415 B30	149.0	3	1.00	Flat	Flat	27.48	1.85	50.94	23.92	30.67	44.19
Ericsson RRUS-4449 B5/B12	149.0	3	1.00	Flat	Flat	27.48	2.03	55.64	34.21	39.56	50.28
Ericsson RRUS-8843 B2/B66A	149.0	3	1.00	Flat	Flat	27.48	1.74	47.85	37.34	39.96	45.22
Powerwave LGP 21401	149.0	6	1.00	Flat	Flat	27.48	0.11	2.90	6.93	5.92	3.90
Raycap DC6-48-60-18-8F	149.0	3	1.00	Round	Round	27.48	1.21	33.29	33.29	33.29	33.29

### Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N8	N7			2"pipe	Beam	None	A53 Gr.B	Typical
2	M6	N18	N17			2"pipe	Beam	None	A53 Gr.B	Typical
3	M10	N4	N10			RIGID	None	None	RIGID	Typical
4	M11	N1	N9			RIGID	None	None	RIGID	Typical
5	MP4	N6	N5			2"pipe	Beam	None	A53 Gr.B	Typical
6	MP1	N15	N16			2"pipe	Beam	None	A53 Gr.B	Typical
7	M11A	N2	N35			2"pipe	Beam	None	A53 Gr.B	Typical
8	M11B	N31	N32			4" Pipe	Beam	None	A53 Gr.B	Typical
9	M10A	N3	N14			2"pipe	Beam	None	A53 Gr.B	Typical
10	M11C	N10	N34		90	7"x0.625" Plate	Beam	None	A36 Gr.36	Typical
11	M12	N9	N33		90	7"x0.625" Plate	Beam	None	A36 Gr.36	Typical
12	MP3	N32B	N31B			2"pipe	Beam	None	A53 Gr.B	Typical
13	MP2	N36	N35A			2"pipe	Beam	None	A53 Gr.B	Typical

### Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		2	12	0
3	Total General		2	12	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	7"x0.625" PLate	2	48	0
7	A53 Gr.B	PIPE 2.0	8	1000.4	.3
8	A53 Gr.B	PIPE_4.0	1	63	0
9	Total HR Steel		11	1111.4	.4

### Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...)	Surface(P...
1	Self Weight	DL		-1			12		
2	Wind Load AZI 000	WLZ					12	1	
3	Wind Load AZI 090	WLX					12	1	
4	Ice Weight	OL1					12	13	
5	Wind + Ice Load AZI ...	OL2					12	1	
6	Wind + Ice Load AZI ...	OL3					12	1	
7	Service Live 1	LL				2			
8	BLC 2 Transient Area...	None						8	
9	BLC 3 Transient Area...	None						11	
10	BLC 5 Transient Area...	None						8	
11	BLC 6 Transient Area...	None						11	

### Load Combinations

	Description	Sol..	PD..	SR..	BLC Fact..	BLC Fact..	BLC Fact..	BLC Fact..	BLC Fact..	BLC Fact..	BLC Fact..	BLC Fact..	BLC Fact..	BLC Fact..
1	1.4D	Yes	Y		DL 1.4									
2	1.2D + 1.6..	Yes	Y		DL 1.2	WLZ 1.6								
3	1.2D + 1.6..	Yes	Y		DL 1.2	WLZ 1.386	W...	.8						
4	1.2D + 1.6..	Yes	Y		DL 1.2	WLZ .8	W...	1.386						
5	1.2D + 1.6..	Yes	Y		DL 1.2		W...	1.6						
6	1.2D + 1.6..	Yes	Y		DL 1.2	WLZ -.8	W...	1.386						
7	1.2D + 1.6..	Yes	Y		DL 1.2	WLZ -1.3...	W...	.8						
8	1.2D + 1.6..	Yes	Y		DL 1.2	WLZ -1.6								
9	1.2D + 1.6..	Yes	Y		DL 1.2	WLZ -1.3...	W...	-.8						



Company : Infinigy Engineering, PLLC.  
 Designer : KLB  
 Job Number : 499-006  
 Model Name : CTL05641

Jan 7, 2019  
 10:45 AM  
 Checked By: \_\_\_\_\_

**Load Combinations (Continued)**

	Description	Sol.	PD	SR	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.
10	1.2D + 1.6..	Yes	Y		DL 1.2	WLZ -.8	W... -1.3..							
11	1.2D + 1.6..	Yes	Y		DL 1.2		W... -1.6							
12	1.2D + 1.6..	Yes	Y		DL 1.2	WLZ .8	W... -1.3..							
13	1.2D + 1.6..	Yes	Y		DL 1.2	WLZ 1.386	W... -.8							
14	0.9D + 1.6..	Yes	Y		DL .9	WLZ 1.6								
15	0.9D + 1.6..	Yes	Y		DL .9	WLZ 1.386	W... .8							
16	0.9D + 1.6..	Yes	Y		DL .9	WLZ .8	W... 1.386							
17	0.9D + 1.6..	Yes	Y		DL .9		W... 1.6							
18	0.9D + 1.6..	Yes	Y		DL .9	WLZ -.8	W... 1.386							
19	0.9D + 1.6..	Yes	Y		DL .9	WLZ -1.3..	W... .8							
20	0.9D + 1.6..	Yes	Y		DL .9	WLZ -1.6								
21	0.9D + 1.6..	Yes	Y		DL .9	WLZ -1.3..	W... -.8							
22	0.9D + 1.6..	Yes	Y		DL .9	WLZ -.8	W... -1.3..							
23	0.9D + 1.6..	Yes	Y		DL .9		W... -1.6							
24	0.9D + 1.6..	Yes	Y		DL .9	WLZ .8	W... -1.3..							
25	0.9D + 1.6..	Yes	Y		DL .9	WLZ 1.386	W... -.8							
26	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1								
27	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1	OL2 1							
28	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1	OL2 .866	OL3 .5						
29	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1	OL2 .5	OL3 .866						
30	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1		OL3 1						
31	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1	OL2 -.5	OL3 .866						
32	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1	OL2 -.866	OL3 .5						
33	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1	OL2 -.1							
34	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1	OL2 -.866	OL3 -.5						
35	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1	OL2 -.5	OL3 -.866						
36	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1		OL3 -.1						
37	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1	OL2 .5	OL3 -.866						
38	1.2D + 1.0..	Yes	Y		DL 1.2	OL1 1	OL2 .866	OL3 -.5						
39	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5	WLZ .111							
40	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5	WLZ .096	W... .056						
41	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5	WLZ .056	W... .096						
42	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5		W... .111						
43	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5	WLZ -.056	W... .096						
44	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5	WLZ -.096	W... .056						
45	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5	WLZ -.111							
46	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5	WLZ -.096	W... -.056						
47	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5	WLZ -.056	W... -.096						
48	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5		W... -.111						
49	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5	WLZ .056	W... -.096						
50	1.2D + 1.5..	Yes	Y		DL 1.2	LL 1.5	WLZ .096	W... -.056						

**Envelope Joint Reactions**

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N18	max	65.392	17	83.193	33	421.329	2	0	1	0	1	0	1
2		min	-65.389	23	18.941	14	-419.807	20	0	1	0	1	0	1
3	N8	max	453.512	20	93.416	33	975.876	14	0	1	0	1	0	1
4		min	-453.48	14	19.57	14	-976.427	20	0	1	0	1	0	1
5	N33	max	772.546	16	1369.747	27	1243.604	27	-337.955	14	1867.061	16	-1.919	25
6		min	-1323.919	10	339.466	14	151.508	20	-1391.514	27	-2919.515	10	-12.413	33
7	N34	max	1055.136	5	1419.013	27	743.995	14	-332.655	20	2409.877	5	-.134	16
8		min	-506.171	23	339.662	20	-1447.17	33	-1394.547	27	-1352.264	23	-13.016	35
9	Totals:	max	1800.167	5	2960.354	27	2562.736	2						
10		min	-1800.167	23	739.931	20	-2562.736	20						





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### Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in <sup>2</sup> ]	I <sub>yy</sub> [in <sup>4</sup> ]	I <sub>zz</sub> [in <sup>4</sup> ]	J [in <sup>4</sup> ]
1	2.5" STD Pipe	PIPE 2.5	Beam	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
2	2" pipe	PIPE 2.0	Beam	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	4" Pipe	PIPE 4.0	Beam	None	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
4	7"x0.625" Plate	7"x0.625" PLate	Beam	None	A36 Gr.36	Typical	4.375	.142	17.865	.538

### Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N10						
2	N9						
3	N18	Reaction	Reaction	Reaction			
4	N8	Reaction	Reaction	Reaction			
5	N17						
6	N33	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
7	N34	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

### Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1		BenPIN				Yes				None
2	M6		BenPIN				Yes				None
3	M10						Yes	** NA **			None
4	M11						Yes	** NA **			None
5	MP4						Yes	Default			None
6	MP1						Yes				None
7	M11A						Yes				None
8	M11B						Yes				None
9	M10A						Yes	Default			None
10	M11C						Yes				None
11	M12						Yes				None
12	MP3						Yes				None
13	MP2						Yes				None

### Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1/E...)	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

### Joint Loads and Enforced Displacements (BLC 7 : Service Live 1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N2	L	Y	-250
2	N35	L	Y	-250



**Member Point Loads (BLC 1 : Self Weight)**

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP3	Y	-21.5	12
2	MP2	Y	-21.5	12
3	MP4	Y	-54.3	12
4	MP1	Y	-17.5	15
5	MP4	Y	-47.4	72
6	MP4	Y	-59.5	72
7	MP2	Y	-71.87	24
8	MP1	Y	-12	12
9	MP3	Y	-21.5	84
10	MP2	Y	-21.5	84
11	MP4	Y	-54.3	84
12	MP1	Y	-17.5	81

**Member Point Loads (BLC 2 : Wind Load AZI 000)**

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP3	Z	-108.03	12
2	MP2	Z	-108.03	12
3	MP4	Z	-189.77	12
4	MP1	Z	-76.48	15
5	MP4	Z	-50.94	72
6	MP4	Z	-55.64	72
7	MP2	Z	-47.85	24
8	MP1	Z	-5.79	12
9	MP3	Z	-108.03	84
10	MP2	Z	-108.03	84
11	MP4	Z	-189.77	84
12	MP1	Z	-76.48	81

**Member Point Loads (BLC 3 : Wind Load AZI 090)**

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP3	X	-82.69	12
2	MP2	X	-82.69	12
3	MP4	X	-80.14	12
4	MP1	X	-40.12	15
5	MP4	X	-23.92	72
6	MP4	X	-34.21	72
7	MP2	X	-37.34	24
8	MP1	X	-13.85	12
9	MP3	X	-82.69	84
10	MP2	X	-82.69	84
11	MP4	X	-80.14	84
12	MP1	X	-40.12	81

**Member Point Loads (BLC 4 : Ice Weight)**

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP3	Y	-105.13	12
2	MP2	Y	-105.13	12
3	MP4	Y	-148.96	12
4	MP1	Y	-67.76	15
5	MP4	Y	-62.15	72
6	MP4	Y	-74.09	72
7	MP2	Y	-76.35	24
8	MP1	Y	-25.8	12
9	MP3	Y	-105.13	84



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 Designer : KLB  
 Job Number : 499-006  
 Model Name : CTL05641

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**Member Point Loads (BLC 4 : Ice Weight) (Continued)**

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
10	MP2	Y	-105.13	84
11	MP4	Y	-148.96	84
12	MP1	Y	-67.76	81

**Member Point Loads (BLC 5 : Wind + Ice Load AZI 000)**

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP3	Z	-34.68	12
2	MP2	Z	-34.68	12
3	MP4	Z	-56.17	12
4	MP1	Z	-25.37	15
5	MP4	Z	-19.04	72
6	MP4	Z	-20.48	72
7	MP2	Z	-18.07	24
8	MP1	Z	-5.84	12
9	MP3	Z	-34.68	84
10	MP2	Z	-34.68	84
11	MP4	Z	-56.17	84
12	MP1	Z	-25.37	81

**Member Point Loads (BLC 6 : Wind + Ice Load AZI 090)**

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP3	X	-28.4	12
2	MP2	X	-28.4	12
3	MP4	X	-28.55	12
4	MP1	X	-16.22	15
5	MP4	X	-10.98	72
6	MP4	X	-14.21	72
7	MP2	X	-14.89	24
8	MP1	X	-9.07	12
9	MP3	X	-28.4	84
10	MP2	X	-28.4	84
11	MP4	X	-28.55	84
12	MP1	X	-16.22	81

**Member Distributed Loads (BLC 4 : Ice Weight)**

	Member Label	Direction	Start Magnitude[lb/ft, ...]	End Magnitude[lb/ft, ...]	Start Location[in, %]	End Location[in, %]
1	M1	Y	-9.043	-9.043	0	%100
2	M6	Y	-9.043	-9.043	0	%100
3	M10	Y	-4.732	-4.732	0	%100
4	M11	Y	-4.732	-4.732	0	%100
5	MP4	Y	-9.895	-9.895	0	%100
6	MP1	Y	-9.895	-9.895	0	%100
7	M11A	Y	-9.043	-9.043	0	%100
8	M11B	Y	-13.305	-13.305	0	%100
9	M10A	Y	-9.043	-9.043	0	%100
10	M11C	Y	-6.427	-6.427	0	%100
11	M12	Y	-6.427	-6.427	0	%100
12	MP3	Y	-9.895	-9.895	0	%100
13	MP2	Y	-9.895	-9.895	0	%100

**Member Distributed Loads (BLC 8 : BLC 2 Transient Area Loads)**

	Member Label	Direction	Start Magnitude[lb/ft, ...]	End Magnitude[lb/ft, ...]	Start Location[in, %]	End Location[in, %]
1	M1	Z	-2.83	-2.83	0	166.385
2	MP4	Z	-6.539	-6.539	0	96

**Member Distributed Loads (BLC 8 : BLC 2 Transient Area Loads) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in, %]	End Location[in, %]
3	MP1	Z	-6.539	-6.539	0	96
4	M11A	Z	-6.539	-6.539	0	150
5	M11B	Z	-12.364	-12.364	0	63
6	M10A	Z	-6.539	-6.539	0	150
7	MP3	Z	-6.539	-6.539	0	96
8	MP2	Z	-6.539	-6.539	0	96

**Member Distributed Loads (BLC 9 : BLC 3 Transient Area Loads)**

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in, %]	End Location[in, %]
1	M1	X	-5.895	-5.895	0	166.385
2	M6	X	-6.539	-6.539	0	150
3	M10	X	0	0	0	6
4	M11	X	0	0	0	6
5	MP4	X	-6.539	-6.539	0	96
6	MP1	X	-6.539	-6.539	0	96
7	M11B	X	-12.364	-12.364	0	63
8	M11C	X	-1.717	-1.717	0	24
9	M12	X	-1.717	-1.717	0	24
10	MP3	X	-6.539	-6.539	0	96
11	MP2	X	-6.539	-6.539	0	96

**Member Distributed Loads (BLC 10 : BLC 5 Transient Area Loads)**

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in, %]	End Location[in, %]
1	M1	Z	-1.667	-1.667	0	166.385
2	MP4	Z	-3.852	-3.852	0	96
3	MP1	Z	-3.852	-3.852	0	96
4	M11A	Z	-3.852	-3.852	0	150
5	M11B	Z	-7.283	-7.283	0	63
6	M10A	Z	-3.852	-3.852	0	150
7	MP3	Z	-3.852	-3.852	0	96
8	MP2	Z	-3.852	-3.852	0	96

**Member Distributed Loads (BLC 11 : BLC 6 Transient Area Loads)**

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in, %]	End Location[in, %]
1	M1	X	-3.472	-3.472	0	166.385
2	M6	X	-3.852	-3.852	0	150
3	M10	X	0	0	0	6
4	M11	X	0	0	0	6
5	MP4	X	-3.852	-3.852	0	96
6	MP1	X	-3.852	-3.852	0	96
7	M11B	X	-7.283	-7.283	0	63
8	M11C	X	-1.011	-1.011	0	24
9	M12	X	-1.011	-1.011	0	24
10	MP3	X	-3.852	-3.852	0	96
11	MP2	X	-3.852	-3.852	0	96

**Envelope AISC 14th(360-10): LRFD Steel Code Checks**

	Member	Shape	Code Check	Loc[in]	LC	Shear ..Loc[in]	Dir	LC	phi*Pnc ...phi*Pnt [...phi*Mn ... phi*Mn ... Cb	Eqn
1	M12	7"x0.625" P...	.864	24	36	.027 24	y	35	55842.4... 141750 1845.704 20671.8... 1...	H1-1b
2	M11C	7"x0.625" P...	.851	24	30	.025 24	y	30	55842.4... 141750 1845.704 20671.8... 1...	H1-1b
3	MP3	PIPE 2.0	.693	28	29	.150 28	8	9289.966 32130 1871.625 1871.625 1	H1-1b	
4	M11A	PIPE 2.0	.610	75	34	.103 75	30	20866.7... 32130 1871.625 1871.625 1	H1-1b	
5	M10A	PIPE 2.0	.606	75	33	.237 75	2	20866.7... 32130 1871.625 1871.625 1	H1-1b	
6	MP4	PIPE 2.0	.547	68	35	.222 64	8	9289.966 32130 1871.625 1871.625 1	H1-1b	



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**Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)**

Member	Shape	Code Check	Loc[in]	LC	Shear	Loc[in]	Dir	LC	phi*Pnc	phi*Pnt	phi*Mn	phi*Mn	Cb	Eqn
7	MP2	PIPE 2.0	.436	28	36	.116	28	8	9289.966	32130	1871.625	1871.625	1	H1-1b
8	MP1	PIPE 2.0	.317	28	42	.108	32	2	9289.966	32130	1871.625	1871.625	1	H1-1b
9	M1	PIPE 2.0	.257	77.993	2	.010	166...	30	5116.566	32130	1871.625	1871.625	1...	H1-1a
10	M11B	PIPE 4.0	.191	11.813	33	.077	11.8...	34	89984.2...	93240	10631.25	10631.25	1	H1-1b
11	M6	PIPE 2.0	.147	75	38	.009	0	30	6295.422	32130	1871.625	1871.625	1...	H1-1b



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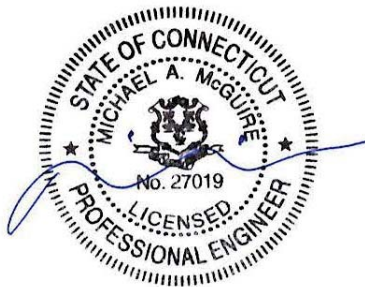


**Smartlink on behalf of  
AT&T Mobility, LLC  
Site FA – 10071055  
Site ID – CT5641 (MRCTB035166-  
MRCTB035212-MRCTB035185)  
USID – 26045  
Site Name – Guildford East**

**331 Killingworth Road  
Guilford, CT 06437**

Latitude: N41-21-11.48  
Longitude: W72-41-21.44  
Structure Type: Self-Support

Report generated date: February 5, 2019  
Report by: Nick Kutzke  
Customer Contact: Ryan Burgdorfer



**AT&T Mobility, LLC will be compliant when the  
remediation recommended in Section 5.2 or  
other appropriate remediation is implemented.**

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sealed 6feb2019 mike@h2dc.com  
H2DC PLLC CT CoA#: 0001714



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# 1 General Site Summary

## 1.1 Report Summary

<b>AT&amp;T Mobility, LLC</b>	<b>Summary</b>
<b>Access to Antennas Locked?</b>	Yes
<b>Max Cumulative Simulated RFE Level on the Ground</b>	<1% General Public Limit
<b>FCC &amp; AT&amp;T Compliant?</b>	Will Be Compliant
<b>Optional AT&amp;T Mitigation Items?</b>	No










The following documents were provided by the client and were utilized to create this report:

**RFDS:** NEW-ENGLAND\_CONNECTICUT\_CTL05641\_2019-LTE-Next-Carrier\_LTE\_mh705r\_2051A0KPHF\_10071055\_26045\_09-19-2018\_Final-Approved\_v2.00

**CD's:** 10071055\_AE201\_190102\_CTL05641\_REV0.JMRL

**RF Powers Used:** NEW-ENGLAND\_CONNECTICUT\_CTL05641\_2019-LTE-Next-Carrier\_LTE\_mh705r\_2051A0KPHF\_10071055\_26045\_09-19-2018\_Final-Approved\_v2.00

## 1.2 Signage Summary

AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
<b>Access Point(s)</b>									
<b>Alpha</b>									
<b>Beta</b>									
<b>Gamma</b>									

## 1.3 Fall Arrest Anchor Point Summary

Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (inches)	Fall Arrest Anchor Available (Y/N)
<b>Roof Safety Info</b>	N	NA	N

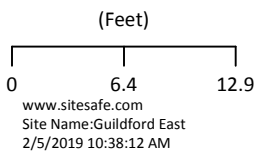
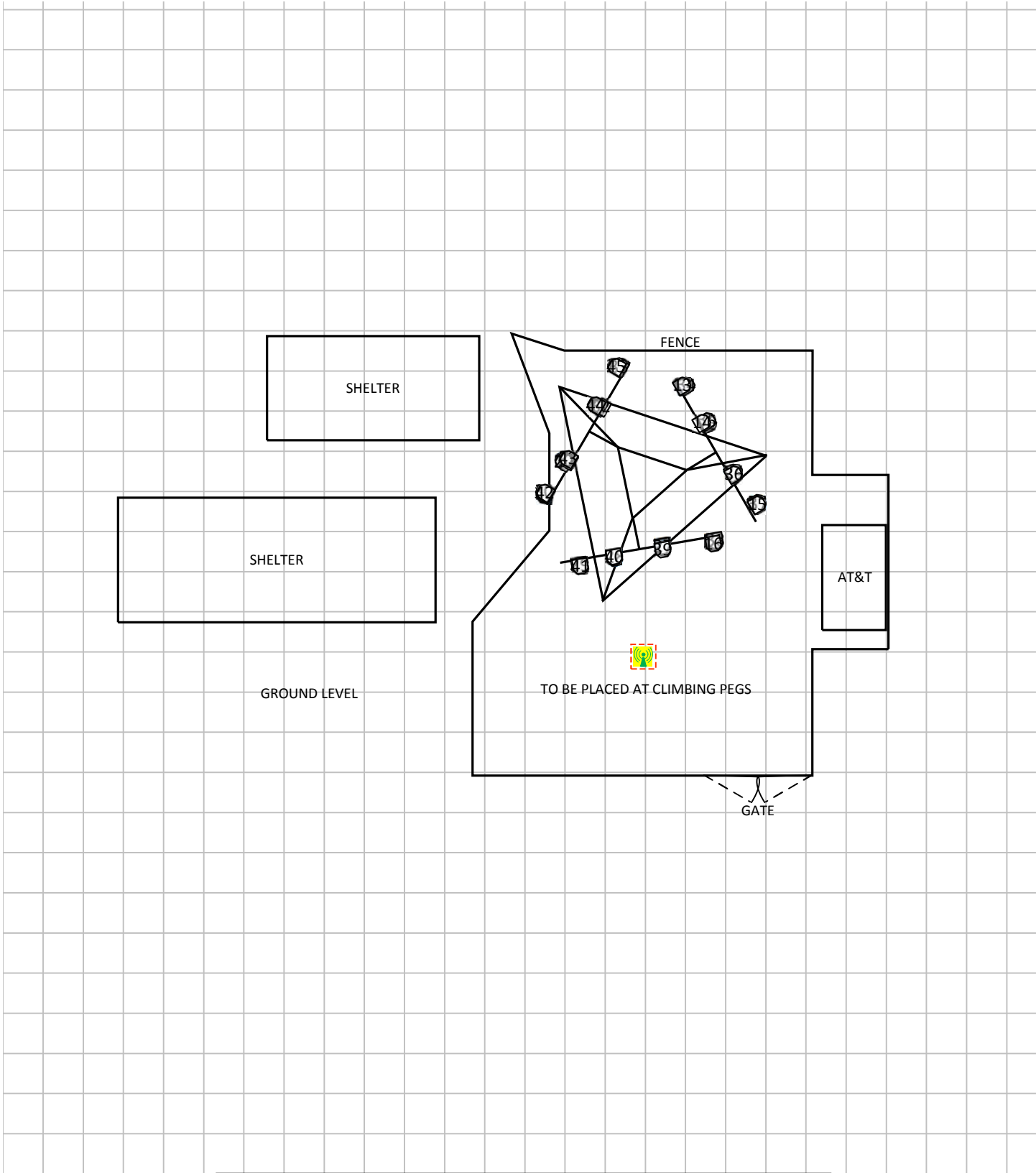


## 2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram
- RF Exposure Diagram – Side View
- AT&T Mobility, LLC Contribution

# Site Scale Map For: Guildford East



		<b>Carrier Identification</b>						
● AT&T MOBILITY LLC	● VERIZON WIRELESS	● T-MOBILE	● SPRINT	● UNKNOWN CARRIER				
		<b>Sign Legend</b>						
Caution 1	Caution 2	Notice 2	Notice 1	Warning	Warning 2	Info 1	Info 2	RF Safety Plan
<b>Barrier</b> ———				<b>Proposed Barriers/ Signs</b> - - - -				

### 3 Antenna Inventory

The following antenna inventory was obtained by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Radio Count	Total ERP (Watts)	Ant Gain (dBd)	Z (AGL)	MDT	EDT
1	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	70	82	4.6	40	TPO	Watt	1	566.3	11.51	146.7'	0'	0'
2	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA65R-BU6A	Panel	1900	LTE	60	61.7	5.9	160	TPO	Watt	1	6311.3	15.96	146'	0'	6'
3	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA65R-BU6A	Panel	2100	LTE	60	59.6	5.9	160	TPO	Watt	1	7246.4	16.56	146'	0'	6'
4	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	737	LTE	60	63.9	6.6	160	TPO	Watt	1	2845.2	12.5	145.7'	0'	2'
4	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	850	LTE	60	61.7	6.6	80	TPO	Watt	1	1841.2	13.62	145.7'	0'	2'
4	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	2300	LTE	60	59.1	6.6	100	TPO	Watt	1	3655.9	15.63	145.7'	0'	3'
4	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	850	5G	60	61.7	6.6	80	TPO	Watt	1	1841.2	13.62	145.7'	0'	2'
5	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	180	82	4.6	40	TPO	Watt	1	566.3	11.51	146.7'	0'	0'
6	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA65R-BU6A	Panel	1900	LTE	170	61.7	5.9	160	TPO	Watt	1	6311.3	15.96	146'	0'	6'
7	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA65R-BU6A	Panel	2100	LTE	170	59.6	5.9	160	TPO	Watt	1	7246.4	16.56	146'	0'	6'
8	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	737	LTE	170	63.9	6.6	160	TPO	Watt	1	2845.2	12.5	145.7'	0'	2'
8	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	850	LTE	170	61.7	6.6	80	TPO	Watt	1	1841.2	13.62	145.7'	0'	2'
8	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	2300	LTE	170	59.1	6.6	100	TPO	Watt	1	3655.9	15.63	145.7'	0'	3'
8	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	850	5G	170	61.7	6.6	80	TPO	Watt	1	1841.2	13.62	145.7'	0'	2'
9	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	280	82	4.6	40	TPO	Watt	1	566.3	11.51	146.7'	0'	0'
10	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA65R-BU6A	Panel	1900	LTE	300	61.7	5.9	160	TPO	Watt	1	6311.3	15.96	146'	0'	2'
11	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA65R-BU6A	Panel	2100	LTE	300	59.6	5.9	160	TPO	Watt	1	7246.4	16.56	146'	0'	3'
12	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	737	LTE	300	63.9	6.6	160	TPO	Watt	1	2845.2	12.5	145.7'	0'	2'
12	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	850	LTE	300	61.7	6.6	80	TPO	Watt	1	1841.2	13.62	145.7'	0'	2'

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Radio Count	Total ERP (Watts)	Ant Gain (dBd)	Z (AGL)	MDT	EDT
12	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	2300	LTE	300	59.1	6.6	100	TPO	Watt	1	3655.9	15.63	145.7'	0'	3'
12	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	850	5G	300	61.7	6.6	80	TPO	Watt	1	1841.2	13.62	145.7'	0'	2'
13	UNKNOWN CARRIER	Generic	Panel	850		60	65	6.3	40	TPO	Watt		881.2	13.43	135.9'	0'	0'
14	UNKNOWN CARRIER	Generic	Panel	850		60	65	6.3	40	TPO	Watt		881.2	13.43	135.9'	0'	0'
15	UNKNOWN CARRIER	Generic	Panel	850		60	65	6.3	40	TPO	Watt		881.2	13.43	135.9'	0'	0'
16	UNKNOWN CARRIER	Generic	Panel	850		170	65	6.3	40	TPO	Watt		881.2	13.43	135.9'	0'	0'
17	UNKNOWN CARRIER	Generic	Panel	850		170	65	6.3	40	TPO	Watt		881.2	13.43	135.9'	0'	0'
18	UNKNOWN CARRIER	Generic	Panel	850		170	65	6.3	40	TPO	Watt		881.2	13.43	135.9'	0'	0'
19	UNKNOWN CARRIER	Generic	Panel	850		300	65	6.3	40	TPO	Watt		881.2	13.43	135.9'	0'	0'
20	UNKNOWN CARRIER	Generic	Panel	850		300	65	6.3	40	TPO	Watt		881.2	13.43	135.9'	0'	0'
21	UNKNOWN CARRIER	Generic	Panel	850		300	65	6.3	40	TPO	Watt		881.2	13.43	135.9'	0'	0'
22	UNKNOWN CARRIER	Generic	Panel	850		60	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
23	UNKNOWN CARRIER	Generic	Panel	850		60	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
24	UNKNOWN CARRIER	Generic	Panel	850		60	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
25	UNKNOWN CARRIER	Generic	Panel	850		60	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
26	UNKNOWN CARRIER	Generic	Panel	850		170	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
27	UNKNOWN CARRIER	Generic	Panel	850		170	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
28	UNKNOWN CARRIER	Generic	Panel	850		170	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
29	UNKNOWN CARRIER	Generic	Panel	850		170	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
30	UNKNOWN CARRIER	Generic	Panel	850		300	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
31	UNKNOWN CARRIER	Generic	Panel	850		300	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
32	UNKNOWN CARRIER	Generic	Panel	850		300	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
33	UNKNOWN CARRIER	Generic	Panel	850		300	65	6.3	40	TPO	Watt		881.2	13.43	125.9'	0'	0'
34	UNKNOWN CARRIER	Generic	Panel	850		60	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'
35	UNKNOWN CARRIER	Generic	Panel	850		60	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'
36	UNKNOWN CARRIER	Generic	Panel	850		60	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'
37	UNKNOWN CARRIER	Generic	Panel	850		60	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'
38	UNKNOWN CARRIER	Generic	Panel	850		170	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'
39	UNKNOWN CARRIER	Generic	Panel	850		170	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'
40	UNKNOWN CARRIER	Generic	Panel	850		170	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'
41	UNKNOWN CARRIER	Generic	Panel	850		170	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'
42	UNKNOWN CARRIER	Generic	Panel	850		300	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'
43	UNKNOWN CARRIER	Generic	Panel	850		300	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'
44	UNKNOWN CARRIER	Generic	Panel	850		300	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Radio Count	Total ERP (Watts)	Ant Gain (dBd)	Z (AGL)	MDT	EDT
45	UNKNOWN CARRIER	Generic	Panel	850		300	65	6.3	40	TPO	Watt		881.2	13.43	115.9'	0'	0'

NOTE: X, Y and Z indicate relative position of the bottom of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. The distance to the bottom of the antenna is calculated by subtracting half of the length of the antenna from the antenna centerline. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed. For other operators at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to operator, their FCC license and/or antenna information was not available nor could it be secured while on site. Other operator's equipment, antenna models and powers used for modeling are based on obtained information or Sitesafe experience.

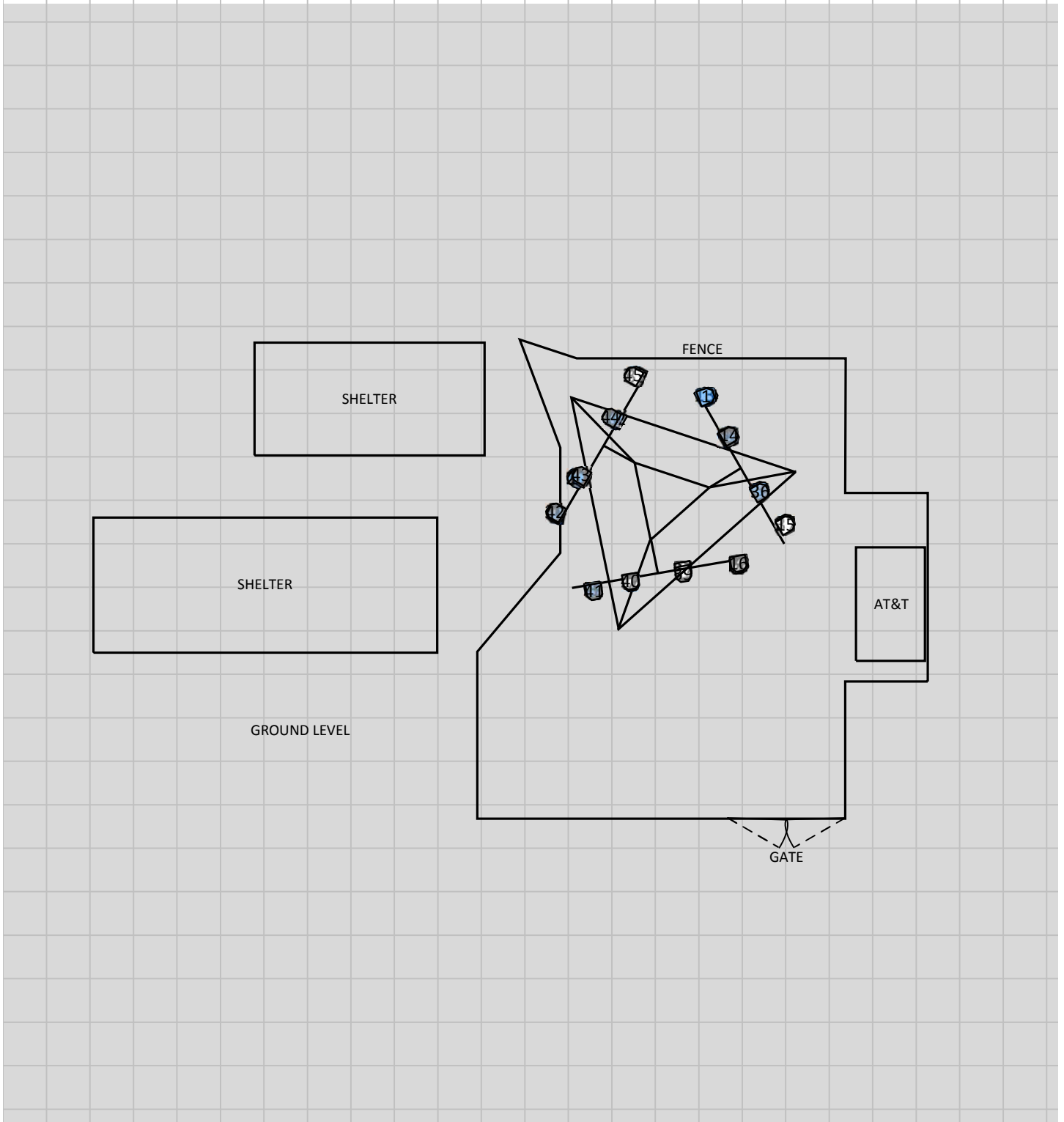
## 4 Emission Predictions

In the RF Exposure Simulations below all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas. The total analyzed elevations in the below RF Exposure Simulations are listed below.

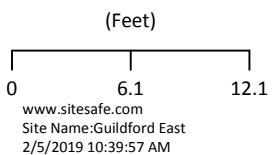
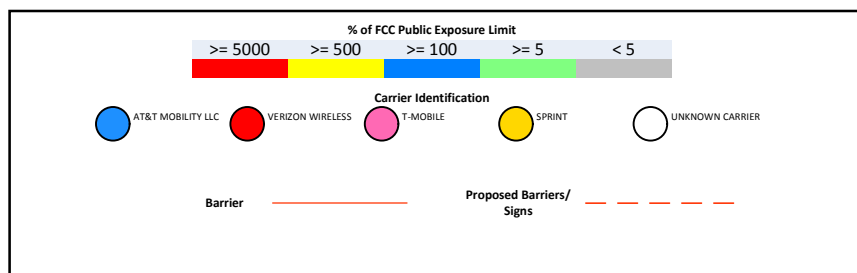
- GROUND LEVEL = 0'

The Antenna Inventory heights are referenced to the same level.

# RF Exposure Simulation For: Guildford East Composite View

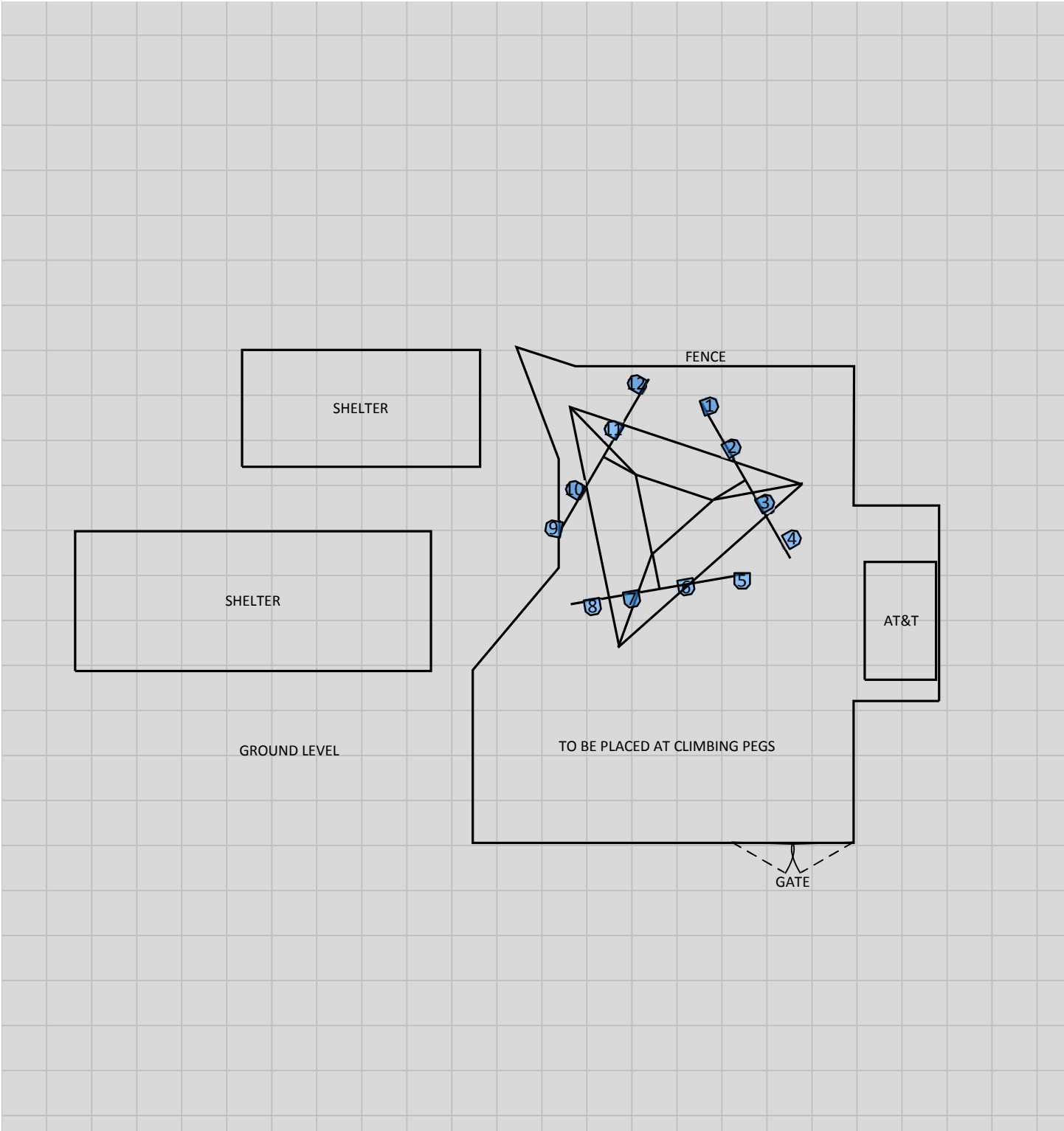


% of FCC Public Exposure Limit  
Spatial average 0' - 6'

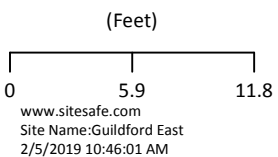
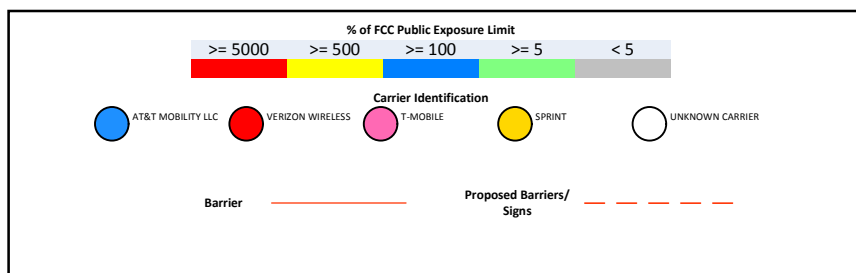


Sitesafe OET-65 Model  
Near Field Boundary:  
1.5 \* Aperture  
Reflection Factor: 1  
Spatially Averaged

RF Exposure Simulation For: Guildford East  
 AT&T Mobility, LLC Contribution



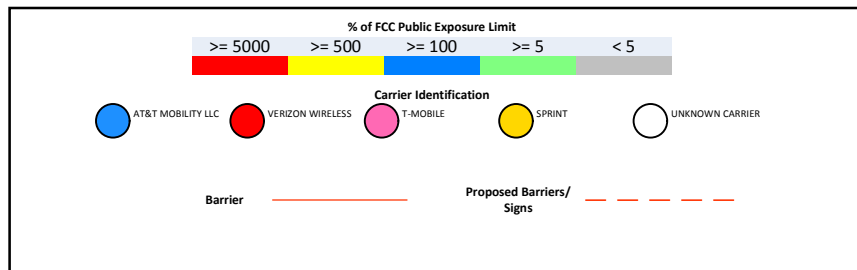
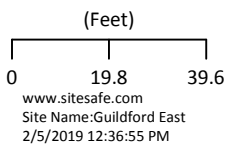
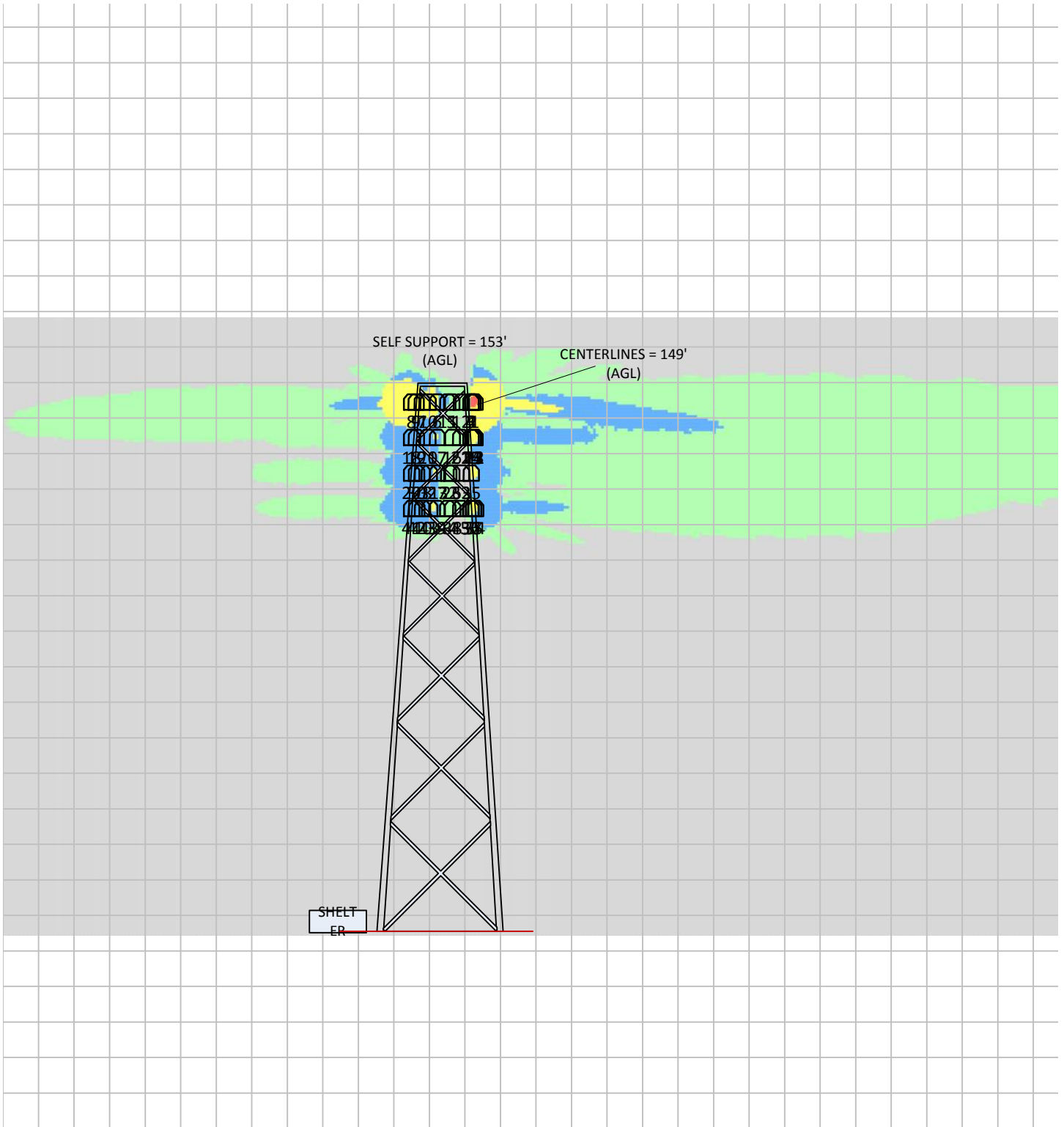
% of FCC Public Exposure Limit  
 Spatial average 0' - 6'



Sitesafe OET-65 Model  
 Near Field Boundary:  
 1.5 \* Aperture  
 Reflection Factor: 1  
 Spatially Averaged



# RF Exposure Simulation For: Guildford East Side View



Sitesafe OET-65 Model  
Near Field Boundary:  
1.5 \* Aperture  
Reflection Factor: 1  
Single Level (0)

## 5 Site Compliance

### 5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility, LLC's proposed deployment plan could result in the site being rendered non-compliant.

Modeling is used for determining compliance and the percentage of MPE contribution.

### 5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

AT&T Mobility, LLC will be made compliant if the following changes are implemented:

#### Site Access Location

(1) Yellow Caution 2 sign(s) required.

#### Notes:

- This report's diagrams do not show the Access locations because the data provided did not include them.
- Specific data concerning all other carriers on site was unavailable and therefore not included in this report.
- Signage may already be in place. Sitesafe does not have record of any existing signage because there were no previous visits or data supplied regarding them. All remediation is based on a worst-case scenario.

## 6 Engineer Certification

The professional engineer whose seal appears on the cover of this document hereby certifies and affirms:

That I, Michael A McGuire, am currently and actively licensed to provide (in this state/jurisdiction as indicated within the professional electrical engineering seal on the cover of this document) professional electrical engineering services, as an employee of Hurricane Hill Development Company, PLLC , a duly authorized/registered engineering firm (in this state, as applicable) on behalf of SiteSafe, LLC; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio-frequency Radiation; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Nick Kutzke.

February 5, 2019

## Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.

## Appendix B – Regulatory Background Information

### FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 (“OET Bulletin 65”), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

FCC regulations define two separate tiers of exposure limits: Occupational or “Controlled environment” and General Public or “Uncontrolled environment”. The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

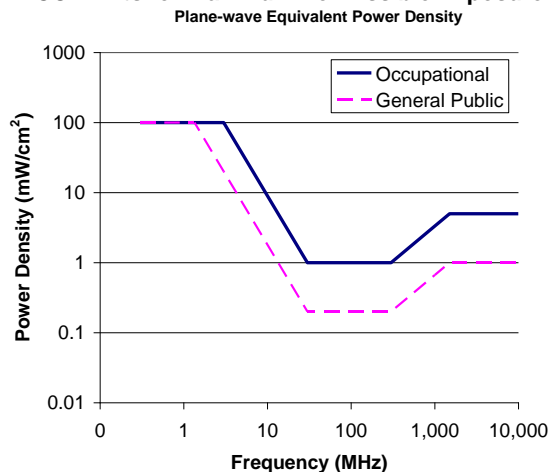
Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:

#### FCC Limits for Maximum Permissible Exposure (MPE)



### Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

### Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

\*Plane-wave equivalent power density

### OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

- (a) Each employer –
  - (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
  - (2) shall comply with occupational safety and health standards promulgated under this Act.
- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.

## Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

**General Maintenance Work:** Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

**Training and Qualification Verification:** All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

**Physical Access Control:** Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

**RF Signage:** Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

**Assume all antennas are active:** Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

**Maintain a 3 foot clearance from all antennas:** There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

**Site RF Emissions Diagram:** Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

## Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. Gray represents areas more than 20 times below the most conservative exposure limit.
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- Yellow represents areas predicted to exceed Occupational MPE limits. Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.



## Appendix E – Assumptions and Definitions

### General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur, but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

### Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

## Definitions

**5% Rule** – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

**Compliance** – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

**Decibel (dB)** – A unit for measuring power or strength of a signal.

**Duty Cycle** – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

**Effective (or Equivalent) Isotropic Radiated Power (EIRP)** – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

**Effective Radiated Power (ERP)** – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

**Gain (of an antenna)** – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

**General Population/Uncontrolled Environment** – Defined by the FCC, as an area where exposure to RF energy may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

**Generic Antenna** – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

**Isotropic Antenna** – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

**Maximum Measurement** – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

**Maximum Permissible Exposure (MPE)** – The maximum levels of RF exposure a person may be exposed to without harmful effect and with acceptable safety factor.

**Occupational/Controlled Environment** – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are **aware** of the

potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

**OET Bulletin 65** – Technical guideline developed by the FCC’s Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

**OSHA (Occupational Safety and Health Administration)** – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA’s role is to promote the safety and health of America’s working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit [www.osha.gov](http://www.osha.gov).

**Radio Frequency (RF)** – The frequencies of electromagnetic waves which are used for radio communications. Approximately 3 kHz to 300 GHz.

**Radio Frequency Exposure (RFE)** – The amount of RF power density that a person is or might be exposed to.

**Spatial Average Measurement** – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average power density an average sized human will be exposed to at a location.

**Transmitter Power Output (TPO)** – The radio frequency output power of a transmitter’s final radio frequency stage as measured at the output terminal while connected to a load.

## Appendix F – References

The following references can be followed for further information about RF Health and Safety.

Sitesafe, LLC.

<http://www.sitesafe.com>

FCC Radio Frequency Safety

<http://www.fcc.gov/encyclopedia/radio-frequency-safety>

National Council on Radiation Protection and Measurements (NCRP)

<http://www.ncrponline.org>

Institute of Electrical and Electronics Engineers, Inc., (IEEE)

<http://www.ieee.org>

American National Standards Institute (ANSI)

<http://www.ansi.org>

Environmental Protection Agency (EPA)

<http://www.epa.gov/radtown/wireless-tech.html>

National Institutes of Health (NIH)

<http://www.niehs.nih.gov/health/topics/agents/emf/>

Occupational Safety and Health Agency (OSHA)

<http://www.osha.gov/SLTC/radiofrequencyradiation/>

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

<http://www.icnirp.org>

World Health Organization (WHO)

<http://www.who.int/peh-emf/en/>

National Cancer Institute

<http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones>

American Cancer Society (ACS)

[http://www.cancer.org/docroot/PED/content/PED\\_1\\_3X\\_Cellular\\_Phone\\_Towers.asp?sitearea=PED](http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?sitearea=PED)

European Commission Scientific Committee on Emerging and Newly Identified Health Risks

[http://ec.europa.eu/health/ph\\_risk/committees/04\\_scenihr/docs/scenihr\\_o\\_022.pdf](http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf)

Fairfax County, Virginia Public School Survey

<http://www.fcps.edu/fts/safety-security/RFEESurvey/>

UK Health Protection Agency Advisory Group on Non-ionising Radiation

[http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb\\_C/1317133826368](http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368)

Norwegian Institute of Public Health

<http://www.fhi.no/dokumenter/545eea7147.pdf>

All information is for assessment purposes only. Assessments are calculated at 70% of the estimated October 1, 2017 market value which was the date of the last revaluation as completed by eQuality Valuation Services, LLC.



*"Discover a piece of Connecticut History"*

Information on the Property Records for the Municipality of Guilford was last updated on 3/1/2019.

### Parcel Information

Location:	331 ROUTE 80	Map and Parcel:	10701401	Census Tract:	1903
Zoning:	R-8	Developer's Map:	1489	Developer's Lot:	1
Total Acreage:	1.58	Farm, Forest, Open Space Acres:		Unique ID:	286

### Value Information

	Appraised Value	Assessed Value
Land	281,500	197,050
Buildings	140,699	98,490
Detached Outbuildings	0	0
Total	422,199	295,540

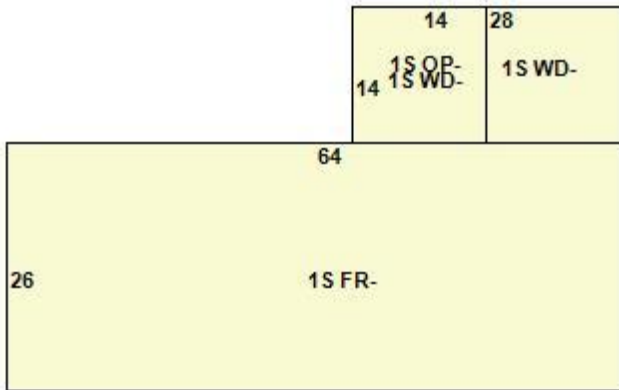
### Owner's Information

**Owner's Data**

ACAMPORA KATHLEEN  
331 ROUTE 80  
GUILFORD, CT 06437

**Building 1**

Photo Not Available



Occupancy:	SINGLE FAMILY	Construction:	WOOD FRAME	Design:	1.0 RANCH
Story Height:	1.00	Living Area Above Ground:	1,664	Year Built:	1972
Year Remodeled:		Condition:	GOOD	Foundation:	POURED CONC
Exterior Siding:	ALUMINUM	Roofing:	ASPHALT	Heating:	HWBB
Fuel:	OIL	A/C Percent:	90%	Total Rooms:	5

Total Bedrooms:	3	Kitchens:	1	Full Baths:	1
Half Baths:	1	Extra Fixtures:	0	Basement Finished Area:	0

### Special Features

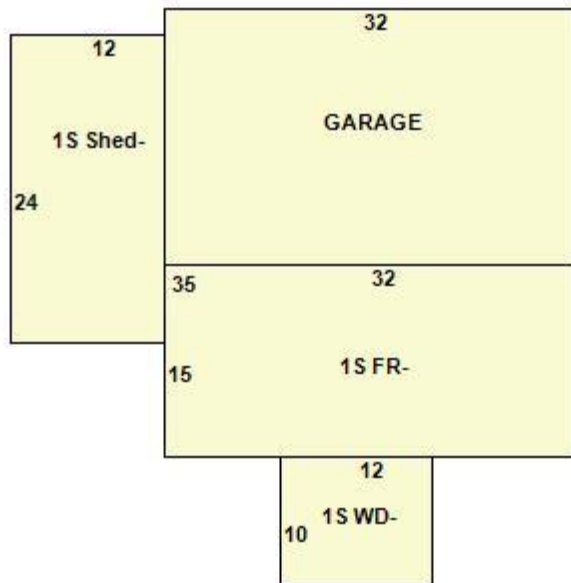
CHIMNEYS	1
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### Attached Components

Type:	Year Built:	Area:
WOOD DECK	1972	392
OPEN PORCH	1972	196

### Building 2

Photo Not Available



Occupancy:	SINGLE FAMILY	Construction:	WOOD FRAME	Design:	1.0 RANCH
Story Height:	1.00	Living Area Above Ground:	480	Year Built:	1970
Year Remodeled:		Condition:	AVERAGE	Foundation:	POURED CONC
Exterior Siding:	VINYL	Roofing:	ASPHALT	Heating:	BASEBOARD
Fuel:	ELECTRIC	A/C Percent:	0%	Total Rooms:	2
Total Bedrooms:	1	Kitchens:	1	Full Baths:	1
Half Baths:	0	Extra Fixtures:	0	Basement Finished Area:	0

### Special Features



## Attached Components

Type:	Year Built:	Area:
WOOD DECK	1970	120
ATT FRAME GARAGE	1970	1,120
AVERAGE SHED	1970	288

## Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
ACAMPORA KATHLEEN	0907	0862	12/12/2016	Quit Claim	No	\$0
ACAMPORA DAVID & KATHLEEN L	0443	0612	11/23/1994		No	\$197,221

Information Published With Permission From The Assessor

## Ryan Burgdorfer

**From:** TrackingUpdates@fedex.com  
**Sent:** Wednesday, March 6, 2019 3:48 PM  
**To:** Ryan Burgdorfer  
**Subject:** FedEx Shipment 774600154320 Delivered

# Your package has been delivered

Tracking # 774600154320

Ship date:  
**Mon, 3/4/2019**

**Ryan Burgdorfer**  
Smartlink LLC  
NORTH BILLERICA, MA 01862  
US



Delivery date:  
**Wed, 3/6/2019 3:41 pm**

**George Kral, Town Planner**  
TOWN OF GUILFORD  
31 PARK ST  
GUILFORD, CT 06437262931  
US



## Shipment Facts

Our records indicate that the following package has been delivered.

<b>Tracking number:</b>	<a href="#">774600154320</a>
<b>Status:</b>	Delivered: 03/06/2019 3:41 PM Signed for By: SSCOYTT
<b>Reference:</b>	CTL05641
<b>Signed for by:</b>	SSCOYTT
<b>Delivery location:</b>	Guilford, CT
<b>Service type:</b>	FedEx Ground
<b>Packaging type:</b>	Package
<b>Number of pieces:</b>	1
<b>Weight:</b>	1.00 lb.
<b>Special handling/Services:</b>	;
<b>Standard transit:</b>	3/6/2019

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 2:47 PM CST on 03/06/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

## Ryan Burgdorfer

**From:** TrackingUpdates@fedex.com  
**Sent:** Thursday, March 7, 2019 5:36 PM  
**To:** Ryan Burgdorfer  
**Subject:** FedEx Shipment 774600180935 Delivered

# Your package has been delivered

Tracking # 774600180935

Ship date:  
**Mon, 3/4/2019**

**Ryan Burgdorfer**  
Smartlink LLC  
NORTH BILLERICA, MA 01862  
US



Delivery date:  
**Thu, 3/7/2019 5:33 pm**

**Carla Shorter**  
SBA COMMUNICATIONS  
CORP.  
8051 CONGRESS AVE  
BOCA RATON, FL  
33487131099  
US



## Shipment Facts

Our records indicate that the following package has been delivered.

<b>Tracking number:</b>	<a href="#">774600180935</a>
<b>Status:</b>	Delivered: 03/07/2019 5:33 PM Signed for By: ASHLEY
<b>Reference:</b>	CTL05641
<b>Signed for by:</b>	ASHLEY
<b>Delivery location:</b>	Boca Raton, FL
<b>Service type:</b>	FedEx Ground
<b>Packaging type:</b>	Package
<b>Number of pieces:</b>	1
<b>Weight:</b>	1.00 lb.
<b>Special handling/Services:</b>	;
<b>Standard transit:</b>	3/7/2019

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 4:36 PM CST on 03/07/2019.

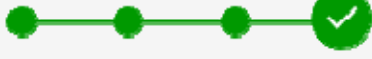
All weights are estimated.

## Ryan Burgdorfer

**From:** TrackingUpdates@fedex.com  
**Sent:** Tuesday, March 5, 2019 9:43 PM  
**To:** Ryan Burgdorfer  
**Subject:** FedEx Shipment 774600207898 Delivered

# Your package has been delivered

Tracking # 774600207898

Ship date: <b>Mon, 3/4/2019</b>		Delivery date: <b>Tue, 3/5/2019 9:39 pm</b>
<b>Ryan Burgdorfer</b> Smartlink LLC NORTH BILLERICA, MA 01862 US	 <b>Delivered</b>	<b>Kathleen Acampora</b> KATHLEEN ACAMPORA 331 ROUTE 80 GUILFORD, CT 06437112331 US

## Shipment Facts

Our records indicate that the following package has been delivered.

<b>Tracking number:</b>	<a href="#">774600207898</a>
<b>Status:</b>	Delivered: 03/05/2019 9:39 PM Signed for By: Signature Not Req
<b>Reference:</b>	CTL05641
<b>Signed for by:</b>	Signature Not Req
<b>Service type:</b>	FedEx Home Delivery
<b>Packaging type:</b>	Package
<b>Number of pieces:</b>	1
<b>Weight:</b>	1.00 lb.
<b>Special handling/Services:</b>	;
<b>Standard transit:</b>	3/5/2019

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 8:43 PM CST on 03/05/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.




## Ryan Burgdorfer

**From:** TrackingUpdates@fedex.com  
**Sent:** Wednesday, March 6, 2019 3:48 PM  
**To:** Ryan Burgdorfer  
**Subject:** FedEx Shipment 774600137821 Delivered

# Your package has been delivered

Tracking # 774600137821

Ship date: <b>Mon, 3/4/2019</b>		Delivery date: <b>Wed, 3/6/2019 3:41 pm</b>
<b>Ryan Burgdorfer</b> Smartlink LLC NORTH BILLERICA, MA 01862 US		<b>Matthew Hoey, First Selectman</b> TOWN OF GUILFORD 31 PARK ST GUILFORD, CT 06437262931 US

## Shipment Facts

Our records indicate that the following package has been delivered.

<b>Tracking number:</b>	<a href="#">774600137821</a>
<b>Status:</b>	Delivered: 03/06/2019 3:41 PM Signed for By: SSCOYTT
<b>Reference:</b>	CTL05641
<b>Signed for by:</b>	SSCOYTT
<b>Delivery location:</b>	Guilford, CT
<b>Service type:</b>	FedEx Ground
<b>Packaging type:</b>	Package
<b>Number of pieces:</b>	1
<b>Weight:</b>	1.00 lb.
<b>Special handling/Services:</b>	;
<b>Standard transit:</b>	3/6/2019

✉ Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 2:47 PM CST on 03/06/2019.

All weights are estimated.

