



SAI Group
12 Industrial Way
Salem, NH 03079
603-421-0470

June 29, 2022

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

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T) – CT2143
46 Fenwood Lane, Wilton, CT 06897
N 41.172511
W -73.433913

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 163-foot level of the existing 180-foot Self-Support Tower at 46 Fenwood Lane, Wilton, CT. The tower and property are owned by the State of Connecticut. AT&T now intends to replace six (6) antennas and add three (3) antennas. This modification may include B2, B5, B17, B14, B29, B30, B66 & n77 hardware that is 4G (LTE) and/or 5G NR capable through remote software configuration and either or both services may be turned on or off at various times. The existing antenna mounts will be replaced as documented in the attached drawings and Mount Analysis report.

AT&T Planned Modifications:

Remove:

- (3) Ericsson RRUS-11 B12
- (6) TMAs
- (6) Diplexers
- (1) RAYCAP Surge Unit
- (6) Coax – 1-5-8”
- (2) DC Lines

Remove and Replace:

- (3) QUNTEL QS66512-2 Antennas - (REMOVE) - (3) CCI DMP65R-BU6EA-K Antennas (REPLACE)
- (3) ANDREW 7770 Antennas (REMOVE) - (3) Ericsson AIR 6419 B77G Antennas (REPLACE)
- (3) Ericsson RRUS-12 B5 (REMOVE) - (3) Ericsson 4449 B5/B12 RRU (REPLACE)

Install New:

- (3) Ericsson AIR 6449 B77D Antennas
- (1) RAYCAP DC9-48-60-24-8C-EV
- (1) Fiber Lines
- (3) DC Lines

Existing to Remain:

- (3) KATHREIN 800-10965 Antennas
- (3) Ericsson 4478 B14 RRU
- (3) Ericsson RRUS-32 B2
- (3) Ericsson RRUS-32 B30
- (3) Ericsson RRUS-32 B66
- (2) Raycap Surge Units
- (2) Fiber Lines
- (4) DC Lines
- (6) Coax – 1-5/8”

The tower was originally approved by the Connecticut Siting Council, Docket No.128 on April 30, 1990. Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Lynne Vanderslice, First Selectwoman and Michael Wrinn, Director of Planning & Land Use for the Town of Wilton, as well as the property owner and tower owner.

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

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

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

Sincerely,

Mark Roberts

Mark Roberts
Consultant for SAI
Mark.Roberts@QCDevelopment.net

Attachments

Cc: Lynne Vanderslice – First Selectwoman
Michael Wrinn - Director of Planning & Land Use
State of Connecticut DESPP – Tower & Property Owner

Exhibit A

Original Facility Approval

An application of the Department : Docket 128
of Public Safety, Division of :
State Police, for a Certificate of : Connecticut
Environmental Compatibility and Public : Siting
Need for the construction, operation, : Council
and maintenance of a telecommunications :
tower and associated equipment in the :
Town of Wilton, Connecticut. : April 30, 1990

DECISION AND ORDER

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council finds that the effects associated with the construction, operation, and maintenance of a telecommunications tower at the proposed Wilton, Connecticut, site including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not significant either alone or cumulatively with other effects, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by Section 16-50k of the General Statutes of Connecticut (CGS), be issued to Department of Public Safety, Division of State Police, for the construction, operation, and maintenance of a telecommunications tower, associated equipment, and building at the proposed site in Wilton, Connecticut.

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

1. The facility shall be constructed in accordance with the State of Connecticut Basic Building Code.
2. The self-supporting lattice tower shall be no taller than necessary to provide the proposed communications and in no event shall the tower exceed 193 feet above ground level, with antennas and all appurtenances.
3. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of State Agencies. The D&M plan shall include detailed plans for the site's preparation, tower placement and foundation, architecture of the equipment building and fence, access road, and erosion and sedimentation controls.

4. The Certificate Holder shall comply with any applicable radio frequency (RF) standard promulgated by State or federal regulatory agencies. Upon the establishment of any new governmental RF standards, the facility granted in this Decision and Order shall be brought into compliance with such standards.
5. The Certificate Holder shall provide the Council a recalculated report of power density if and when circumstances in operation cause a change in power density above the levels originally calculated and provided in the application.
6. The Certificate Holder shall permit public or private entities to share space on the proposed towers for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
7. If the facility does not initially provide, or permanently ceases to provide, telecommunications service following completion of construction, this Decision and Order shall be void, and the tower and all associated equipment shall be dismantled and removed or reapplication for any new use shall be made to the Council before any such new use is made.
8. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the effective date of this Decision and Order.

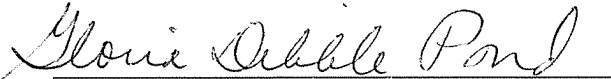
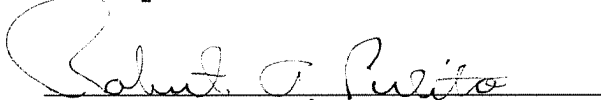
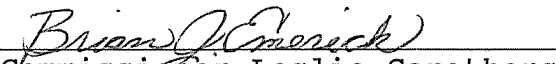
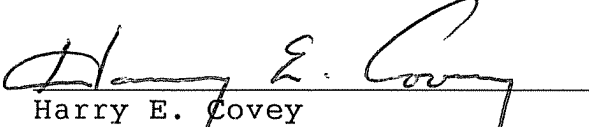
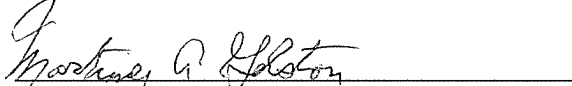
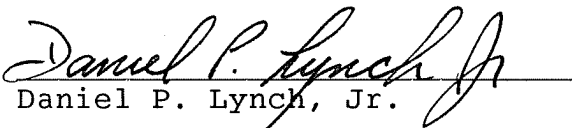
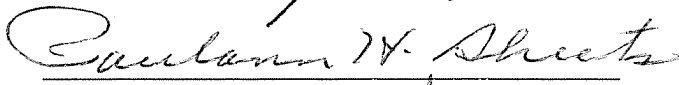
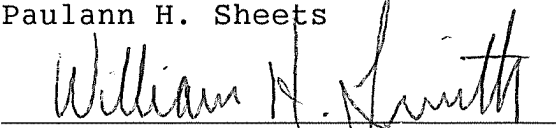
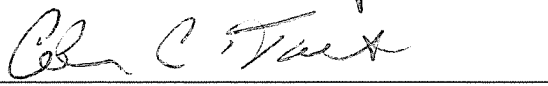
Pursuant to Section 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Bridgeport Post, The Hour, The Advocate, and The News-Times.

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

CERTIFICATION

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case in Docket No. 128 or read the record thereof, and that we voted as follows:

Dated at New Britain, Connecticut the 30th day of April, 1990.

| <u>Council Members</u> | <u>Vote Cast</u> |
|---|------------------|
|  Gloria Dibble Pond Chairperson | Yes |
|  Commissioner Peter Boucher Designee: Robert A. Pulito | Yes |
|  Commissioner Leslie Carothers Designee: Brian Emerick | Yes |
|  Harry E. Covey | Yes |
|  Mortimer A. Gelston | Yes |
|  Daniel P. Lynch, Jr. | Yes |
|  Paulann H. Sheets | Abstain |
|  William H. Smith | Yes |
|  Colin C. Tait | Yes |

The parties or intervenors to this proceeding are:

| <u>Party</u> | <u>Its Representatives</u> |
|--|--|
| Department of Public Safety Division of State Police | Captain Ronald P. Mikulka Commanding Officer Connecticut State Police Police Support Services 294 Colony Street Building No. 5 Meriden, Connecticut 06450 L.D. McCallum and Robert F. Vachelli Assistant Attorneys General MacKenzie Hall 110 Sherman Street Hartford, Connecticut 06105 |
| <u>Inteviewer</u> | <u>Its Representative</u> |
| Steven Lauten 31 Fenwood Lane Wilton, Connecticut | Jessie F. Bennett, Esq. Davidson, Naylor, & Leepson 535 Connecticut Avenue P.O. Box 5351 Norwalk, Connecticut 06856 |
| <u>Inteviewer</u> | <u>Its Representative</u> |
| SNET Cellular, Inc. 227 Church Street New Haven, Connecticut 06506 | Peter J. Tyrrell Senior Attorney SNET Cellular, Inc. 227 Church Street New Haven, Connecticut 06506 |
| <u>Inteviewer</u> | <u>Its Representative</u> |
| Metro Mobile CTS, of Fairfield County, Inc. 50 Rockland Road South Norwalk, Connecticut 06854 | Henry H. Sprague, Esq. Robinson & Cole One Commercial Plaza Hartford, Connecticut 06105 |
| <u>Inteviewer</u> | <u>Its Representative</u> |
| Metro Mobile CTS, of 110 East 59th Street New York, New York 10022 | Henry H. Sprague, Esq. Robinson & Cole One Commercial Plaza Hartford, Connecticut 06105 |

Party

Town of Wilton
Town Hall
238 Danbury Road
Wilton, Connecticut 06880

Its Representative

Burton L. Jones
First Selectman
Town Hall
238 Danbury Road
Wilton, Connecticut 06897

Party

Stephen J. Farley
368 Belden Hill
Wilton, Connecticut 06897

4167E

Exhibit B

Property Card



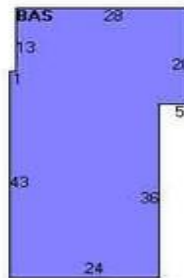
Property Information

| | |
|-------------------|--------------------------------------|
| Property Location | 46 FENWOOD LA |
| Owner | CONNECTICUT STATE OF |
| Co-Owner | |
| Mailing Address | 450 CAPITOL AVE HARTFORD CT 06134 |
| Land Use | 211 Ex Com MDL-96 |
| Land Class | E |
| Zoning Code | R-2 |
| Census Tract | |
| Sub Lot | |
| Neighborhood | 4000 |
| Acreage | 0.5 |
| Utilities | Well,Septic |
| Lot Setting/Desc | Level |
| Survey Map | |
| Foundation | 1 |

Photo



Sketch



Primary Construction Details

| | |
|--------------------|-------------|
| Year Built | 1990 |
| Stories | 1 |
| Building Style | Commercial |
| Building Use | Commercial |
| Building Condition | Average +10 |
| Floors | Concrete |
| Total Rooms | |

| | |
|----------------|----------------|
| Bedrooms | |
| Full Bathrooms | |
| Half Bathrooms | |
| Bath Style | |
| Kitchen Style | |
| Roof Style | Gable/Hip |
| Roof Cover | Asphalt Shngl. |

| | |
|-------------------|----------------|
| Exterior Walls | Clapboard |
| Interior Walls | Minim/Masonry |
| Heating Type | Electr Basebrd |
| Heating Fuel | Electric |
| AC Type | Central |
| Gross Bldg Area | 1431 |
| Total Living Area | 1431 |



Town of Wilton, CT

Property Listing Report

Map Block Lot **99-22**

Account **006298**

Valuation Summary (Assessed value = 70% of Appraised Value)

| Item | Appraised | Assessed |
|---------------------|---------------|---------------|
| Buildings | 81700 | 57190 |
| Extras | 0 | 0 |
| Outbuildings | 3000 | 2100 |
| Land | 678600 | 475020 |
| Total | 763300 | 534310 |

Outbuilding and Extra Items

| Type | Description |
|----------|-------------|
| Fence 6' | 300 L.F. |
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Sub Areas

| Subarea Type | Gross Area (sq ft) | Living Area (sq ft) |
|--------------------|--------------------|---------------------|
| First Floor | 1431 | 1431 |
| | | |
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| | | |
| | | |
| | | |
| | | |
| Total Area | 1431 | 1431 |

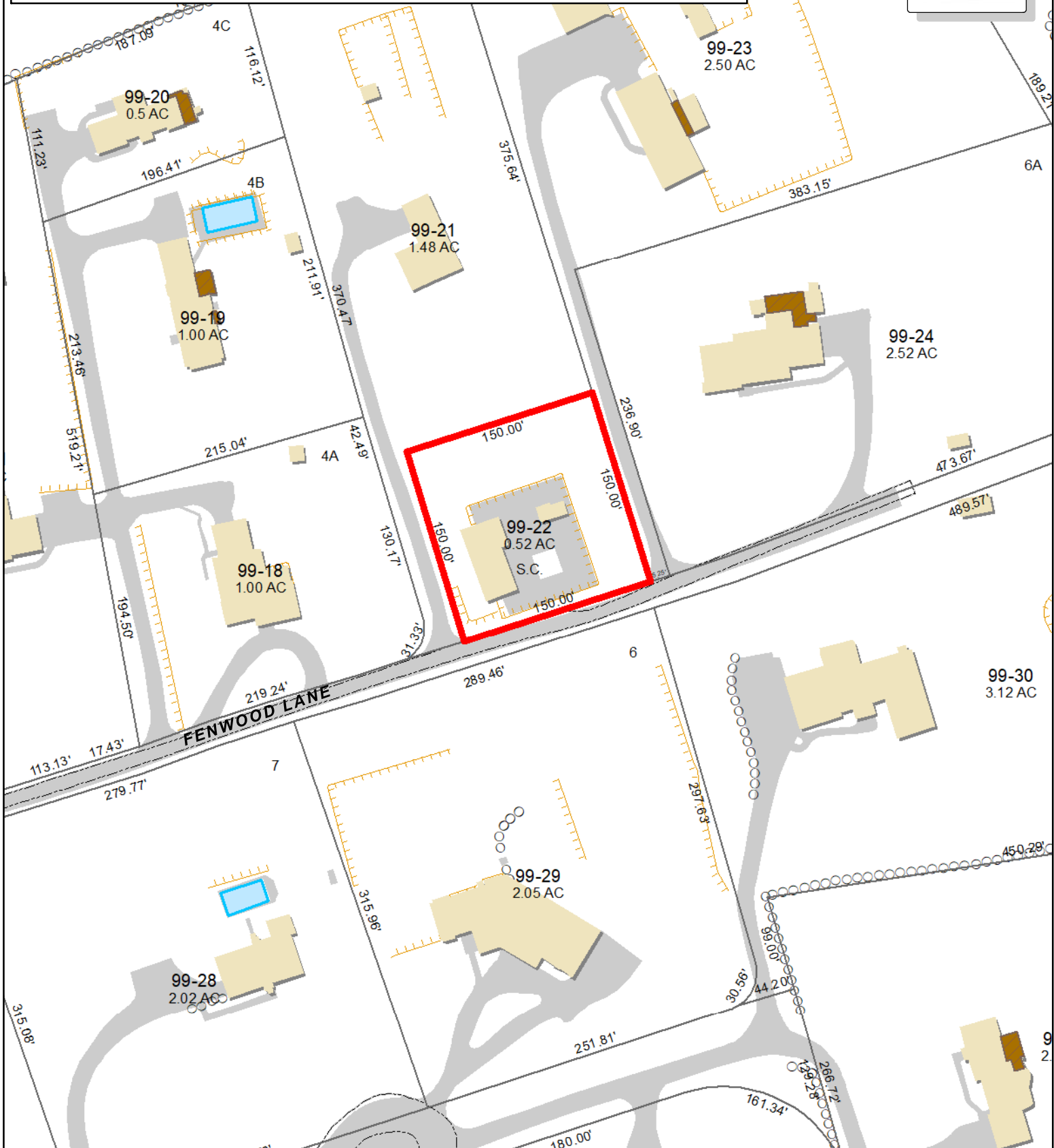
Sales History

| Owner of Record | Book/ Page | Sale Date | Sale Price |
|-----------------------------|------------------|-----------------|------------|
| CONNECTICUT STATE OF | 0049/0403 | 1/1/1901 | 0 |

Town of Wilton, Connecticut - Assessment Parcel Map

MBL: 99-22

Address: 46 FENWOOD LA



Approximate Scale:
1 inch = 100 feet

Disclaimer:
This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Wilton and its mapping contractors
assume no legal responsibility for the information contained herein.

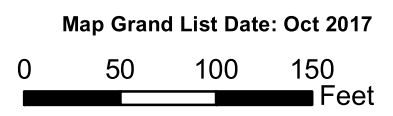


Exhibit C

Construction Drawings

PROJECT INFORMATION

SCOPE OF WORK: ITEMS TO BE MOUNTED ON THE EXISTING SELF SUPPORT:

- NEW AT&T ANTENNAS: AIR6449 B77D (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: AIR6419 B77G (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: DMP65R-BU6EA-K (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNAS: 800-10965 (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE RELOCATED TO POS. 2).
- NEW AT&T RRUS: 4449 B5/B12 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- EXISTING AT&T RRUS: 4478 B14 (TYP. OF 1 PER SECTOR, TOTAL OF 3) (RELOCATED TO POS. 2)
- EXISTING AT&T RRUS: 32 B66A (TYP. OF 1 PER SECTOR, TOTAL OF 3) (RELOCATED TO POS. 2)
- NEW AT&T DC & FIBER SURGE ARRESTOR DC9-48-60-24-8C-EV (TOTAL OF 1) WITH (1) 6AWG DC TRUNK & (1) 24-PAIR FIBER LINE.
- ADD (2) 6AWG DC TRUCK (TO REPLACE EXISTING).
- ADD (3) Y-CABLES.
- PROPOSED MOUNT (SITEPRO1 P/N VFA14-H10-2120)

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:

- ADD (1) 6648 + XCEDE CABLE
- ADD (3) RECTIFIERS

ITEMS TO BE REMOVED:

- EXISTING AT&T ANTENNAS: 7770 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNAS: QS66512-2 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: RRUS-11 B12 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- EXISTING AT&T RRUS: RRUS-12 B5 (850) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- EXISTING AT&T TMA'S: LGP21401 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T DIPLEXER: LGP21901 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T DC ONLY SURGE ARRESTOR DC-48-60-0-8F (TOTAL OF 1).
- EXISTING AT&T (2) DC POWER CABLES
- EXISTING (6) COAX CABLES.

ITEMS TO REMAIN:

- (3) ANTENNAS, (12) RRU'S, (6) COAX CABLES, (2) SURGE ARRESTORS, (4) DC POWER & (2) FIBER

SITE ADDRESS: 46 FENWOOD LANE
WILTON, CT 06897

LATITUDE: 41.1725481° N, 41° 10' 21.17" N

LONGITUDE: 73.4339161° W, 73° 26' 02.1" W

TYPE OF SITE: SELF SUPPORT / INDOOR EQUIPMENT

STRUCTURE HEIGHT: 182'-0"±

RAD CENTER: 163'-0"± (LTE), 165'-0"± (DOD), 161'-4"± (C-BAND)

CURRENT USE: TELECOMMUNICATIONS FACILITY

PROPOSED USE: TELECOMMUNICATIONS FACILITY

DRAWING INDEX

| SHEET NO. | DESCRIPTION | REV. |
|-----------|-----------------------------|------|
| T-1 | TITLE SHEET | 1 |
| GN-1 | GENERAL NOTES | 1 |
| A-1 | COMPOUND & EQUIPMENT PLANS | 1 |
| A-2 | ANTENNA LAYOUTS & ELEVATION | 1 |
| A-3 | DETAILS | 1 |
| A-4 | DETAILS | 1 |
| SN-1 | STRUCTURAL NOTES | 1 |
| G-1 | GROUNDING DETAILS | 1 |
| RF-1 | RF PLUMBING DIAGRAM | 1 |



SITE NUMBER: CT2143

SITE NAME: GILBERTS CORNER

FA CODE: 10035018

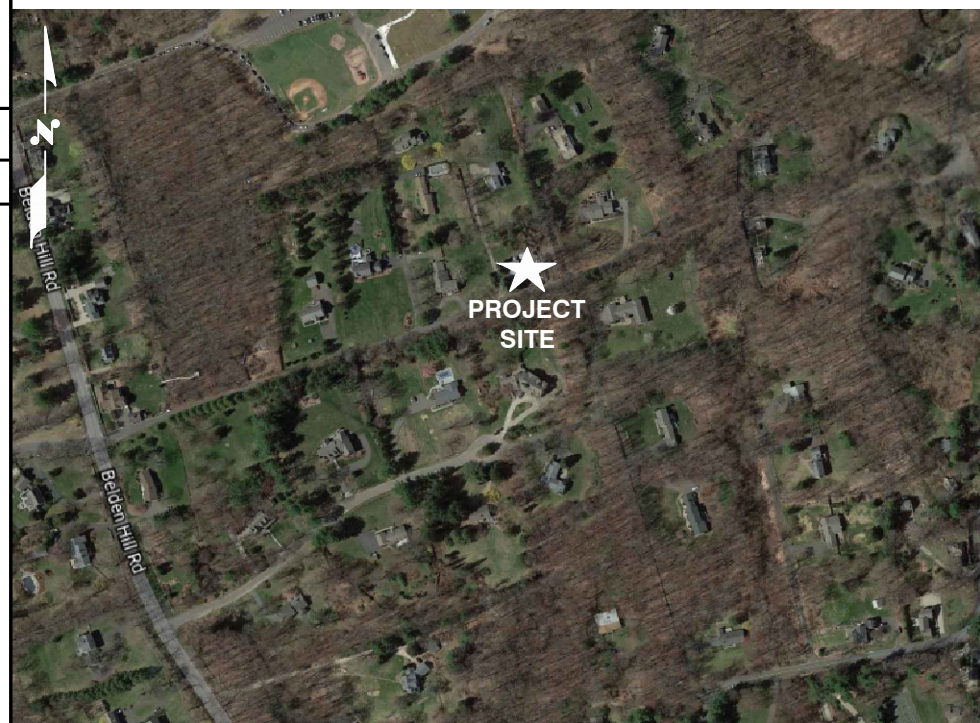
PACE ID: MRCTB056271, MRCTB055278, MRCTB055500, MRCTB056662,

PROJECT: 5G NR 1SR CBAND_5G NR 1DR-1_BBU ADD UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING EAST ON ENTERPRISE DR TOWARD CAPITAL BLVD.TURN LEFT ONTO CAPITAL BLVD.TURN LEFT ONTO WEST ST.MERGE ONTO I-91 S VIA THE RAMP ON THE LEFT TOWARD NEW HAVEN.MERGE ONTO CT-15 S VIA EXIT 17 TOWARD E MAIN ST.TAKE THE CT-33 EXIT, EXIT 41, TOWARD WILTON/WESTPORT.KEEP RIGHT AT THE FORK IN THE RAMP.TURN LEFT ONTO WILTON RD/CT-33. CONTINUE TO FOLLOW CT-33.TURN LEFT ONTO WOLFPIIT RD/CT-106.TURN LEFT ONTO BELDEN HILL RD.TURN LEFT ONTO FENWOOD LN.46 FENWOOD LN, WILTON, CT 06897-3829, 46 FENWOOD LN IS ON THE LEFT.



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

72 HOURS



CALL BEFORE YOU DIG



CALL TOLL FREE 1-800-922-4455

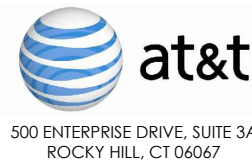
OR CALL 811

UNDERGROUND SERVICE ALERT



SITE NUMBER: CT2143
SITE NAME: GILBERTS CORNER

46 FENWOOD LANE
WILTON, CT 06897
FAIRFIELD COUNTY



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

| | | | | | |
|--|------|---|--------------|---|--------|
| 1 05/23/22 ISSUED FOR CONSTRUCTION JJ HC DPH | | STATE OF CONNECTICUT DANIEL P. HAMM PROFESSIONAL ENGINEER | | AT&T | |
| A 04/29/22 ISSUED FOR REVIEW JJ HC DPH | | No. 24178 | | TITLE SHEET 5G NR 1SR CBAND_5G NR 1DR-1_BBU ADD UPGRADE UPGRADE | |
| NO. | DATE | REVISIONS | BY | CHK | APP'D |
| SCALE: AS SHOWN | | DESIGNED BY: HC | DRAWN BY: JJ | SITE NUMBER: CT2143 | |
| | | | | DRAWING NUMBER: T-1 | REV: 1 |

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – SAI
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. **APPLICABLE BUILDING CODES:**
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

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

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

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

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

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

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

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



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



12 INDUSTRIAL WAY
 SALEM, NH 03079

**SITE NUMBER: CT2143
 SITE NAME: GILBERTS CORNER**

46 FENWOOD LANE
 WILTON, CT 06897
 FAIRFIELD COUNTY

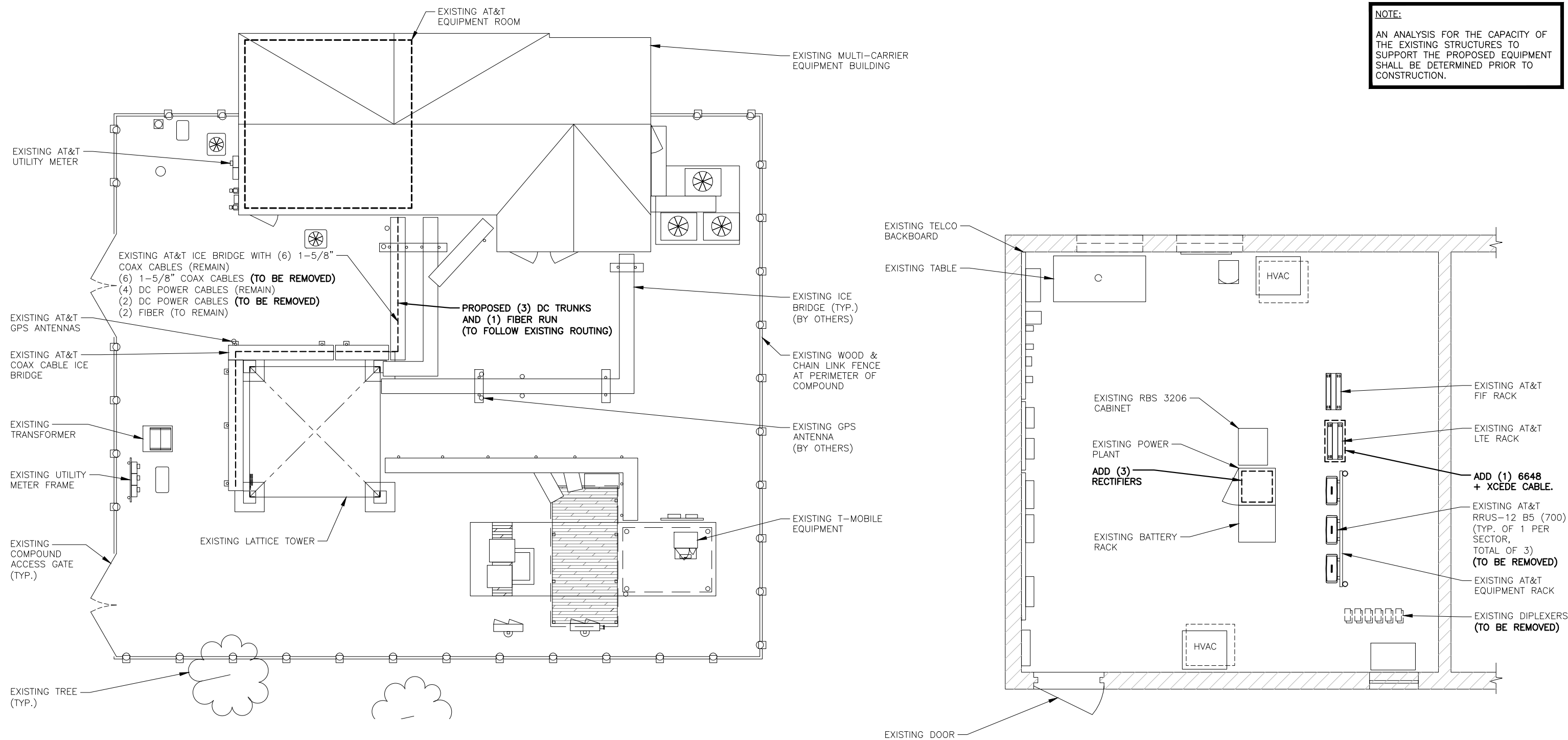


500 ENTERPRISE DRIVE, SUITE 3A
 ROCKY HILL, CT 06067

| | | | | | | | | | | | |
|--------|------|-----------|-------------------------|--------------|-----|-------|--|-----------|--|---|--|
| 1 | | 05/23/22 | ISSUED FOR CONSTRUCTION | JJ | HC | DPH | | | | | |
| A | | 04/29/22 | ISSUED FOR REVIEW | JJ | HC | DPH | | | | | |
| NO. | DATE | REVISIONS | | BY | CHK | APP'D | | | | | |
| SCALE: | | AS SHOWN | | DESIGNED BY: | | HC | | DRAWN BY: | | HC | |
| | | | | | | | | | | AT&T GENERAL NOTES 5G NR 1SR CBAND_5G NR 1DR-1_BBU ADD UPGRADE UPGRADE | |
| | | | | | | | | | | SITE NUMBER: CT2143 DRAWING NUMBER: GN-1 REV: 1 | |

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

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



COMPOUND PLAN
 22x34 SCALE: 3/8"=1'-0"
 11x17 SCALE: 3/16"=1'-0"
 1 A-1

EQUIPMENT PLAN
 22x34 SCALE: 3/8"=1'-0"
 11x17 SCALE: 3/16"=1'-0"
 2 A-1

HG HUDSON Design Group LLC
 45 BEECHWOOD DRIVE
 NORTH ANDOVER, MA 01845
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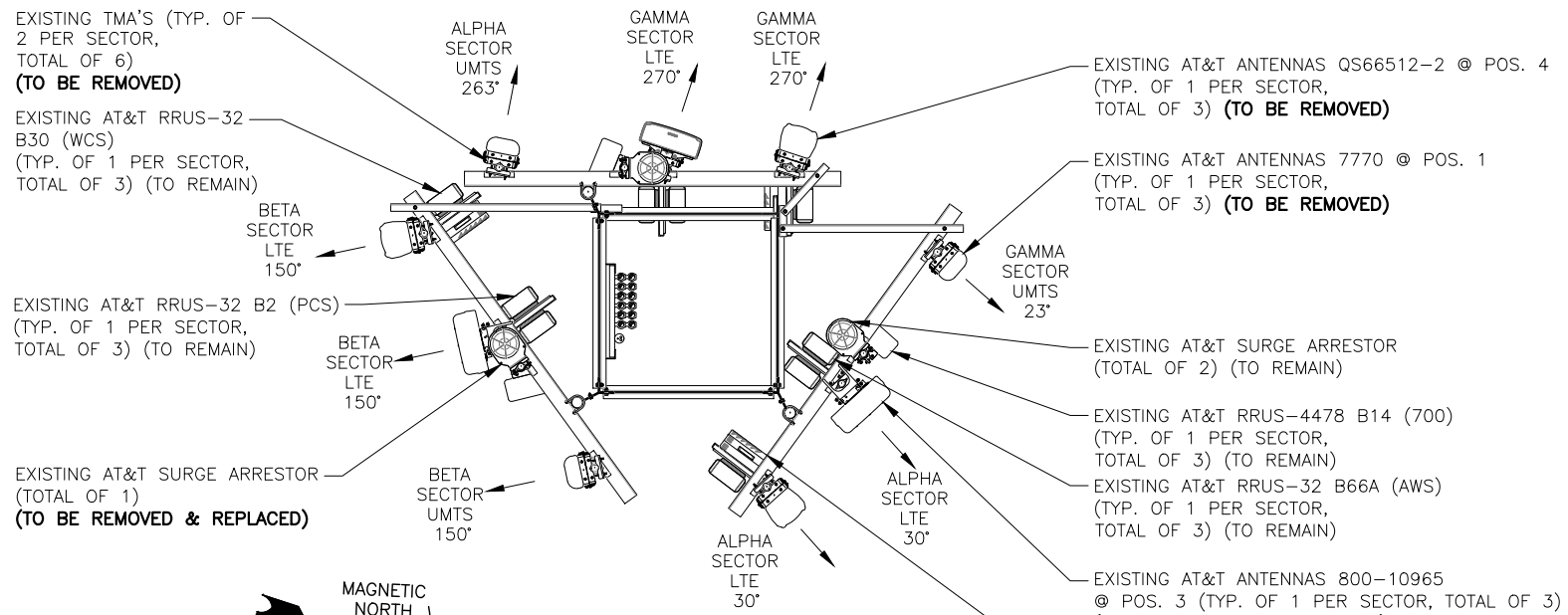
SAI
 12 INDUSTRIAL WAY
 SALEM, NH 03079

SITE NUMBER: CT2143
SITE NAME: GILBERTS CORNER
 46 FENWOOD LANE
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 FAIRFIELD COUNTY

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

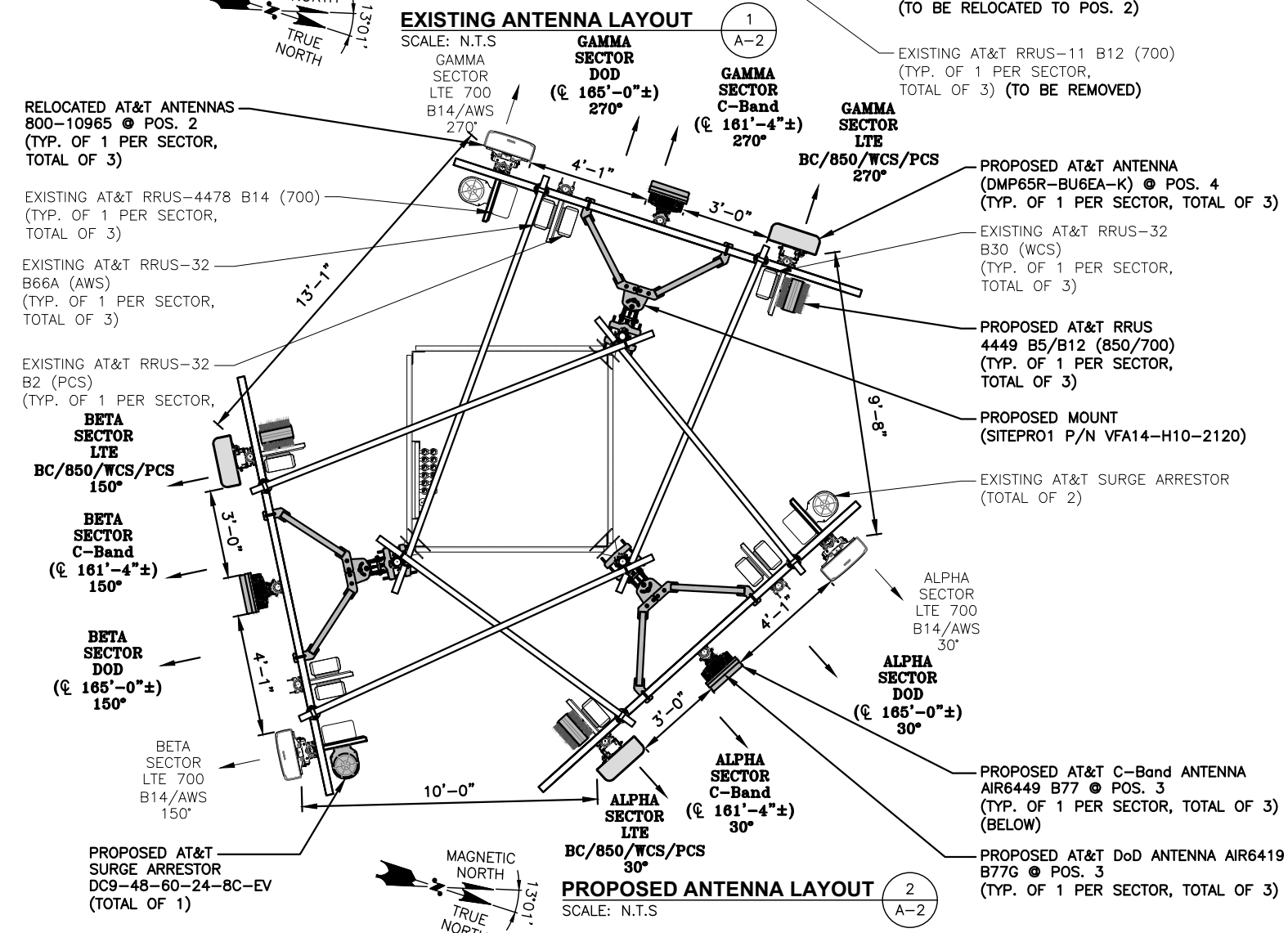
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|-----------------|----------|-------------------------|--------------|-----|-------|
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| A | 04/29/22 | ISSUED FOR REVIEW | JJ | HC | DPH |
| NO. | DATE | REVISIONS | BY | CHK | APP'D |
| SCALE: AS SHOWN | | DESIGNED BY: HC | DRAWN BY: JJ | | |

AT&T
COMPOUND & EQUIPMENT PLANS
 5G NR 1SR CBAND_5G NR
 1DR-1_BBU ADD UPGRADE UPGRADE
 SITE NUMBER: CT2143
 DRAWING NUMBER: A-1
 REV: 1



EXISTING ANTENNA LAYOUT

SCALE: N.T.S.

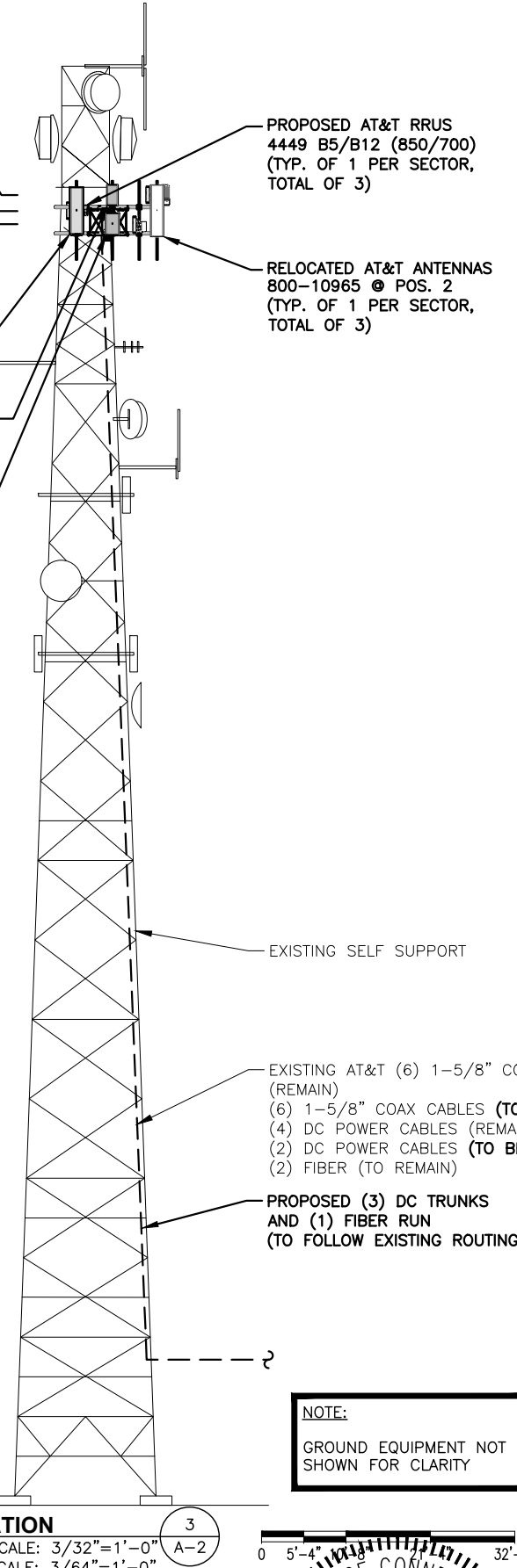


PROPOSED ANTENNA LAYOUT

SCALE: N.T.S.

- TOP OF SELF SUPPORT
ELEV. 182'-0"± (AGL)
- CL OF PROPOSED AT&T DoD ANTENNAS
ELEV. = 165'-0"± (AGL)
- CL OF EXISTING & PROPOSED LTE AT&T ANTENNAS
ELEV. 163'-0"± (AGL)
- CL OF PROPOSED AT&T Cband ANTENNAS
ELEV. = 161'-4"± (AGL)

- PROPOSED AT&T ANTENNA (DMP65R-BU6EA-K) @ POS. 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- PROPOSED AT&T DoD ANTENNA AIR6419 B77G @ POS. 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- PROPOSED AT&T C-Band ANTENNA AIR6449 B77 @ POS. 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3) (BELOW)



ELEVATION

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

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

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: APRIL 5, 2022.

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

NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

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

SAI
12 INDUSTRIAL WAY SALEM, NH 03079

SITE NUMBER: CT2143
SITE NAME: GILBERTS CORNER
46 FENWOOD LANE WILTON, CT 06897 FAIRFIELD COUNTY

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

| | | | | | |
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| NO. | DATE | REVISIONS | BY | CHK | APP'D |
| 1 | 05/23/22 | ISSUED FOR CONSTRUCTION | JJ | HC | DPH |
| A | 04/29/22 | ISSUED FOR REVIEW | JJ | HC | DPH |
| SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: [Signature] | | | | | |

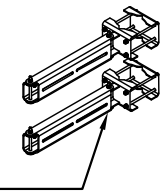
AT&T
ANTENNA LAYOUTS & ELEVATION
5G NR 1SR CBAND_5G NR
1DR-1_BBU ADD UPGRADE UPGRADE
SITE NUMBER: CT2143 DRAWING NUMBER: A-2 REV: 1

| ANTENNA SCHEDULE | | | | | | | | | | | |
|------------------|-----------------------|------------------------|--|--------------------------------|-----------------------|---------|------------------|---|------------------------------|--------------------------------|--------------------------------------|
| SECTOR | EXISTING/ PROPOSED | BAND | ANTENNA | SIZE (INCHES) (L x W x D) | ANTENNA CL. HEIGHT | AZIMUTH | TMA/ DIPLEXER | RRU | SIZE (INCHES) (L x W x D) | FEEDER | RAYCAP |
| A1 | - | - | - | - | - | - | - | - | - | (2) 1-5/8 COAX | |
| A2 | EXISTING | LTE 700 B14/AWS | 800-10965 | 78.7X20X6.9 | 163'-0"± | 30° | - | (E)(1) 4478 B14 (700) (E)(1) RRUS-32 B66A (AWS) | - | (E)(2) DC POWER & (1) FIBER | (E) (1) RAYCAP DC6-48-60-18-8F |
| A3 | PROPOSED | DOD + CBAND | AIR6419 B77G AIR6449 B77 (STACKED) | 31.1X16.1X7.3 30.4X15.9X8.1 | 165'-0"± 161'-4"± | 30° | - | - | - | (2) 1-5/8 COAX | |
| A4 | PROPOSED | LTE 700 BC/850/WCS/PCS | DMP65R-BU6EA-K | 71.2X20.7X9.7 | 163'-0"± | 30° | - | (P)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B2 (PCS) (E)(1) RRUS-32 B30 (WCS) | - | (P)(1) Y-CABLE | |
| B1 | - | - | - | - | - | - | - | - | - | (2) 1-5/8 COAX | |
| B2 | EXISTING | LTE 700 B14/AWS | 800-10965 | 78.7X20X6.9 | 163'-0"± | 150° | - | (E)(1) 4478 B14 (700) (E)(1) RRUS-32 B66A (AWS) | - | (E)(2) DC POWER & (1) FIBER | (E) (1) RAYCAP DC6-48-60-18-8F |
| B3 | PROPOSED | DOD + CBAND | AIR6419 B77G AIR6449 B77 (STACKED) | 31.1X16.1X7.3 30.4X15.9X8.1 | 165'-0"± 161'-4"± | 150° | - | - | - | - | |
| B4 | PROPOSED | LTE 700 BC/850/WCS/PCS | DMP65R-BU6EA-K | 71.2X20.7X9.7 | 163'-0"± | 150° | - | (P)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B2 (PCS) (E)(1) RRUS-32 B30 (WCS) | - | (P)(1) Y-CABLE | |
| C1 | - | - | - | - | - | - | - | - | - | (2) 1-5/8 COAX | |
| C2 | EXISTING | LTE 700 B14/AWS | 800-10965 | 78.7X20X6.9 | 163'-0"± | 270° | - | (E)(1) 4478 B14 (700) (E)(1) RRUS-32 B66A (AWS) | - | (P)(3) DC POWER & (1) FIBER | (P) (1) RAYCAP DC9-48-60-24-8C-EV |
| C3 | PROPOSED | DOD + CBAND | AIR6419 B77G AIR6449 B77 (STACKED) | 31.1X16.1X7.3 30.4X15.9X8.1 | 165'-0"± 161'-4"± | 270° | - | - | - | - | |
| C4 | PROPOSED | LTE 700 BC/850/WCS/PCS | DMP65R-BU6EA-K | 71.2X20.7X9.7 | 163'-0"± | 270° | - | (P)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B2 (PCS) (E)(1) RRUS-32 B30 (WCS) | - | (P)(1) Y-CABLE | |

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

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: APRIL 5, 2022.

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



DUAL RRU MOUNT
(ROSENBERGER PART# D22ORRUDSM) (TYP. OF 1 PER SECTOR, TOTAL OF 3)

DUAL RRU MOUNT DETAIL 6
SCALE: N.T.S.

FINAL ANTENNA SCHEDULE 1
SCALE: N.T.S.

| RRU CHART | | |
|-----------|--------------------|-------------------|
| QUANTITY | MODEL | SIZE (L x W x D) |
| P(3) | 4449 (850/700) | 17.9"x13.2"x10.4" |
| E(3) | 4478 B14 (700) | 18.1"x13.4"x8.3" |
| E(3) | RRUS-32 B66A (AWS) | 27.2"x12.1"x7.0" |
| E(3) | RRUS-32 B2 (PCS) | 27.2"x12.1"x7.0" |
| E(3) | RRUS-32 (WCS) | 27.2"x12.1"x7.0" |

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

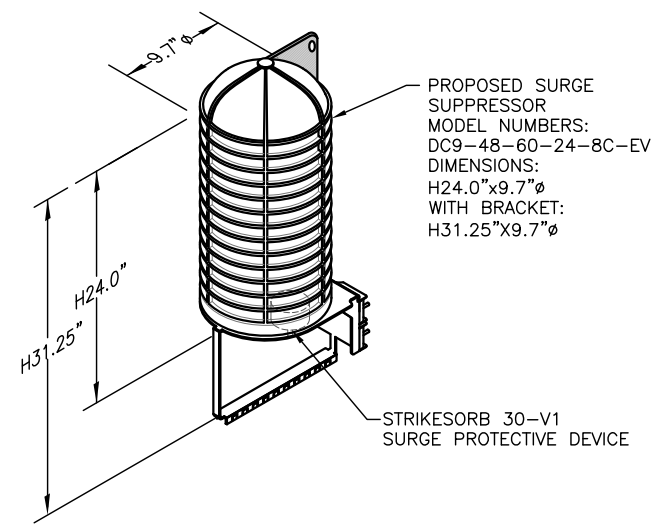


NOTE:
SEE RFDS FOR RRU FREQUENCY AND MODEL NUMBER

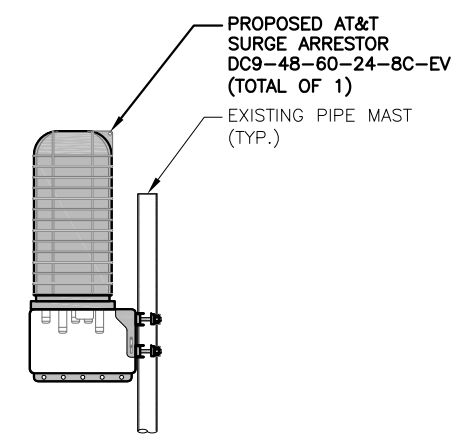
PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

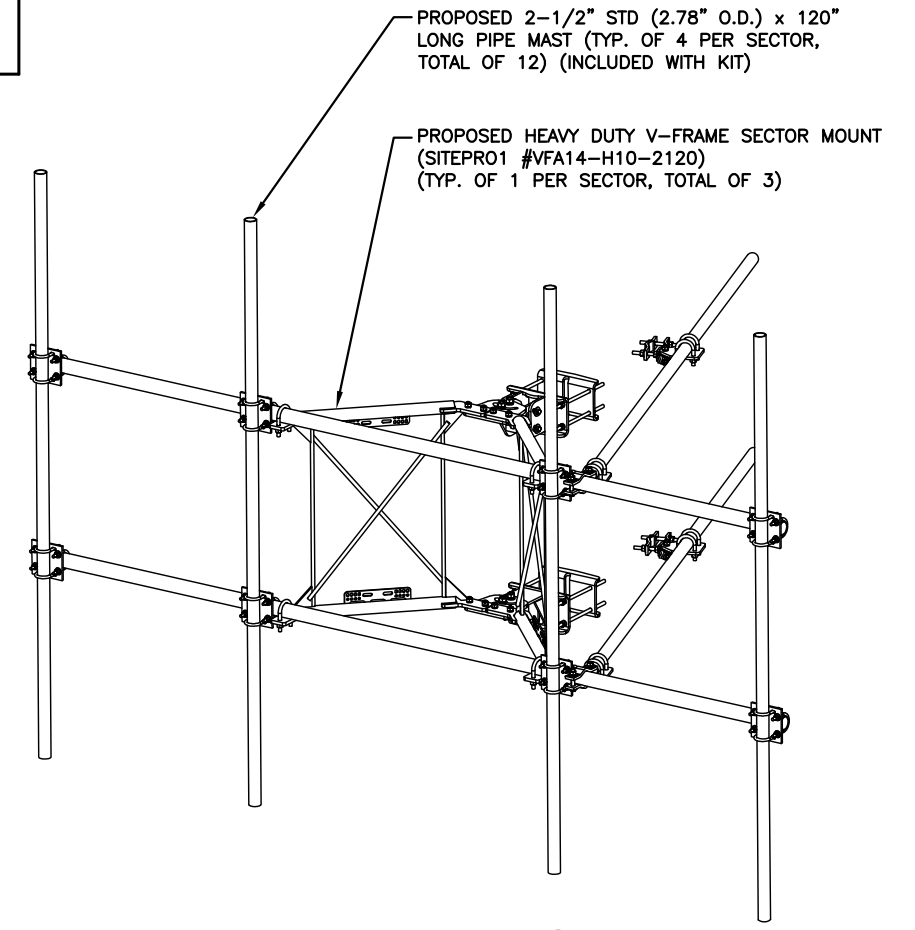
PROPOSED RRUS DETAIL 2
SCALE: N.T.S.



DC SURGE SUPPRESSOR DETAIL 3
SCALE: N.T.S.



PROPOSED C - BAND ANTENNA MOUNTING DETAIL 4
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"



HEAVY DUTY V-FRAME DETAIL 5
SCALE: N.T.S.

HUDSON
Design Group LLC

45 BEECHWOOD DRIVE
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FAX: (978) 334-5586

SAI

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2143
SITE NAME: GILBERTS CORNER

46 FENWOOD LANE
WILTON, CT 06897
FAIRFIELD COUNTY

at&t

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

STATE OF CONNECTICUT
DANIEL P. HAMM
PROFESSIONAL ENGINEER

| | | | | | |
|-----|----------|-------------------------|----|-----|-------|
| NO. | DATE | REVISIONS | BY | CHK | APP'D |
| 1 | 05/23/22 | ISSUED FOR CONSTRUCTION | JJ | HC | DPH |
| A | 04/29/22 | ISSUED FOR REVIEW | JJ | HC | DPH |

SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: [Signature]

AT&T

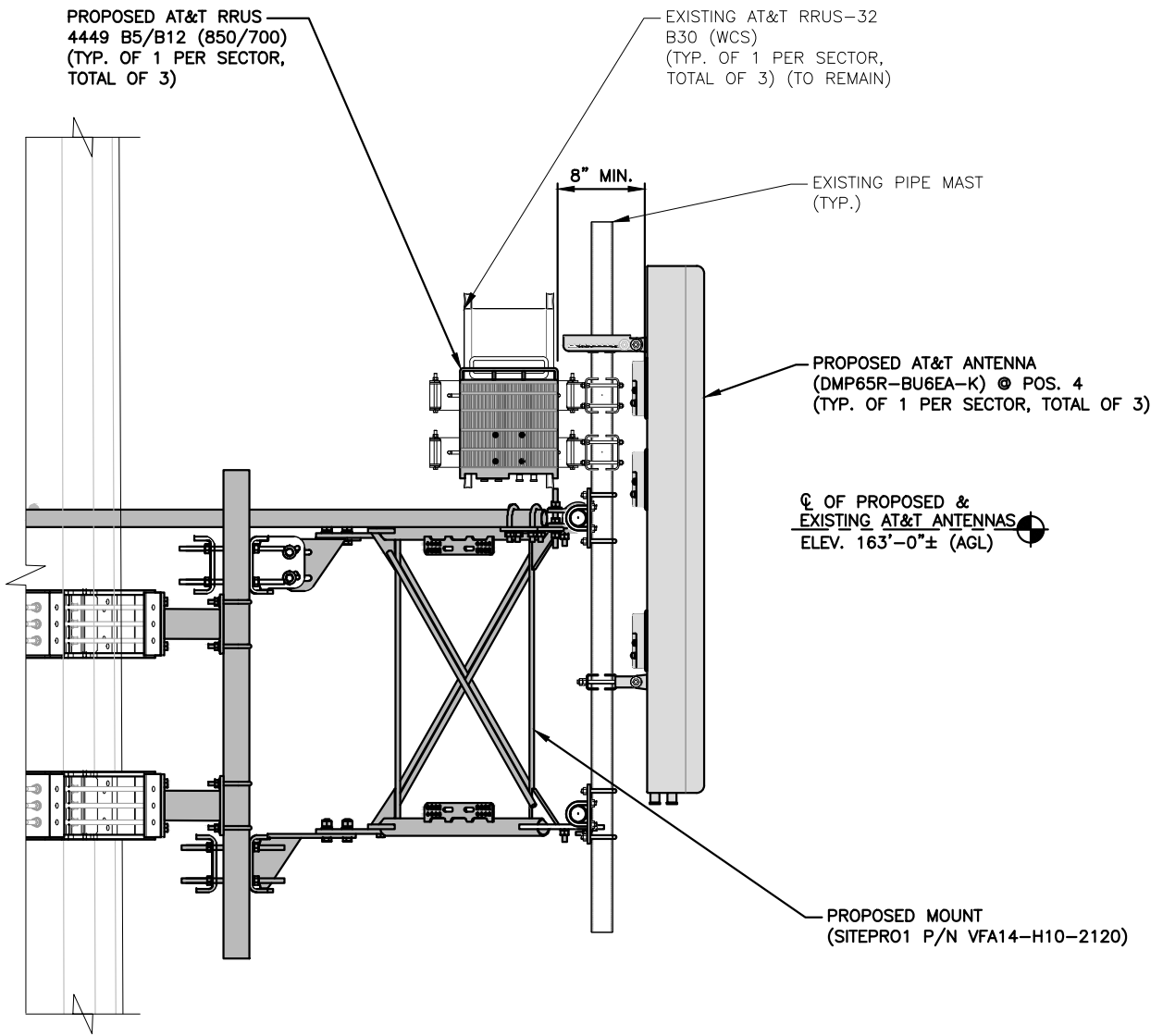
DETAILS
5G NR 1SR CBAND_5G NR
1DR-1_BBU ADD UPGRADE UPGRADE

SITE NUMBER: CT2143 DRAWING NUMBER: A-3 REV: 1

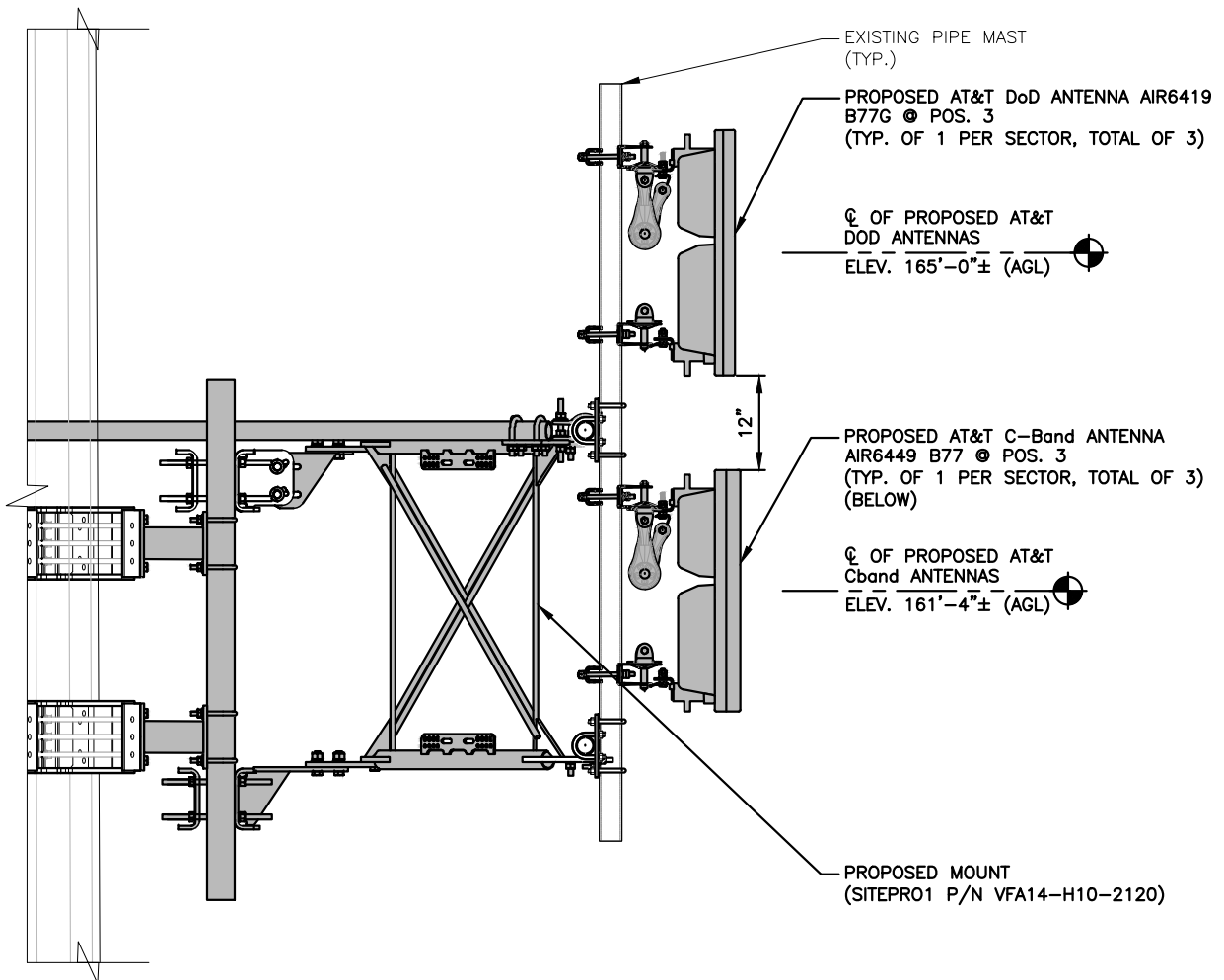
NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED
BY: HUDSON DESIGN GROUP, LLC.
DATED: APRIL 5, 2022.

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



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



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

HG HUDSON Design Group LLC
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at&t
500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067

| NO. | DATE | REVISIONS | BY | CHK | APP'D |
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| 1 | 05/23/22 | ISSUED FOR CONSTRUCTION | JJ | HC | DPH |
| A | 04/29/22 | ISSUED FOR REVIEW | JJ | HC | DPH |

STATE OF CONNECTICUT
DANIEL P. HAMM
PROFESSIONAL ENGINEER
No. 24178
AGE 05/20/11

AT&T
DETAILS
5G NR 1SR CBAND_5G NR
1DR-1_BBU ADD UPGRADE UPGRADE
SITE NUMBER: CT2143
DRAWING NUMBER: A-4
REV: 1

STRUCTURAL NOTES:

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

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

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

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

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

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

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

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

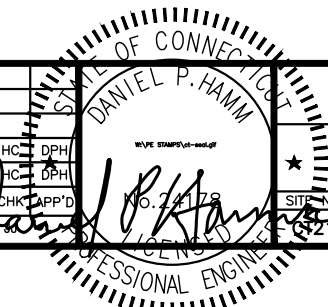
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2143
SITE NAME: GILBERTS CORNER

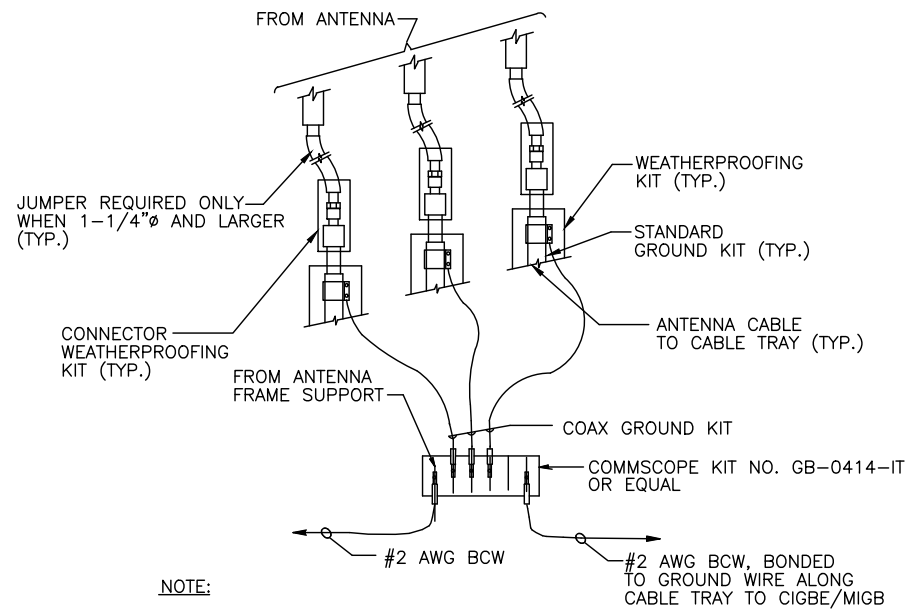
46 FENWOOD LANE
WILTON, CT 06897
FAIRFIELD COUNTY

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

| | | | | | | | | | |
|--------|----------|-------------------------|--------------|----|-----------|-------|-------------|----------------|-----|
| NO. | | DATE | REVISIONS | BY | CHK | APP'D | SITE NUMBER | DRAWING NUMBER | REV |
| 1 | 05/23/22 | ISSUED FOR CONSTRUCTION | | JJ | HC | DPH | CT2143 | SN-1 | 1 |
| A | 04/29/22 | ISSUED FOR REVIEW | | JJ | HC | DPH | | | |
| SCALE: | | AS SHOWN | DESIGNED BY: | HC | DRAWN BY: | | | | |



AT&T
STRUCTURAL NOTES
5G NR 1SR CBAND 5G NR
1DR-1_BBU ADD UPGRADE UPGRADE



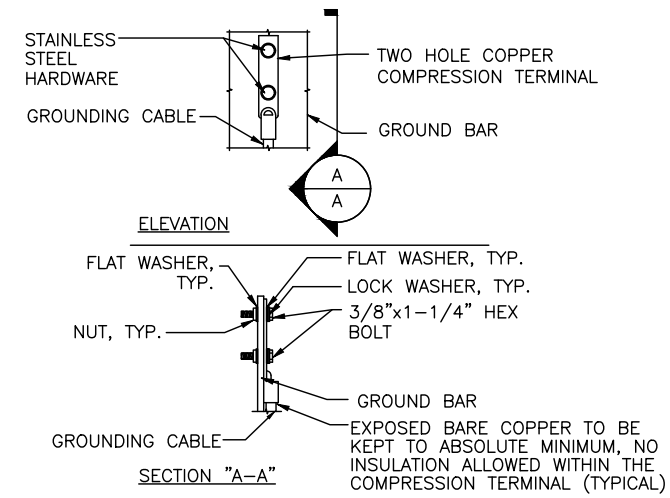
NOTE:

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

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

1
G-1



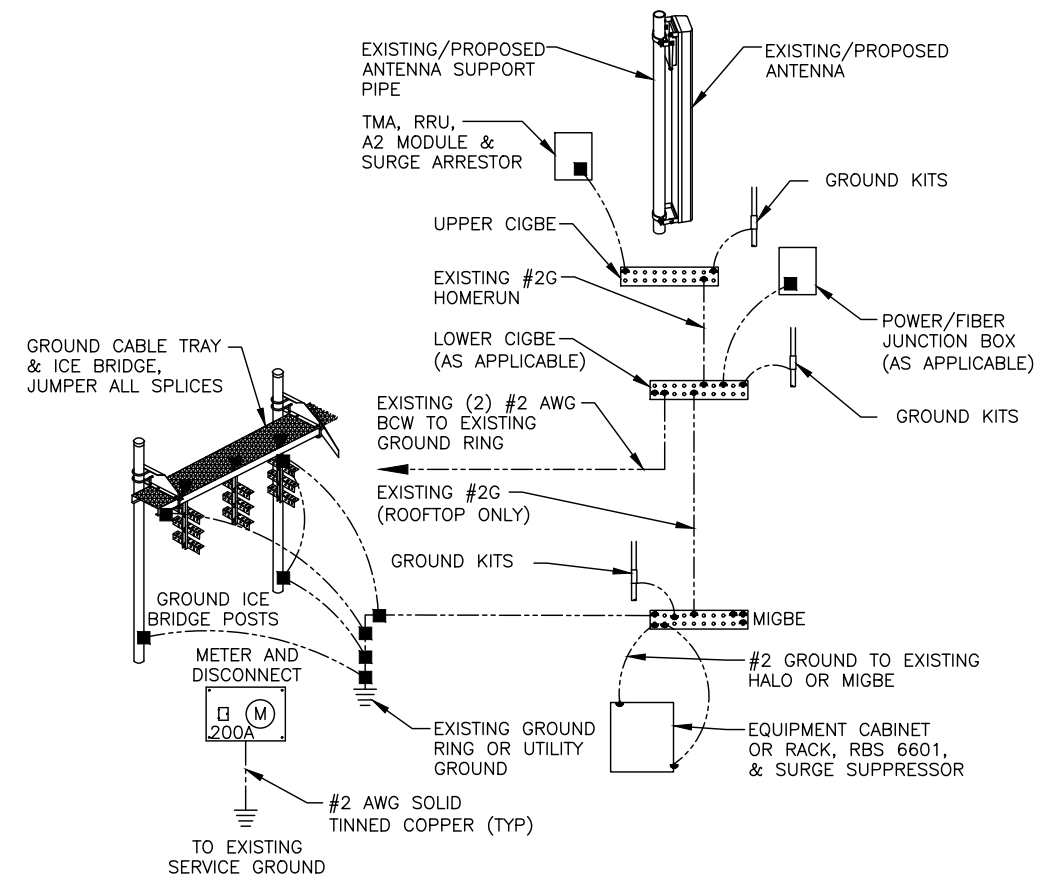
NOTES:

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

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3
G-1



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2
G-1

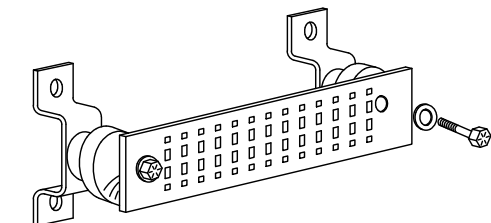
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

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

SECTION "A" - SURGE ABSORBERS

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



GROUND BAR - DETAIL (AS REQUIRED)

SCALE: N.T.S

4
G-1

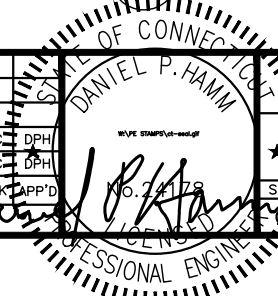
HGD HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

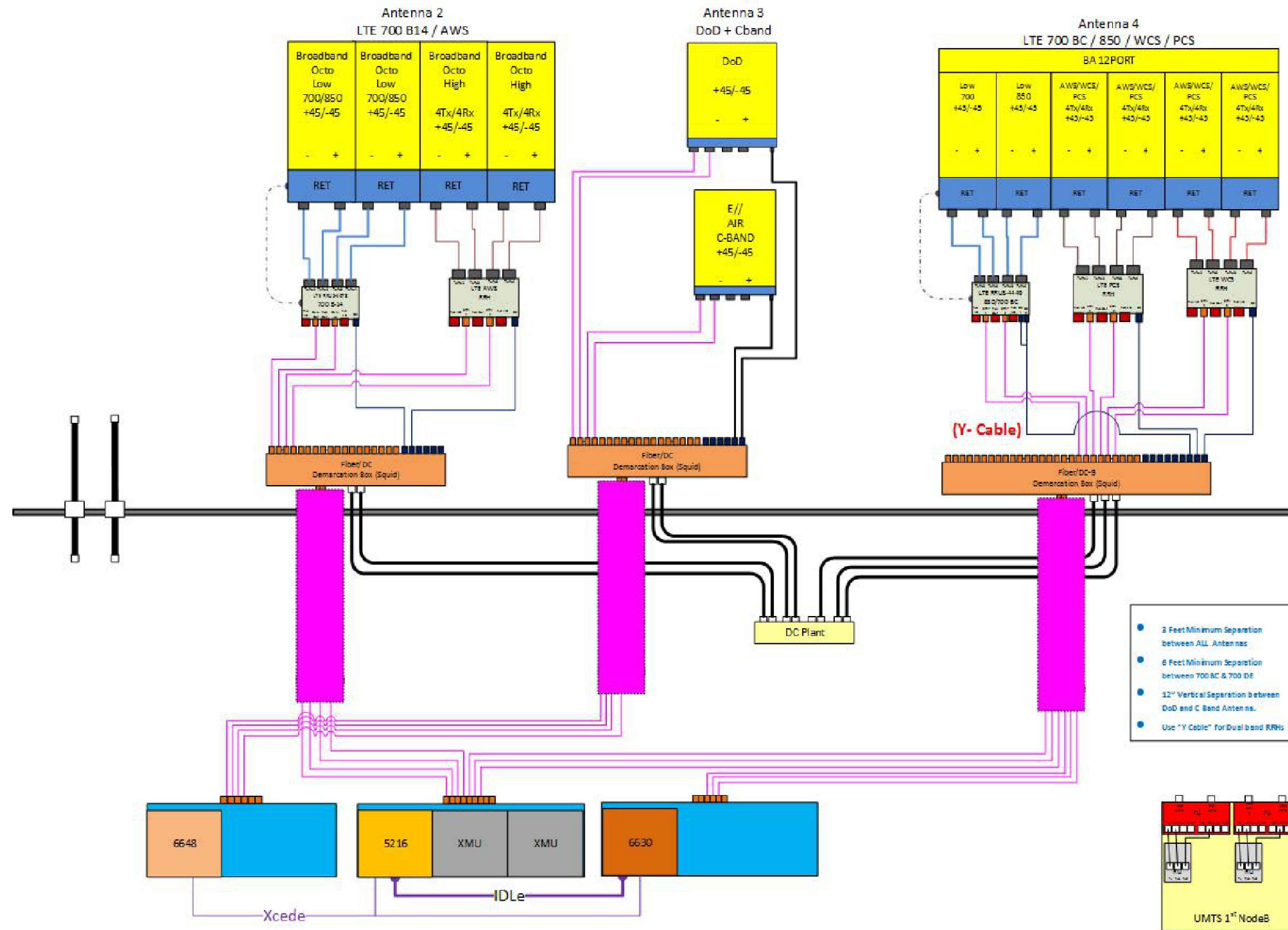
SITE NUMBER: CT2143
SITE NAME: GILBERTS CORNER
46 FENWOOD LANE
WILTON, CT 06897
FAIRFIELD COUNTY

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

| | | | | | | | |
|-----------------|----------|-------------------------|----|-----------------------|-------|-------------------------------|----------------|
| | | | | | | AT&T | |
| | | | | | | GROUNDING DETAILS | |
| | | | | | | 5G NR 1SR CBAND_5G NR | |
| | | | | | | 1DR-1_BBU ADD UPGRADE UPGRADE | |
| NO. | DATE | REVISIONS | BY | CHK | APP'D | SITE NUMBER | DRAWING NUMBER |
| 1 | 05/23/22 | ISSUED FOR CONSTRUCTION | JJ | HC | DPH | CT2143 | G-1 |
| A | 04/29/22 | ISSUED FOR REVIEW | JJ | HC | DPH | | |
| SCALE: AS SHOWN | | DESIGNED BY: HC | | DRAWN BY: [Signature] | | REV | |
| | | | | | | 1 | |



NOTE:
 REV: 3
 DATED: 01/31/2022
 RFDS ID: 4860601



- 3 Feet Minimum Separation between ALL Antennas
- 6 Feet Minimum Separation between 700 BC & 700 DE
- 12" Vertical Separation between DoD and C Band Antennas.
- Use "Y Cable" for Dual band RRRs

RF PLUMBING DIAGRAM 1
 SCALE: N.T.S. RF-1

NOTE:
 1. CONTRACTOR TO CONFIRM ALL PARTS.
 2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.
 3. RFDS USED FOR REFERENCE.

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

| | | | | | |
|-----------------|----------|-------------------------|--------------|-----|-------|
| 1 | 05/23/22 | ISSUED FOR CONSTRUCTION | JJ | HC | DPH |
| A | 04/29/22 | ISSUED FOR REVIEW | JP | HC | DPH |
| NO. | DATE | REVISIONS | BY | CHK | APP'D |
| SCALE: AS SHOWN | | DESIGNED BY: HC | DRAWN BY: JJ | | |

| | | |
|---|----------------|-----|
| AT&T | | |
| RF PLUMBING DIAGRAM 5G NR 1SR CBAND_5G NR 1DR-1_BBU ADD UPGRADE UPGRADE | | |
| SITE NUMBER | DRAWING NUMBER | REV |
| CT2143 | RF-1 | 1 |

Exhibit D

Structural Analysis Report

Structural Analysis Report

180' Existing Lattice Tower

*Proposed AT&T
Antenna Upgrade*

AT&T Site Ref: CT2143

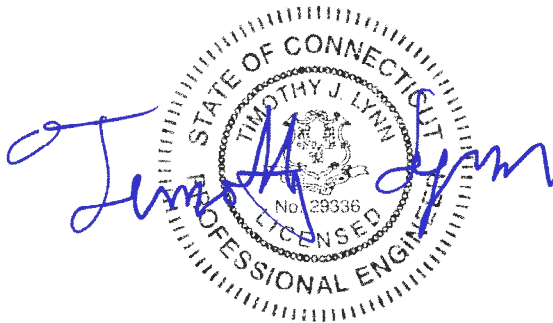
CSP Tower Ref: #31

*46 Fenwood Lane
Wilton, CT*

CEN TEK Project No. 22007.02

Date: April 28, 2022

Max Stress Ratio = 89%



Prepared for:
AT&T Mobility
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06405

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- CONCLUSION

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Introduction

The purpose of this report is to summarize the results of the non-linear, P- Δ structural analysis of the antenna upgrade proposed by AT&T on the existing lattice tower located in Wilton, Connecticut.

The host tower is a 180-ft, four legged, lattice tower originally designed and manufactured by Bayer and Associates dated July 1990. The tower geometry, structure member sizes and foundation information were taken from a previous structural analysis report prepared by Centek job no. 21082.09 dated August 10, 2021. The tower has been previously reinforced multiple times. All previous reinforcements are assumed to be installed. See Primary Assumptions Section below for detailed reinforcement reference reports.

Antenna and appurtenance inventory was taken from the aforementioned structural analysis and a RF sheet provided by AT&T.

The tower consists of five (10) vertical sections consisting of steel angle legs conforming to ASTM A36 and steel angle lateral bracing conforming to ASTM A36. The vertical tower sections are connected by bolted sleeve plates with the diagonal and horizontal bracing to pipe legs consisting of bolted connections. The width of the tower face is 6.0-ft at the top and 17.75-ft at the bottom.

Antenna and Appurtenance Summary

The existing and proposed loads considered in the analysis consist of the following:

- Tower (A32):
Antenna: One (1) lightning rod pipe mounted to the top of the tower.
- CSP - 59 (A33):
Antenna: One (1) 6-ft microwave dish pipe mounted with an elevation of 175-ft AGL.
Cables: One (1) WEP65 elliptical cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- CSP - 36 (A25):
Antenna: One (1) 6-ft microwave dish pipe mounted with an elevation of 173-ft AGL.
Cables: One (1) WEP65 elliptical cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- CSP – 2, 3 & 65 (A23, A30 & A24)
Antenna: Three (3) SC479-HF1LDF Omni-directional antennas (one upright and two inverted) mounted on (1) 15-ft V-frame an elevation of 172-ft AGL.
Cables: Three (3) 1-5/8"Ø cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- CSP - 5 (A22):
Antenna: One (1) 6-ft microwave dish pipe mounted with an elevation of 170-ft AGL.
Cables: One (1) WEP65 elliptical cable running on a leg/face of the existing tower as specified in Section 3 of this report.

- CSP – 1, 6 & 67 / FBI-12 / FCP-12 (A26, A27, A28 & A29)
Antenna: Two (2) SC479-HF1LDF Omni-directional antennas (one upright and one inverted), two (2) 20-ft dipole antennas and one (1) TTA mounted on (1) 15-ft V-frame an elevation of 170-ft AGL.
Cables: Two (2) 1-5/8"Ø, two (2) 7/8" Ø and one 1/2" Ø cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- CSP – 10 & 25 (A20 & A21)
Antenna: One (1) BA-1312 Omni-directional antenna and one (1) BA-1010-2 Omni-directional antenna mounted on (1) 15-ft V-frame an elevation of 170-ft AGL.
Cables: Two (2) 7/8"Ø cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- FCP -12 (A19):
Antenna: One (1) DB408-B dipole antenna pipe mounted on a 6-ft standoff with an elevation of 161-ft AGL.
Cables: One (1) 7/8"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- Town of Westport:
Antenna: One (1) SC3-W100 microwave dish leg mounted with an elevation of 150-ft AGL.
Cables: One (1) EW90 elliptical cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- City of Norwalk: (Existing)
Antenna: One (1) SC3-W100 microwave dish leg mounted with an elevation of 145-ft AGL.
Cables: One (1) EW90 elliptical cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- NEU – 57 (A15)
Antenna: One (1) DB636 Omni-directional antenna mounted on (1) 8-ft standoff with an elevation of 140-ft AGL.
Cables: One (1) 7/8"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- D&K - 33 (A18)
Antenna: One (1) 6-ft standoff (empty) with an elevation of 139-ft AGL.
- WTR – 28 (A17)
Antenna: One (1) ASP-816 yagi antenna mounted on (1) 6-ft standoff with an elevation of 138-ft AGL.
Cables: One (1) 7/8"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report.

- D&K-31 (A16):
Antenna: One (1) DB222-A antenna mounted on (1) 4-ft standoff with an elevation of 136.5-ft AGL.
Cables: One (1) 7/8"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- Eversource:
Antenna: One (1) ANT220F2 Omni-directional antenna mounted on (1) 4-ft standoff with an elevation of 135-ft AGL.
Cables: One (1) 7/8"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- CSP – 63, 64 & 66 (A12, A13, & A14)
Antenna: Two (2) 101-83B-08-T5 Omni-directional antennas (one upright and one inverted) and one (1) TTA mounted on (1) 6-ft standoff with an elevation of 132-ft AGL.
Cables: Two (2) 1-5/8"Ø and one 1/2" Ø cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- CSP - 35 (A10 & A11):
Antenna: One (1) 6-ft microwave dish with ice shield pipe mounted with an elevation of 125-ft AGL.
Cables: One (1) WEP65 elliptical cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- T-MOBILE (EXISTING):
Antennas: Three (3) RFS APXVAARR24-43 panel antennas, three (3) Ericsson AIR32 panel antennas, three (3) TMAs and three (3) Ericsson 4449 remote radio units mounted on three (3) sector frames with a RAD center elevation of +/- 122-ft AGL.
Cables: Six (6) 1-1/4" Ø coax cables and three (3) 6x12 fiber cables routed along the exterior of the tower
- D&K-14 (A8):
Antenna: One (1) 7-ft Omni-directional antenna mounted on (1) 10-ft standoff with an elevation of 121-ft AGL.
Cables: One (1) 7/8"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- Eversource:
Antenna: One (1) 871F-70-220-025 dipole antenna mounted on (1) 4-ft standoff with an elevation of 116-ft AGL.
Cables: One (1) 7/8"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- D&K-15 (A9):
Antenna: One (1) 12-ft Omni-directional antenna mounted on (1) 6-ft standoff with an elevation of 106-ft AGL.
Cables: One (1) 7/8"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report.

- **SPRINT (EXISTING):**
Antennas: Three (3) RFS APXVSP18 panel antennas, three (3) NNVV-65B-R4 panel antennas, three (3) AAHC panel antennas, three (3) ALU 1900 MHz RRHs, three (3) ALU 800 MHz RRHs and three (3) ALU TD-RRH-8x20-25 RRHs mounted on three (3) 12-ft frames with a RAD center elevation of ±105-ft above grade level.
Coax Cables: Four (4) 1-5/8" Ø Hybriflex cables running on the inside of the existing tower.
- **DEA-32 (A4):**
Antenna: One (1) 12-ft Omni-directional antenna (inverted) mounted on (1) 10-ft standoff with an elevation of 91-ft AGL.
Cables: One (1) 7/8"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- **USS-26 (A5):**
Antenna: One (1) 22-ft dipole antenna mounted on (1) 4-ft sidearm with an elevation of 86-ft AGL.
Cables: One (1) 7/8"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- **CSP - 13 (A3):**
Antenna: One (1) ice shield mounted with an elevation of 76-ft AGL.
- **Sprint (A2):**
Antenna: One (1) GPS antenna pipe mounted an elevation of 61-ft AGL.
Cables: One (1) 1/2"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report
- **CSP-68 (A1):**
Antenna: One (1) DB-803 Omni-directional antenna mounted on (1) 3-ft standoff with an elevation of 50-ft AGL.
Cables: One (1) 1/2"Ø cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- **AT&T (Existing to Remain/Relocate):**
Antenna: Three (3) Kathrein 800-10965 panel antennas, nine (9) RRUS-32 remote radio heads, three (3) 4478 remote radio heads and two (2) surge arrestors mounted on three (3) sector frames to be relocated to three (3) proposed Site V-Frames (p/n VFA14-H10-2120) with a RAD center elevation of +/- 163-ft AGL.
Coax Cable: Six (6) 1-5/8" Ø cables, three (3) fiber trunks and six (6) DC trunks running on a leg/face of the existing tower as specified in Section 3 of this report
- **AT&T (Existing to Remove):**
Antenna: Three (3) Powerwave 7770 panel antennas, three (3) Quintel QS66512-2 panel antenna, six (6) TMAs, six (6) diplexers, three (3) RRUS-11 remote radio heads and one (1) surge arrestor mounted on three (3) sector frames with a RAD center elevation of +/- 163-ft AGL.
Coax Cable: Six (6) 1-5/8" Ø cables running on a leg/face of the existing tower as specified in Section 3 of this report

- **AT&T (Proposed):**
Antenna: Three (3) CCI DMP65R-BU6EA-K panel antennas, three (3) Ericsson AIR6419 panel antennas, three (3) Ericsson AIR6449 panel antennas, three (3) 4449 remote radio heads and one (1) DC9 surge arrester mounted on three (3) proposed Site V-Frames (p/n VFA14-H10-2120) with a RAD center elevation of +/- 163-ft AGL.
Coax Cable: One (1) DC trunk running on a leg/face of the existing tower as specified in Section 3 of this report

Primary Assumptions Used in the Analysis

- The tower structure's theoretical capacity not including any assessment of the condition of the tower.
- The tower carries the horizontal and vertical loads due to the weight of antennas, ice load and wind.
- Tower is properly installed and maintained.
- Tower is in plumb condition.
- Tower loading for antennas and mounts as listed in this report.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds are fabricated with ER-70S-6 electrodes.
- All members are assumed to be as specified in the original tower design documents.
- All members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
- All member protective coatings are in good condition.
- All tower members were properly designed, detailed, fabricated, installed and have been properly maintained since erection.
- Any deviation from the analyzed antenna loading will require a new analysis for verification of structural adequacy.
- All coax cables should be routed as specified in section 3 of this report.
- **All previous reinforcements per the below listed structural analysis and modification reports are assumed to be installed.**
 - **Structural report prepared by URS Corp for AT&T project no. CTK-006 / 36939372 dated 8/7/12.**
 - **Structural report prepared by AECOM for T-Mobile project no. NSS-017 / 36931390 dated 5/5/15.**
 - **Structural report prepared by AECOM for AT&T/Sprint project no. EMP-007 / 60570722 , ASM-007 / 60570271 dated 7/5/18.**

A n a l y s i s

The existing tower was analyzed using a comprehensive computer program entitled tnxTower. The program analyzes the tower, considering the worst case loading condition. The tower is considered as loaded by concentric forces along the tower, and the model assumes that the tower members are subjected to bending, axial, and shear forces.

The existing tower was analyzed for the controlling basic wind speed with no ice and the applicable wind and ice combination to determine stresses in members as per guidelines of TIA-222-H entitled “Structural Standard for Antenna Support Structures, Antennas and Small Wind Turbine Support Structures”, the American Institute of Steel Construction (AISC) and the Manual of Steel Construction; Load and Resistance Factor Design (LRFD).

The controlling wind speed is determined by evaluating the local available wind speed data as provided in Appendix N of the CSBC¹ and the wind speed data available in the TIA-222-H Standard.

T o w e r L o a d i n g

Tower loading was determined by the basic wind speed as applied to projected surface areas with modification factors per TIA-222-H, gravity loads of the tower structure and its components, and the application of 1.0” radial ice on the tower structure and its components.

| | | |
|-------------|--|---|
| Load Cases: | <u>Load Case 1</u> ; 130 mph (Risk Cat III) wind speed w/ no ice plus gravity load – used in calculation of tower stresses and rotation. | <i>[Appendix N of the 2018 CT Building Code]</i> |
| | <u>Load Case 2</u> ; 50 mph wind speed w/ 1.00” radial ice plus gravity load – used in calculation of tower stresses. | <i>[Annex B of TIA-222-H]</i> |
| | <u>Load Case 3</u> ; 90 mph wind speed w/ 0.5” radial ice plus gravity load – used in calculation of tower twist and sway. | <i>[TIA-222-F used for calculation of tower twist and sway per the requirements of the CSP]</i> |

¹ The 2015 International Building Code as amended by the 2018 Connecticut State Building Code (CSBC).

Tower Capacity

Tower stresses were calculated utilizing the structural analysis software tnxTower.

- Calculated stresses **were found to be within allowable limits.**

| Tower Section | Elevation | Stress Ratio (percentage of capacity) | Result |
|------------------|--------------|--|-------------|
| Leg (T19) | 0.0' - 10.0' | 88.9% | PASS |
| Diagonal (T19) | 0.0' - 10.0' | 75.4% | PASS |
| Horizontal (T19) | 0.0' - 10.0' | 59.3% | PASS |

- The tower combined deflection **was found to be within allowable limits.**

| Deflection Criteria | Proposed (degrees) | Allowable (degrees) | Result |
|---------------------|-----------------------|------------------------|-------------|
| Sway (Tilt) | 0.6309 | n/a | n/a |
| Twist | 0.0648 | n/a | n/a |
| Combined | 0.6957 | 0.75 | PASS |

TIA-222-F standard used for calculation of tower twist and sway per the requirements of the CSP.

Foundation and Anchors

The existing foundation consists of a (4) 4-ft diameter x 6.5-ft long reinforced concrete piers supported on a 37-ft square x 3-ft thick mat. The base of the tower is connected to the foundation by means of (4) 2.5"Ø anchor bolts per leg embedded into the concrete foundation structure.

- The tower reactions developed from the governing Load Case were used in the verification of the foundation and anchor bolts:

| Load Effect | Proposed Tower Reactions |
|-----------------|-----------------------------|
| Leg Shear | 50 kips |
| Leg Compression | 497 kips |
| Leg Tension | 457 kips |
| Base Moment | 11,896 ft-kips |
| Base Shear | 123 kips |

- The anchor bolts **were found** to be within allowable limits.

| Tower Section | Component | Stress Ratio (percentage of capacity) | Result |
|---------------|--------------------------------------|--|-------------|
| Anchor Bolts | Combined Compression and Shear | 81% | PASS |

- The foundation was found to be within allowable limits.

| Foundation | Design Limit | (percentage of capacity) | Result |
|--------------------------------------|-----------------|-----------------------------|-------------|
| Reinforced Concrete Pad and Piers | Overturing | 65% | PASS |
| | Bearing | 59% | PASS |

Conclusion

This analysis shows that the subject tower **is adequate** to support the proposed antenna configuration.

The analysis is based, in part, on the information provided to this office by AT&T. If the existing conditions are different than the information in this report, Centek Engineering, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:

Timothy J. Lynn, PE
 Structural Engineer



Standard Conditions for Furnishing of Professional Engineering Services on Existing Structures

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of Centek Engineering, Inc. or generated by field inspections or measurements of the structure.
- It is the responsibility of the client to ensure that the information provided to Centek Engineering, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the “as new” condition.
- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222
- All services performed, results obtained, and recommendations made are in accordance with generally accepted engineering principles and practices. Centek Engineering, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

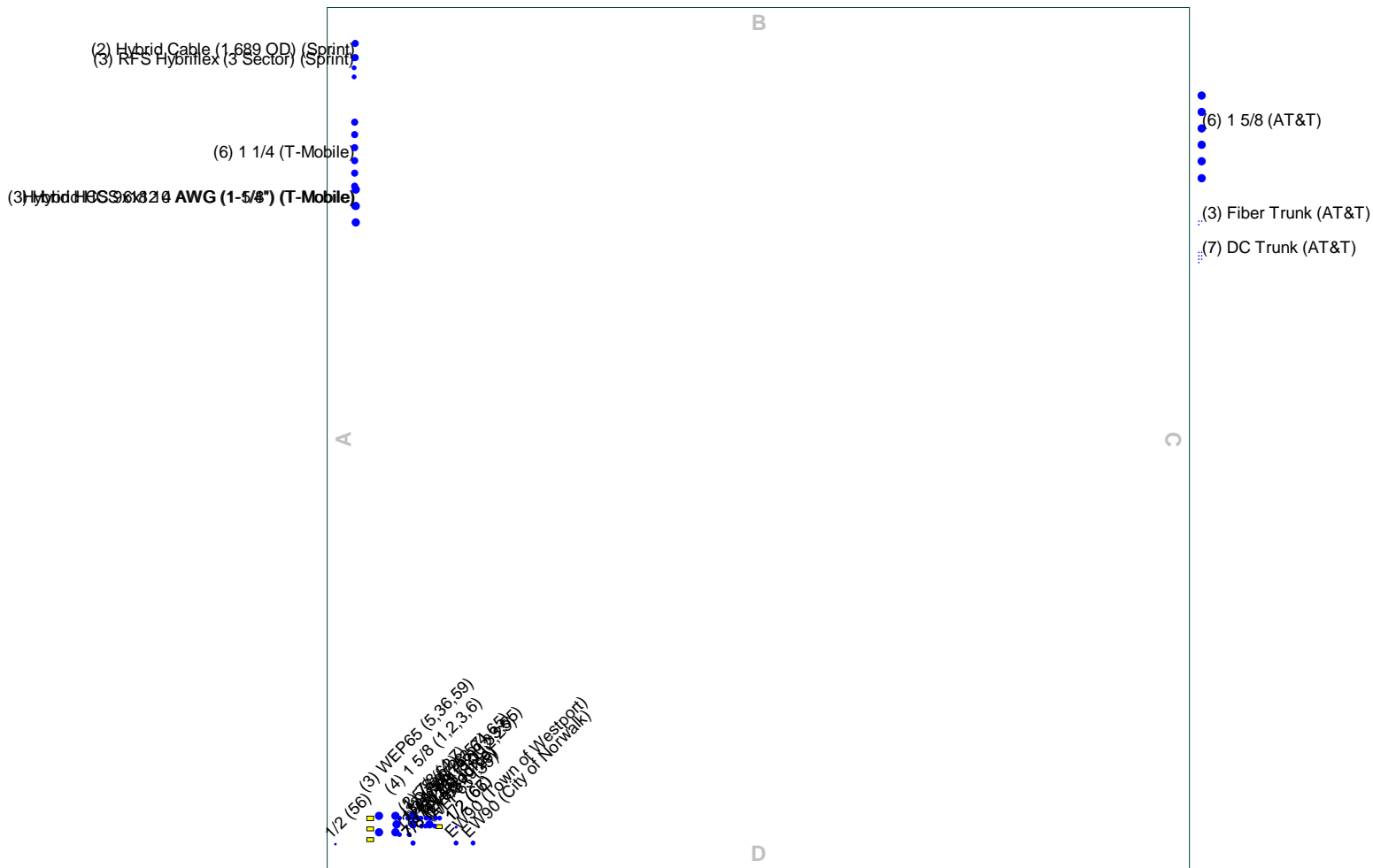
tnxTower, is an integrated structural analysis and design software package for Designed specifically for the telecommunications industry, tnxTower, formerly RISA Tower, automates much of the tower analysis and design required by the TIA/EIA 222 Standard.

tnxTower Features:

- tnxTower can analyze and design 3- and 4-sided guyed towers, 3- and 4-sided self-supporting towers and either round or tapered ground mounted poles with or without guys.
- The program analyzes towers using the TIA-222-G (2005) standard or any of the previous TIA/EIA standards back to RS-222 (1959). Steel design is checked using the AISC ASD 9th Edition or the AISC LRFD specifications.
- Linear and non-linear (P-delta) analyses can be used in determining displacements and forces in the structure. Wind pressures and forces are automatically calculated.
- Extensive graphics plots include material take-off, shear-moment, leg compression, displacement, twist, feed line, guy anchor and stress plots.
- tnxTower contains unique features such as True Cable behavior, hog rod take-up, foundation stiffness and much more.

Feed Line Plan

—— Round
 —— Flat
 —— App In Face
 —— App Out Face



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 Branford, CT 06405
 Phone: (203) 488-0580
 FAX: (203) 488-8587

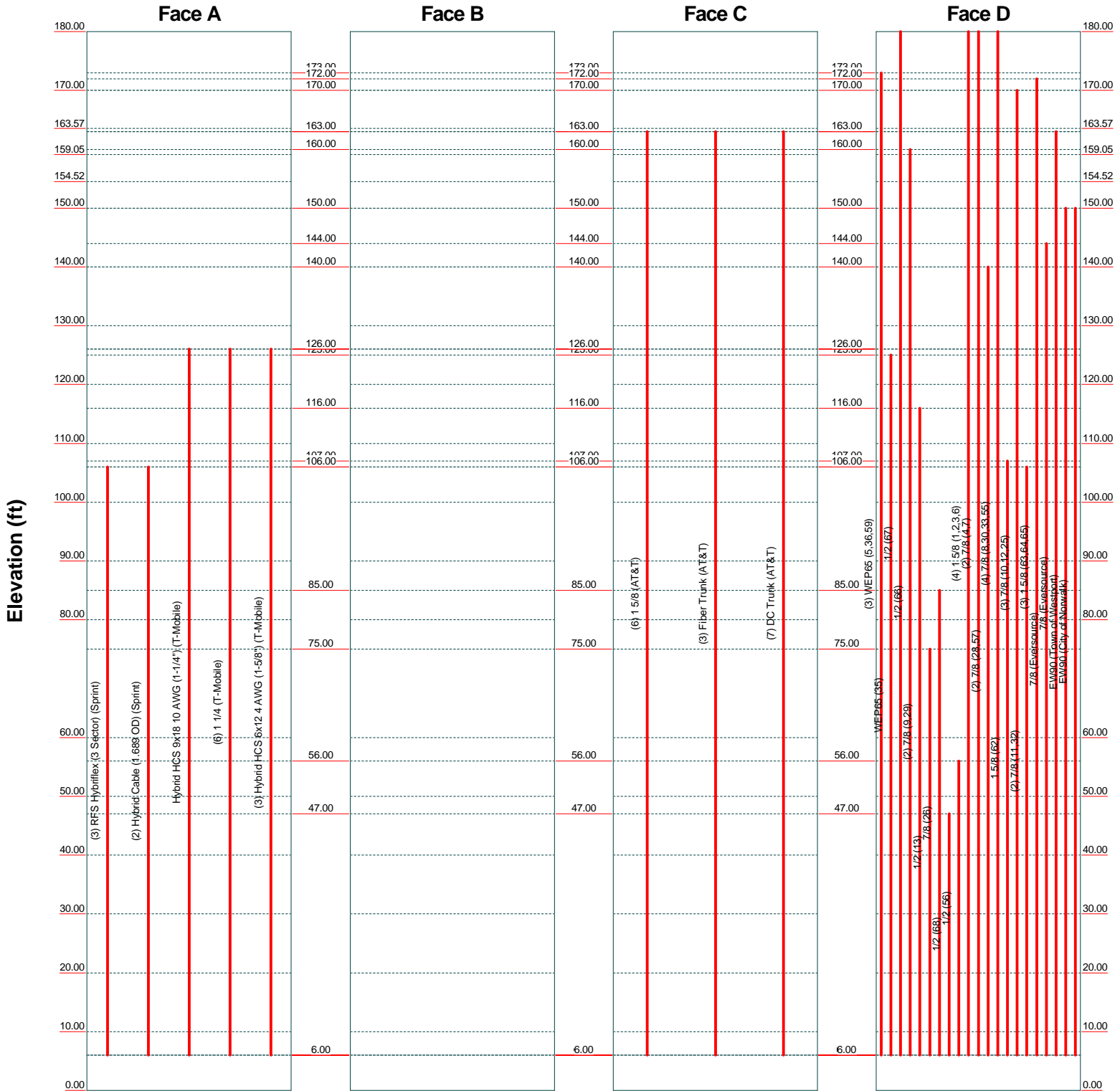
| | | |
|---|----------------|------------|
| Job: 22007.02 - CT2143 | | |
| Project: 180-ft Lattice Tower #31 Wilton | | |
| Client: AT&T | Drawn by: TJL | App'd: |
| Code: TIA-222-H | Date: 04/28/22 | Scale: NTS |
| Path: | Dwg No. E-7 | |

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Feed Line Distribution Chart

0' - 180'

— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



| | | |
|---|----------------|---|
| Centek Engineering Inc. | | |
| 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | | |
| Job: 22007.02 - CT2143 | | Project: 180-ft Lattice Tower #31 Wilton |
| Client: AT&T | Drawn by: TJL | App'd: |
| Code: TIA-222-H | Date: 04/28/22 | Scale: NTS |
| Path: | | Dwg No. E-7 |

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 1 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

Tower Input Data

The main tower is a 4x free standing tower with an overall height of 180.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 6.00 ft at the top and 17.73 ft at the base.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower base elevation above sea level: 0.00 ft.

Basic wind speed of 130 mph.

Risk Category III.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 3.

Crest Height: 65.00 ft.

Nominal ice thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in tower member design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

| | | |
|--|---|---|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity Leg Bolts Are At Top Of Section √ Secondary Horizontal Braces Leg √ Use Diamond Inner Bracing (4 Sided) √ SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination √ Sort Capacity Reports By Component √ Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA √ SR Leg Bolts Resist Compression √ All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque √ Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <li style="text-align: center;">Poles Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known |
|--|---|---|

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 3 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Tower Section | Tower Elevation ft | Diagonal Spacing ft | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset in | Bottom Girt Offset in |
|---------------|-----------------------|------------------------|--------------|------------------------|-----------------|-----------------------|--------------------------|
| T1 | 180.00-170.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T2 | 170.00-163.57 | 6.43 | X Brace | No | No | 0.0000 | 0.0000 |
| T3 | 163.57-159.05 | 4.52 | X Brace | No | No | 0.0000 | 0.0000 |
| T4 | 159.05-154.52 | 4.52 | X Brace | No | No | 0.0000 | 0.0000 |
| T5 | 154.52-150.00 | 4.52 | X Brace | No | No | 0.0000 | 0.0000 |
| T6 | 150.00-140.00 | 5.00 | X Brace | No | No | 0.0000 | 0.0000 |
| T7 | 140.00-130.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T8 | 130.00-120.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T9 | 120.00-110.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T10 | 110.00-100.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T11 | 100.00-90.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T12 | 90.00-80.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T13 | 80.00-60.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T14 | 60.00-50.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T15 | 50.00-40.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T16 | 40.00-30.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T17 | 30.00-20.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T18 | 20.00-10.00 | 10.00 | X Brace | No | Yes | 0.0000 | 0.0000 |
| T19 | 10.00-0.00 | 10.00 | K1 Down | No | Yes | 0.0000 | 0.0000 |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Leg Type | Leg Size | Leg Grade | Diagonal Type | Diagonal Size | Diagonal Grade |
|-----------------------|-----------------|----------------------------|-----------------|---------------|-------------------|-----------------|
| T1 180.00-170.00 | Single Angle | L3 1/2x3 1/2x3/8 | A36 (36 ksi) | Single Angle | L2 1/2x2 1/2x3/16 | A36 (36 ksi) |
| T2 170.00-163.57 | Single Angle | L5x5x5/16 | A36 (36 ksi) | Single Angle | L2 1/2x2 1/2x3/16 | A36 (36 ksi) |
| T3 163.57-159.05 | Single Angle | L5x5x5/16 | A36 (36 ksi) | Single Angle | L2x2x3/16 | A36 (36 ksi) |
| T4 159.05-154.52 | Single Angle | L5x5x5/16 | A36 (36 ksi) | Single Angle | L2 1/2x2x3/16 | A36 (36 ksi) |
| T5 154.52-150.00 | Single Angle | L5x5x5/16 | A36 (36 ksi) | Single Angle | L2 1/2x2x3/16 | A36 (36 ksi) |
| T6 150.00-140.00 | Single Angle | L5x5x3/8 | A36 (36 ksi) | Single Angle | L2 1/2x2x3/16 | A36 (36 ksi) |
| T7 140.00-130.00 | Single Angle | L6x6x1/2 | A36 (36 ksi) | Single Angle | L3x2 1/2x1/4 | A36 (36 ksi) |
| T8 130.00-120.00 | Single Angle | L6x6x1/2 | A36 (36 ksi) | Single Angle | L3x3x1/4 | A36 (36 ksi) |
| T9 120.00-110.00 | Single Angle | L6x6x3/4 | A36 (36 ksi) | Single Angle | L3x3x1/4 | A36 (36 ksi) |
| T10 110.00-100.00 | Single Angle | L6x6x3/4 | A36 (36 ksi) | Single Angle | L3 1/2x3x1/4 | A36 (36 ksi) |
| T11 100.00-90.00 | Single Angle | L8x8x3/4 | A36 (36 ksi) | Single Angle | L3 1/2x3x1/4 | A36 (36 ksi) |
| T12 90.00-80.00 | Single Angle | L8x8x3/4 | A36 (36 ksi) | Single Angle | L3 1/2x3x1/4 | A36 (36 ksi) |
| T13 80.00-60.00 | Arbitrary Shape | L8x8x1 w/ 1/2x7 Plates | A36 (36 ksi) | Double Angle | 2L2 1/2x2x3/16 | A36 (36 ksi) |
| T14 60.00-50.00 | Arbitrary Shape | L8x8x1-1/8 w/ 1/2x7 Plates | A36 (36 ksi) | Double Angle | 2L2 1/2x2x3/16 | A36 (36 ksi) |
| T15 50.00-40.00 | Arbitrary Shape | L8x8x1-1/8 w/ 1/2x7 Plates | A36 (36 ksi) | Double Angle | 2L2 1/2x2x3/8 | A36 (36 ksi) |
| T16 40.00-30.00 | Single Angle | L8x8x1 1/8 | A36 (36 ksi) | Double Angle | 2L2 1/2x2x3/8 | A36 (36 ksi) |

| | | | | |
|--|----------------|---------------------------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 22007.02 - CT2143 | Page | 4 of 83 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Tower Elevation ft | Leg Type | Leg Size | Leg Grade | Diagonal Type | Diagonal Size | Diagonal Grade |
|-----------------------|--------------|------------|-----------------|---------------|--------------------|-----------------|
| T17 30.00-20.00 | Single Angle | L8x8x1 1/8 | A36 (36 ksi) | Double Angle | 2L2 1/2x2x3/8 | A36 (36 ksi) |
| T18 20.00-10.00 | Single Angle | L8x8x1 1/8 | A36 (36 ksi) | Double Angle | 2L2 1/2x2x3/8 | A36 (36 ksi) |
| T19 10.00-0.00 | Single Angle | L8x8x1 1/8 | A36 (36 ksi) | Double Angle | 2L2 1/2x2 1/2x5/16 | A36 (36 ksi) |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Top Girt Type | Top Girt Size | Top Girt Grade | Bottom Girt Type | Bottom Girt Size | Bottom Girt Grade |
|-----------------------|---------------|-------------------|-----------------|------------------|------------------|-------------------|
| T1 180.00-170.00 | Single Angle | L2x2x3/16 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T2 170.00-163.57 | Single Angle | L2x2x3/16 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T3 163.57-159.05 | Single Angle | L2x2x3/16 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T6 150.00-140.00 | Single Angle | L2 1/2x2 1/2x3/16 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T7 140.00-130.00 | Single Angle | L2 1/2x2 1/2x3/16 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T13 80.00-60.00 | Single Angle | L2 1/2x2 1/2x1/4 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T16 40.00-30.00 | Double Angle | 2L2x2x3/16 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |

Tower Section Geometry (cont'd)

| Tower Elevation ft | No. of Mid Girts | Mid Girt Type | Mid Girt Size | Mid Girt Grade | Horizontal Type | Horizontal Size | Horizontal Grade |
|-----------------------|------------------|---------------|---------------|-----------------|-----------------|-------------------|------------------|
| T1 180.00-170.00 | 1 | Single Angle | L2x2x3/16 | A36 (36 ksi) | Double Angle | | A36 (36 ksi) |
| T9 120.00-110.00 | 1 | Single Angle | L2x2x3/16 | A36 (36 ksi) | Single Angle | L2 1/2x2 1/2x1/4 | A36 (36 ksi) |
| T11 100.00-90.00 | None | Single Angle | | A36 (36 ksi) | Single Angle | L2 1/2x2 1/2x1/4 | A36 (36 ksi) |
| T14 60.00-50.00 | None | Single Angle | | A36 (36 ksi) | Double Angle | 2L2x2x3/16 | A36 (36 ksi) |
| T18 20.00-10.00 | None | Single Angle | | A36 (36 ksi) | Double Angle | 2L2x2x3/16 | A36 (36 ksi) |
| T19 10.00-0.00 | None | Single Angle | | A36 (36 ksi) | Double Angle | 2L2 1/2x2 1/2x1/4 | A36 (36 ksi) |

Tower Section Geometry (cont'd)

| | | |
|--|---|----------------------------------|
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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
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| Tower Elevation | Secondary Horizontal Type | Secondary Horizontal Size | Secondary Horizontal Grade | Inner Bracing Type | Inner Bracing Size | Inner Bracing Grade |
|-------------------|---------------------------|---------------------------|----------------------------|--------------------|--------------------|---------------------|
| <i>ft</i> | | | | | | |
| T1 180.00-170.00 | Single Angle | L2x2x3/16 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T7 140.00-130.00 | Equal Angle | L2x2x1/4 | A36 (36 ksi) | Single Angle | L2x2x3/16 | A36 (36 ksi) |
| T8 130.00-120.00 | Single Angle | L2x2x1/4 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T9 120.00-110.00 | Single Angle | L2x2x3/16 | A36 (36 ksi) | Single Angle | L2 1/2x2x3/16 | A36 (36 ksi) |
| T10 110.00-100.00 | Single Angle | L2x2x1/4 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T11 100.00-90.00 | Single Angle | | A36 (36 ksi) | Single Angle | L2 1/2x2x3/16 | A36 (36 ksi) |
| T12 90.00-80.00 | Single Angle | L2 1/2x2 1/2x1/4 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T13 80.00-60.00 | Equal Angle | | A36 (36 ksi) | Double Angle | 2L2x2x3/16 | A36 (36 ksi) |
| T14 60.00-50.00 | Single Angle | | A36 (36 ksi) | Double Angle | 2L2x2x3/16 | A36 (36 ksi) |
| T15 50.00-40.00 | Single Angle | L3 1/2x3 1/2x1/4 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T16 40.00-30.00 | Single Angle | L3 1/2x3 1/2x1/4 | A36 (36 ksi) | Double Angle | 2L2x2x3/16 | A36 (36 ksi) |
| T17 30.00-20.00 | Single Angle | L3 1/2x3 1/2x1/4 | A36 (36 ksi) | Single Angle | | A36 (36 ksi) |
| T18 20.00-10.00 | Single Angle | L3 1/2x3 1/2x1/4 | A36 (36 ksi) | Double Angle | 2L2x2 1/2x3/16 | A36 (36 ksi) |
| T19 10.00-0.00 | Single Angle | | A36 (36 ksi) | Double Angle | 2L2x2 1/2x3/16 | A36 (36 ksi) |

Tower Section Geometry (cont'd)

| Tower Elevation | Redundant Bracing Grade | Redundant Type | Redundant Size | K Factor |
|-----------------|-------------------------|---|--|------------------|
| <i>ft</i> | | | | |
| T19 10.00-0.00 | A36 (36 ksi) | Horizontal (1) Diagonal (1) Sub-Horizontal Hip (1) | Single Angle Single Angle L3x3x5/16 L2 1/2x2 1/2x3/16 | 1 1 1 1 |

Tower Section Geometry (cont'd)

| Tower Elevation | Gusset Area (per face) | Gusset Thickness | Gusset Grade | Adjust. Factor A_f | Adjust. Factor A_r | Weight Mult. | Double Angle Stitch Bolt Spacing Diagonals in | Double Angle Stitch Bolt Spacing Horizontals in | Double Angle Stitch Bolt Spacing Redundants in |
|------------------|------------------------|------------------|-----------------|----------------------|----------------------|--------------|---|---|--|
| <i>ft</i> | <i>ft²</i> | <i>in</i> | | | | | | | |
| T1 180.00-170.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| T2 170.00-163.57 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 6 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Tower Elevation | Gusset Area (per face) | Gusset Thickness | Gusset Grade | Adjust. Factor A_f | Adjust. Factor A_r | Weight Mult. | Double Angle Stitch Bolt Spacing Diagonals in | Double Angle Stitch Bolt Spacing Horizontals in | Double Angle Stitch Bolt Spacing Redundants in |
|-----------------|------------------------|------------------|--------------|----------------------|----------------------|--------------|---|---|--|
| ft | ft ² | in | | | | | | | |
| T3 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 163.57-159.05 | | | (36 ksi) | | | | | | |
| T4 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 159.05-154.52 | | | (36 ksi) | | | | | | |
| T5 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 154.52-150.00 | | | (36 ksi) | | | | | | |
| T6 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 150.00-140.00 | | | (36 ksi) | | | | | | |
| T7 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 140.00-130.00 | | | (36 ksi) | | | | | | |
| T8 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 130.00-120.00 | | | (36 ksi) | | | | | | |
| T9 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 120.00-110.00 | | | (36 ksi) | | | | | | |
| T10 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 110.00-100.00 | | | (36 ksi) | | | | | | |
| T11 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 100.00-90.00 | | | (36 ksi) | | | | | | |
| T12 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 90.00-80.00 | | | (36 ksi) | | | | | | |
| T13 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 80.00-60.00 | | | (36 ksi) | | | | | | |
| T14 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 60.00-50.00 | | | (36 ksi) | | | | | | |
| T15 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 50.00-40.00 | | | (36 ksi) | | | | | | |
| T16 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 40.00-30.00 | | | (36 ksi) | | | | | | |
| T17 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 30.00-20.00 | | | (36 ksi) | | | | | | |
| T18 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 20.00-10.00 | | | (36 ksi) | | | | | | |
| T19 | 0.00 | 0.0000 | A36 | 1 | 1 | 1.02 | 24.0000 | 24.0000 | 36.0000 |
| 10.00-0.00 | | | (36 ksi) | | | | | | |

Tower Section Geometry (cont'd)

| Tower Elevation | Calc K Single Angles | Calc K Solid Rounds | Legs | K Factors ¹ | | | | | | |
|-----------------|----------------------|---------------------|------|------------------------|---------------|--------------|-------|--------|-------------|-------------|
| | | | | X Brace Diags | K Brace Diags | Single Diags | Girts | Horiz. | Sec. Horiz. | Inner Brace |
| | | | | | | | | | | |
| ft | | | | Y | Y | Y | Y | Y | Y | Y |
| T1 | Yes | No | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 180.00-170.00 | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T2 | Yes | No | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 170.00-163.57 | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T3 | Yes | No | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 163.57-159.05 | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T4 | Yes | No | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 159.05-154.52 | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T5 | Yes | No | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 154.52-150.00 | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T6 | Yes | No | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 150.00-140.00 | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

| | | |
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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Tower Elevation ft | Redundant Horizontal | | Redundant Diagonal | | Redundant Sub-Diagonal | | Redundant Sub-Horizontal | | Redundant Vertical | | Redundant Hip | | Redundant Hip Diagonal | |
|-----------------------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|
| | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U |
| T14 60.00-50.00 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T15 50.00-40.00 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T16 40.00-30.00 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T17 30.00-20.00 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T18 20.00-10.00 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T19 10.00-0.00 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Connection Offsets | | | | | | | |
|-----------------------|--------------------|------------|------------|-------------|-----------|------------|------------|-------------|
| | Diagonal | | | | K-Bracing | | | |
| | Vert. Top | Horiz. Top | Vert. Bot. | Horiz. Bot. | Vert. Top | Horiz. Top | Vert. Bot. | Horiz. Bot. |
| | in | in | in | in | in | in | in | in |
| T1 180.00-170.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T2 170.00-163.57 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T3 163.57-159.05 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T4 159.05-154.52 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T5 154.52-150.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T6 150.00-140.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T7 140.00-130.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T8 130.00-120.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T9 120.00-110.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T10 110.00-100.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T11 100.00-90.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T12 90.00-80.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T13 80.00-60.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T14 60.00-50.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T15 50.00-40.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

| | | | | |
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| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Tower Elevation | Connection Offsets | | | | | | | | |
|--------------------|--------------------|------------|------------|-------------|-----------|------------|------------|-------------|--------|
| | Diagonal | | | | K-Bracing | | | | |
| | Vert. Top | Horiz. Top | Vert. Bot. | Horiz. Bot. | Vert. Top | Horiz. Top | Vert. Bot. | Horiz. Bot. | |
| ft | in | in | in | in | in | in | in | in | |
| T16 40.00-30.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T17 30.00-20.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T18 20.00-10.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| T19 10.00-0.00 | 0.0000 | 3.0000 | 0.0000 | 3.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Leg Connection Type | Leg Bolt Size in | Leg No. | Diagonal | | Top Girt | | Bottom Girt | | Mid Girt | | Long Horizontal | | Short Horizontal | |
|-----------------------|---------------------|---------------------|---------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|------------------|-----|
| | | | | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. |
| T1 180.00-170.00 | Sleeve SS | 0.6250 | 0 | 0.6250 | 2 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 2 |
| T2 170.00-163.57 | Sleeve SS | 0.7500 | 10 | 0.6250 | 2 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 |
| T3 163.57-159.05 | Sleeve SS | 0.6250 | 0 | 0.6250 | 2 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 |
| T4 159.05-154.52 | Sleeve SS | 0.6250 | 0 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 |
| T5 154.52-150.00 | Sleeve SS | 0.7500 | 12 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 |
| T6 150.00-140.00 | Sleeve SS | 0.7500 | 12 | 0.6250 | 2 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 |
| T7 140.00-130.00 | Sleeve SS | 0.6250 | 0 | 0.6250 | 2 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 |
| T8 130.00-120.00 | Sleeve SS | 0.7500 | 18 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 2 |
| T9 120.00-110.00 | Sleeve SS | 0.6250 | 0 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 2 | 0.6250 | 2 | 0.6250 | 2 |
| T10 110.00-100.00 | Sleeve SS | 0.7500 | 24 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 2 |
| T11 100.00-90.00 | Sleeve SS | 0.7500 | 0 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 2 | 0.6250 | 2 | 0.6250 | 0 |
| T12 90.00-80.00 | Sleeve SS | 0.7500 | 32 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 2 |
| T13 80.00-60.00 | Sleeve SS | 0.7500 | 32 | 0.6250 | 2 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 |
| T14 60.00-50.00 | Sleeve SS | 0.7500 | 0 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 2 | 0.6250 | 2 | 0.6250 | 0 |
| T15 50.00-40.00 | Sleeve SS | 0.8750 | 32 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 2 |
| T16 40.00-30.00 | Sleeve SS | 0.7500 | 0 | 0.6250 | 2 | 0.6250 | 2 | 0.0000 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 2 |
| T17 30.00-20.00 | Sleeve SS | 0.8750 | 40 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 2 |
| T18 20.00-10.00 | Sleeve SS | 0.7500 | 0 | 0.6250 | 2 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 2 | 0.6250 | 2 | 0.6250 | 2 |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Tower Elevation ft | Leg Connection Type | Leg Bolt Size in | Leg No. | Diagonal | | Top Girt | | Bottom Girt | | Mid Girt | | Long Horizontal | | Short Horizontal | |
|--------------------|---------------------|------------------|---------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|------------------|-----|
| | | | | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. |
| T19 10.00-0.00 | Sleeve SS | 0.8750 A325X | 40 | 0.6250 A325X | 2 | 0.6250 A325X | 0 | 0.6250 A325N | 0 | 0.6250 A325X | 2 | 0.6250 A325X | 2 | 0.6250 A325X | 0 |

Feed Line/Linear Appurtenances - Entered As Round Or Flat

| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Face Offset in | Lateral Offset (Frac FW) | # | # Per Row | Clear Spacing in | Width or Diameter in | Perimeter in | Weight plf |
|-----------------------------------|-------------|--------------|---------------------------------|----------------|---------------|----------------|--------------------------|---|-----------|------------------|----------------------|--------------|------------|
| WEP65 (5,36,59) | D | No | No | Af (CaAa) | 173.00 - 6.00 | -12.000 0 | 0.45 | 3 | 1 | 1.5836 | 1.5836 | | 0.53 |
| WEP65 (35) | D | No | No | Af (CaAa) | 125.00 - 6.00 | -10.000 0 | 0.37 | 1 | 1 | 1.5836 | 1.5836 | | 0.53 |
| 1/2 (67) | D | No | No | Ar (CaAa) | 180.00 - 6.00 | -10.000 0 | 0.35 | 1 | 1 | 0.5800 | 0.5800 | | 0.25 |
| 1/2 (66) | D | No | No | Ar (CaAa) | 160.00 - 6.00 | -10.000 0 | 0.35 | 1 | 1 | 0.5800 | 0.5800 | | 0.25 |
| 7/8 (9,29) | D | No | No | Ar (CaAa) | 116.00 - 6.00 | -10.000 0 | 0.38 | 2 | 2 | 1.1100 | 1.1100 | | 0.54 |
| 1/2 (13) | D | No | No | Ar (CaAa) | 75.00 - 6.00 | -10.000 0 | 0.39 | 1 | 1 | 0.5800 | 0.5800 | | 0.25 |
| 7/8 (26) | D | No | No | Ar (CaAa) | 85.00 - 6.00 | -10.000 0 | 0.39 | 1 | 1 | 1.1100 | 1.1100 | | 0.54 |
| 1/2 (68) | D | No | No | Ar (CaAa) | 47.00 - 6.00 | -10.000 0 | 0.4 | 1 | 1 | 0.5800 | 0.5800 | | 0.25 |
| 1/2 (56) | D | No | No | Ar (CaAa) | 56.00 - 6.00 | -6.0000 | 0.49 | 1 | 1 | 0.5800 | 0.5800 | | 0.25 |
| 1 5/8 (1,2,3,6) | D | No | No | Ar (CaAa) | 180.00 - 6.00 | -12.000 0 | 0.43 | 4 | 2 | 1.9800 | 1.9800 | | 1.04 |
| 7/8 (4,7) | D | No | No | Ar (CaAa) | 180.00 - 6.00 | -12.000 0 | 0.41 | 2 | 2 | 1.1100 | 1.1100 | | 0.54 |
| 7/8 (28,57) | D | No | No | Ar (CaAa) | 140.00 - 6.00 | -12.000 0 | 0.4 | 2 | 2 | 1.1100 | 1.1100 | | 0.54 |
| 7/8 (8,30,33,55) | D | No | No | Ar (CaAa) | 180.00 - 6.00 | -12.000 0 | 0.39 | 4 | 4 | 1.1100 | 1.1100 | | 0.54 |
| 1 5/8 (62) | D | No | No | Ar (CaAa) | 107.00 - 6.00 | -12.000 0 | 0.4 | 1 | 1 | 1.9800 | 1.9800 | | 1.04 |
| 7/8 (10,12,25) | D | No | No | Ar (CaAa) | 170.00 - 6.00 | -12.000 0 | 0.38 | 3 | 3 | 1.1100 | 1.1100 | | 0.54 |
| 7/8 (11,32) | D | No | No | Ar (CaAa) | 106.00 - 6.00 | -8.0000 | 0.41 | 2 | 2 | 1.1100 | 1.1100 | | 0.54 |
| 1 5/8 (63,64,65) | D | No | No | Ar (CaAa) | 172.00 - 6.00 | -10.000 0 | 0.4 | 3 | 3 | 1.9800 | 1.9800 | | 1.04 |
| 1 5/8 (AT&T) | C | No | No | Ar (CaAa) | 163.00 - 6.00 | 2.0000 | -0.35 | 6 | 6 | 1.9800 | 1.9800 | | 1.04 |
| RFS Hybriflex (3 Sector) (Sprint) | A | No | No | Ar (CaAa) | 106.00 - 6.00 | -6.0000 | 0.43 | 3 | 3 | 1.0900 | 1.0900 | | 0.37 |
| Hybrid Cable (1.689 OD) (Sprint) | A | No | No | Ar (CaAa) | 106.00 - 6.00 | -6.0000 | 0.45 | 2 | 2 | 1.6890 | 1.6890 | | 2.31 |
| * T-Mobile Cables | | | | | | | | | | | | | |
| Hybrid HCS | A | No | No | Ar (CaAa) | 126.00 - 6.00 | -6.0000 | 0.27 | 1 | 1 | 1.5400 | 1.5400 | | 0.90 |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Face Offset in | Lateral Offset (Frac FW) | # | # Per Row | Clear Spacing in | Width or Diameter in | Perimeter in | Weight plf |
|--|-------------------|-----------------|--|-------------------|------------------|----------------------|--------------------------------|---|-----------------|------------------------|----------------------------|-----------------|---------------|
| 9x18 10 AWG (1-1/4") (T-Mobile) | | | | | 6.00 | | | | | | | | |
| 1 1/4 (T-Mobile) | A | No | No | Ar (CaAa) | 126.00 - 6.00 | -6.0000 | 0.33 | 6 | 6 | 1.5500 | 1.5500 | | 0.66 |
| Hybrid HCS 6x12 4 AWG (1-5/8") (T-Mobile) | A | No | No | Ar (CaAa) | 126.00 - 6.00 | -6.0000 | 0.27 | 3 | 3 | 1.9900 | 1.9900 | | 1.90 |
| * Eversource Cables 7/8 (Eversource) | D | No | No | Ar (CaAa) | 144.00 - 6.00 | -6.0000 | 0.4 | 1 | 1 | 1.1100 | 1.1100 | | 0.54 |
| 7/8 (Eversource) | D | No | No | Ar (CaAa) | 163.00 - 6.00 | -6.0000 | 0.4 | 1 | 1 | 1.1100 | 1.1100 | | 0.54 |
| EW90 (Town of Westport) | D | No | No | Ar (CaAa) | 150.00 - 6.00 | -6.0000 | 0.35 | 1 | 1 | 0.9869 | 0.9869 | | 0.32 |
| EW90 (City of Norwalk) | D | No | No | Ar (CaAa) | 150.00 - 6.00 | -6.0000 | 0.33 | 1 | 1 | 0.9869 | 0.9869 | | 0.32 |
| Fiber Trunk (AT&T) | C | No | No | Ar (CaAa) | 163.00 - 6.00 | 2.0000 | -0.25 | 3 | 2 | 0.4000 | 0.4000 | | 1.00 |
| DC Trunk (AT&T) | C | No | No | Ar (CaAa) | 163.00 - 6.00 | 2.0000 | -0.21 | 7 | 4 | 0.4000 | 0.4000 | | 0.11 |

Feed Line/Linear Appurtenances Section Areas

| Tower Section | Tower Elevation ft | Face | A _R ft ² | A _F ft ² | C _A A _A In Face ft ² | C _A A _A Out Face ft ² | Weight K |
|------------------|--------------------------|------|-----------------------------------|-----------------------------------|---|--|-------------|
| T1 | 180.00-170.00 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | D | 0.000 | 0.000 | 18.723 | 0.000 | 0.09 |
| T2 | 170.00-163.57 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | D | 0.000 | 0.000 | 20.790 | 0.000 | 0.09 |
| T3 | 163.57-159.05 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 6.275 | 0.000 | 0.04 |
| | | D | 0.000 | 0.000 | 15.129 | 0.000 | 0.07 |
| T4 | 159.05-154.52 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 7.185 | 0.000 | 0.05 |
| | | D | 0.000 | 0.000 | 15.400 | 0.000 | 0.07 |
| T5 | 154.52-150.00 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 7.185 | 0.000 | 0.05 |
| | | D | 0.000 | 0.000 | 15.400 | 0.000 | 0.07 |
| T6 | 150.00-140.00 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 15.880 | 0.000 | 0.10 |
| | | D | 0.000 | 0.000 | 36.456 | 0.000 | 0.16 |
| T7 | 140.00-130.00 | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |

| | | | | |
|--|----------------|---------------------------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 22007.02 - CT2143 | Page | 13 of 83 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Tower Section | Tower Elevation ft | Face | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|------|-----------------------------------|-----------------------------------|---|--|-------------|
| T8 | 130.00-120.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 15.880 | 0.000 | 0.10 |
| | | D | 0.000 | 0.000 | 39.342 | 0.000 | 0.17 |
| | | A | 0.000 | 0.000 | 10.086 | 0.000 | 0.06 |
| T9 | 120.00-110.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 15.880 | 0.000 | 0.10 |
| | | D | 0.000 | 0.000 | 40.661 | 0.000 | 0.17 |
| | | A | 0.000 | 0.000 | 16.810 | 0.000 | 0.11 |
| T10 | 110.00-100.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 15.880 | 0.000 | 0.10 |
| | | D | 0.000 | 0.000 | 43.313 | 0.000 | 0.18 |
| | | A | 0.000 | 0.000 | 20.799 | 0.000 | 0.14 |
| T11 | 100.00-90.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 15.880 | 0.000 | 0.10 |
| | | D | 0.000 | 0.000 | 46.919 | 0.000 | 0.20 |
| | | A | 0.000 | 0.000 | 23.458 | 0.000 | 0.16 |
| T12 | 90.00-80.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 15.880 | 0.000 | 0.10 |
| | | D | 0.000 | 0.000 | 48.401 | 0.000 | 0.21 |
| | | A | 0.000 | 0.000 | 23.458 | 0.000 | 0.16 |
| T13 | 80.00-60.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 15.880 | 0.000 | 0.10 |
| | | D | 0.000 | 0.000 | 48.956 | 0.000 | 0.21 |
| | | A | 0.000 | 0.000 | 46.916 | 0.000 | 0.33 |
| T14 | 60.00-50.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 31.760 | 0.000 | 0.20 |
| | | D | 0.000 | 0.000 | 99.892 | 0.000 | 0.43 |
| | | A | 0.000 | 0.000 | 23.458 | 0.000 | 0.16 |
| T15 | 50.00-40.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 15.880 | 0.000 | 0.10 |
| | | D | 0.000 | 0.000 | 50.439 | 0.000 | 0.22 |
| | | A | 0.000 | 0.000 | 23.458 | 0.000 | 0.16 |
| T16 | 40.00-30.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 15.880 | 0.000 | 0.10 |
| | | D | 0.000 | 0.000 | 51.077 | 0.000 | 0.22 |
| | | A | 0.000 | 0.000 | 23.458 | 0.000 | 0.16 |
| T17 | 30.00-20.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 15.880 | 0.000 | 0.10 |
| | | D | 0.000 | 0.000 | 51.251 | 0.000 | 0.22 |
| | | A | 0.000 | 0.000 | 23.458 | 0.000 | 0.16 |
| T18 | 20.00-10.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 15.880 | 0.000 | 0.10 |
| | | D | 0.000 | 0.000 | 51.251 | 0.000 | 0.22 |
| | | A | 0.000 | 0.000 | 23.458 | 0.000 | 0.16 |
| T19 | 10.00-0.00 | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 6.352 | 0.000 | 0.04 |
| | | D | 0.000 | 0.000 | 51.251 | 0.000 | 0.22 |
| | | A | 0.000 | 0.000 | 9.383 | 0.000 | 0.07 |

Feed Line/Linear Appurtenances Section Areas - With Ice

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|-------------------|------------------------|-----------------------------------|-----------------------------------|---|--|-------------|
| T1 | 180.00-170.00 | A | 1.361 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |

| | | | | |
|--|----------------|---------------------------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 22007.02 - CT2143 | Page | 14 of 83 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|-------------|---------------------|-----------------------------------|-----------------------------------|---|--|-------------|
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | D | | 0.000 | 0.000 | 48.584 | 0.000 | 0.63 |
| T2 | 170.00-163.57 | A | 1.355 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | D | | 0.000 | 0.000 | 52.648 | 0.000 | 0.66 |
| T3 | 163.57-159.05 | A | 1.351 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 18.369 | 0.000 | 0.22 |
| | | D | | 0.000 | 0.000 | 38.841 | 0.000 | 0.49 |
| T4 | 159.05-154.52 | A | 1.348 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 21.018 | 0.000 | 0.26 |
| | | D | | 0.000 | 0.000 | 40.193 | 0.000 | 0.50 |
| T5 | 154.52-150.00 | A | 1.345 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 21.003 | 0.000 | 0.26 |
| | | D | | 0.000 | 0.000 | 40.154 | 0.000 | 0.50 |
| T6 | 150.00-140.00 | A | 1.339 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 46.369 | 0.000 | 0.57 |
| | | D | | 0.000 | 0.000 | 97.455 | 0.000 | 1.20 |
| T7 | 140.00-130.00 | A | 1.332 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 46.294 | 0.000 | 0.56 |
| | | D | | 0.000 | 0.000 | 108.341 | 0.000 | 1.30 |
| T8 | 130.00-120.00 | A | 1.324 | 0.000 | 0.000 | 27.688 | 0.000 | 0.35 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 46.220 | 0.000 | 0.56 |
| | | D | | 0.000 | 0.000 | 110.720 | 0.000 | 1.32 |
| T9 | 120.00-110.00 | A | 1.317 | 0.000 | 0.000 | 46.086 | 0.000 | 0.59 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 46.148 | 0.000 | 0.56 |
| | | D | | 0.000 | 0.000 | 118.371 | 0.000 | 1.39 |
| T10 | 110.00-100.00 | A | 1.310 | 0.000 | 0.000 | 59.300 | 0.000 | 0.73 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 46.079 | 0.000 | 0.56 |
| | | D | | 0.000 | 0.000 | 130.095 | 0.000 | 1.51 |
| T11 | 100.00-90.00 | A | 1.304 | 0.000 | 0.000 | 68.053 | 0.000 | 0.83 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 46.016 | 0.000 | 0.55 |
| | | D | | 0.000 | 0.000 | 134.692 | 0.000 | 1.55 |
| T12 | 90.00-80.00 | A | 1.298 | 0.000 | 0.000 | 67.972 | 0.000 | 0.82 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 45.962 | 0.000 | 0.55 |
| | | D | | 0.000 | 0.000 | 136.294 | 0.000 | 1.56 |
| T13 | 80.00-60.00 | A | 1.293 | 0.000 | 0.000 | 135.780 | 0.000 | 1.64 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 91.814 | 0.000 | 1.10 |
| | | D | | 0.000 | 0.000 | 280.509 | 0.000 | 3.20 |
| T14 | 60.00-50.00 | A | 1.292 | 0.000 | 0.000 | 67.876 | 0.000 | 0.82 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 45.898 | 0.000 | 0.55 |
| | | D | | 0.000 | 0.000 | 142.897 | 0.000 | 1.63 |
| T15 | 50.00-40.00 | A | 1.294 | 0.000 | 0.000 | 67.915 | 0.000 | 0.82 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 45.923 | 0.000 | 0.55 |
| | | D | | 0.000 | 0.000 | 146.516 | 0.000 | 1.67 |
| T16 | 40.00-30.00 | A | 1.299 | 0.000 | 0.000 | 67.988 | 0.000 | 0.82 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |

| | | | | |
|--|----------------|---------------------------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 22007.02 - CT2143 | Page | 15 of 83 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|-------------|---------------------|-----------------------------------|-----------------------------------|---|--|-------------|
| | | C | | 0.000 | 0.000 | 45.972 | 0.000 | 0.55 |
| | | D | | 0.000 | 0.000 | 147.735 | 0.000 | 1.68 |
| T17 | 30.00-20.00 | A | 1.304 | 0.000 | 0.000 | 68.064 | 0.000 | 0.83 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 46.023 | 0.000 | 0.55 |
| | | D | | 0.000 | 0.000 | 148.011 | 0.000 | 1.69 |
| T18 | 20.00-10.00 | A | 1.300 | 0.000 | 0.000 | 68.005 | 0.000 | 0.83 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 45.983 | 0.000 | 0.55 |
| | | D | | 0.000 | 0.000 | 147.795 | 0.000 | 1.68 |
| T19 | 10.00-0.00 | A | 1.238 | 0.000 | 0.000 | 26.829 | 0.000 | 0.32 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 18.144 | 0.000 | 0.21 |
| | | D | | 0.000 | 0.000 | 57.756 | 0.000 | 0.64 |

Feed Line Center of Pressure

| Section | Elevation ft | CP _X in | CP _Z in | CP _X Ice in | CP _Z Ice in |
|---------|-----------------|-----------------------|-----------------------|------------------------------|------------------------------|
| T1 | 180.00-170.00 | -7.0554 | 5.8149 | -11.5254 | 9.6339 |
| T2 | 170.00-163.57 | -9.4248 | 7.8211 | -14.1364 | 11.8837 |
| T3 | 163.57-159.05 | -4.0056 | 4.5643 | -4.5647 | 5.9419 |
| T4 | 159.05-154.52 | -3.6806 | 4.6810 | -4.3145 | 6.4555 |
| T5 | 154.52-150.00 | -3.8245 | 4.9938 | -4.5061 | 6.9270 |
| T6 | 150.00-140.00 | -4.4470 | 5.9400 | -5.6796 | 8.6354 |
| T7 | 140.00-130.00 | -5.2394 | 6.9391 | -7.3994 | 10.6732 |
| T8 | 130.00-120.00 | -8.7149 | 5.6070 | -12.0331 | 8.1749 |
| T9 | 120.00-110.00 | -10.9643 | 5.0239 | -15.3077 | 7.3564 |
| T10 | 110.00-100.00 | -13.4661 | 5.1541 | -19.0650 | 7.2909 |
| T11 | 100.00-90.00 | -14.1307 | 4.7866 | -20.9160 | 6.8525 |
| T12 | 90.00-80.00 | -14.9427 | 5.3153 | -22.2401 | 7.6905 |
| T13 | 80.00-60.00 | -21.5901 | 8.2143 | -26.9100 | 10.1445 |
| T14 | 60.00-50.00 | -22.7022 | 9.0031 | -28.8291 | 11.4895 |
| T15 | 50.00-40.00 | -22.7201 | 9.3145 | -30.0130 | 12.5730 |
| T16 | 40.00-30.00 | -18.6623 | 7.7882 | -28.7770 | 12.3324 |
| T17 | 30.00-20.00 | -20.1077 | 8.4890 | -30.7386 | 13.3389 |
| T18 | 20.00-10.00 | -19.8485 | 8.4674 | -30.8834 | 13.5266 |
| T19 | 10.00-0.00 | -10.5524 | 4.5319 | -19.5117 | 8.4753 |

Shielding Factor Ka

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|-------------|-------------------------|--------------------------|-----------------------|
| T1 | 2 | WEP65 | 170.00 - 173.00 | 0.6000 | 0.6000 |
| T1 | 4 | 1/2 | 170.00 - 180.00 | 1.0000 | 1.0000 |
| T1 | 11 | 1 5/8 | 170.00 - 180.00 | 0.6000 | 0.6000 |
| T1 | 12 | 7/8 | 170.00 - | 0.6000 | 0.6000 |

| | | |
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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 16 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K_a No Ice | K_a Ice |
|---------------|----------------------|-------------|-------------------------|--------------|-----------|
| | | | 180.00 | | |
| T1 | 14 | 7/8 | 170.00 - 180.00 | 0.6000 | 0.6000 |
| T1 | 18 | 1 5/8 | 170.00 - 172.00 | 0.6000 | 0.6000 |
| T2 | 2 | WEP65 | 163.57 - 170.00 | 0.6000 | 0.5709 |
| T2 | 4 | 1/2 | 163.57 - 170.00 | 1.0000 | 1.0000 |
| T2 | 11 | 1 5/8 | 163.57 - 170.00 | 0.6000 | 0.5709 |
| T2 | 12 | 7/8 | 163.57 - 170.00 | 0.6000 | 0.5709 |
| T2 | 14 | 7/8 | 163.57 - 170.00 | 0.6000 | 0.5709 |
| T2 | 16 | 7/8 | 163.57 - 170.00 | 0.6000 | 0.5709 |
| T2 | 18 | 1 5/8 | 163.57 - 170.00 | 0.6000 | 0.5709 |
| T3 | 2 | WEP65 | 159.05 - 163.57 | 0.6000 | 0.5427 |
| T3 | 4 | 1/2 | 159.05 - 163.57 | 1.0000 | 1.0000 |
| T3 | 5 | 1/2 | 159.05 - 160.00 | 1.0000 | 1.0000 |
| T3 | 11 | 1 5/8 | 159.05 - 163.57 | 0.6000 | 0.5427 |
| T3 | 12 | 7/8 | 159.05 - 163.57 | 0.6000 | 0.5427 |
| T3 | 14 | 7/8 | 159.05 - 163.57 | 0.6000 | 0.5427 |
| T3 | 16 | 7/8 | 159.05 - 163.57 | 0.6000 | 0.5427 |
| T3 | 18 | 1 5/8 | 159.05 - 163.57 | 0.6000 | 0.5427 |
| T3 | 19 | 1 5/8 | 159.05 - 163.00 | 0.6000 | 0.5427 |
| T3 | 30 | 7/8 | 159.05 - 163.00 | 0.6000 | 0.5427 |
| T3 | 33 | Fiber Trunk | 159.05 - 163.00 | 0.6000 | 0.5427 |
| T3 | 34 | DC Trunk | 159.05 - 163.00 | 0.6000 | 0.5427 |
| T4 | 2 | WEP65 | 154.52 - 159.05 | 0.6000 | 0.6000 |
| T4 | 4 | 1/2 | 154.52 - 159.05 | 1.0000 | 1.0000 |
| T4 | 5 | 1/2 | 154.52 - 159.05 | 1.0000 | 1.0000 |
| T4 | 11 | 1 5/8 | 154.52 - 159.05 | 0.6000 | 0.6000 |
| T4 | 12 | 7/8 | 154.52 - 159.05 | 0.6000 | 0.6000 |
| T4 | 14 | 7/8 | 154.52 - 159.05 | 0.6000 | 0.6000 |
| T4 | 16 | 7/8 | 154.52 - 159.05 | 0.6000 | 0.6000 |
| T4 | 18 | 1 5/8 | 154.52 - 159.05 | 0.6000 | 0.6000 |
| T4 | 19 | 1 5/8 | 154.52 - 159.05 | 0.6000 | 0.6000 |
| T4 | 30 | 7/8 | 154.52 - | 0.6000 | 0.6000 |

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|----------------|---------------------------------|--------------------|-------------------|
| Job | 22007.02 - CT2143 | Page | 17 of 83 |
| Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| Client | AT&T | Designed by | TJL |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|-------------|-------------------------|-----------------------|--------------------|
| | | | 159.05 | | |
| T4 | 33 | Fiber Trunk | 154.52 - 159.05 | 0.6000 | 0.6000 |
| T4 | 34 | DC Trunk | 154.52 - 159.05 | 0.6000 | 0.6000 |
| T5 | 2 | WEP65 | 150.00 - 154.52 | 0.6000 | 0.6000 |
| T5 | 4 | 1/2 | 150.00 - 154.52 | 1.0000 | 1.0000 |
| T5 | 5 | 1/2 | 150.00 - 154.52 | 1.0000 | 1.0000 |
| T5 | 11 | 1 5/8 | 150.00 - 154.52 | 0.6000 | 0.6000 |
| T5 | 12 | 7/8 | 150.00 - 154.52 | 0.6000 | 0.6000 |
| T5 | 14 | 7/8 | 150.00 - 154.52 | 0.6000 | 0.6000 |
| T5 | 16 | 7/8 | 150.00 - 154.52 | 0.6000 | 0.6000 |
| T5 | 18 | 1 5/8 | 150.00 - 154.52 | 0.6000 | 0.6000 |
| T5 | 19 | 1 5/8 | 150.00 - 154.52 | 0.6000 | 0.6000 |
| T5 | 30 | 7/8 | 150.00 - 154.52 | 0.6000 | 0.6000 |
| T5 | 33 | Fiber Trunk | 150.00 - 154.52 | 0.6000 | 0.6000 |
| T5 | 34 | DC Trunk | 150.00 - 154.52 | 0.6000 | 0.6000 |
| T6 | 2 | WEP65 | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T6 | 4 | 1/2 | 140.00 - 150.00 | 1.0000 | 1.0000 |
| T6 | 5 | 1/2 | 140.00 - 150.00 | 1.0000 | 1.0000 |
| T6 | 11 | 1 5/8 | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T6 | 12 | 7/8 | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T6 | 14 | 7/8 | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T6 | 16 | 7/8 | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T6 | 18 | 1 5/8 | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T6 | 19 | 1 5/8 | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T6 | 29 | 7/8 | 140.00 - 144.00 | 0.6000 | 0.6000 |
| T6 | 30 | 7/8 | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T6 | 31 | EW90 | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T6 | 32 | EW90 | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T6 | 33 | Fiber Trunk | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T6 | 34 | DC Trunk | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T7 | 2 | WEP65 | 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 4 | 1/2 | 130.00 - | 1.0000 | 1.0000 |

| | | | |
|----------------|---------------------------------|--------------------|-------------------|
| Job | 22007.02 - CT2143 | Page | 18 of 83 |
| Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| Client | AT&T | Designed by | TJL |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|------------------------------------|------------------------------|-----------------------|--------------------|
| T7 | 5 | | 140.00 130.00 - 140.00 | 1.0000 | 1.0000 |
| T7 | 11 | | 1 5/8 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 12 | | 7/8 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 13 | | 7/8 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 14 | | 7/8 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 16 | | 7/8 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 18 | | 1 5/8 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 19 | | 1 5/8 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 29 | | 7/8 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 30 | | 7/8 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 31 | EW90 | 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 32 | EW90 | 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 33 | Fiber Trunk | 130.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 34 | DC Trunk | 130.00 - 140.00 | 0.6000 | 0.6000 |
| T8 | 2 | WEP65 | 120.00 - 130.00 | 0.6000 | 0.6000 |
| T8 | 3 | WEP65 | 120.00 - 125.00 | 0.6000 | 0.6000 |
| T8 | 4 | 1/2 | 120.00 - 130.00 | 1.0000 | 1.0000 |
| T8 | 5 | 1/2 | 120.00 - 130.00 | 1.0000 | 1.0000 |
| T8 | 11 | 1 5/8 | 120.00 - 130.00 | 0.6000 | 0.6000 |
| T8 | 12 | 7/8 | 120.00 - 130.00 | 0.6000 | 0.6000 |
| T8 | 13 | 7/8 | 120.00 - 130.00 | 0.6000 | 0.6000 |
| T8 | 14 | 7/8 | 120.00 - 130.00 | 0.6000 | 0.6000 |
| T8 | 16 | 7/8 | 120.00 - 130.00 | 0.6000 | 0.6000 |
| T8 | 18 | 1 5/8 | 120.00 - 130.00 | 0.6000 | 0.6000 |
| T8 | 19 | 1 5/8 | 120.00 - 130.00 | 0.6000 | 0.6000 |
| T8 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 120.00 - 126.00 | 0.6000 | 0.6000 |
| T8 | 26 | 1 1/4 | 120.00 - 126.00 | 0.6000 | 0.6000 |
| T8 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 120.00 - 126.00 | 0.6000 | 0.6000 |
| T8 | 29 | 7/8 | 120.00 - 130.00 | 0.6000 | 0.6000 |
| T8 | 30 | 7/8 | 120.00 - 130.00 | 0.6000 | 0.6000 |
| T8 | 31 | EW90 | 120.00 - | 0.6000 | 0.6000 |

| <i>Tower Section</i> | <i>Feed Line Record No.</i> | <i>Description</i> | <i>Feed Line Segment Elev.</i> | <i>K_a No Ice</i> | <i>K_a Ice</i> |
|----------------------|-----------------------------|------------------------------------|--------------------------------|-----------------------------|--------------------------|
| | | | 130.00 | | |
| T8 | 32 | EW90 | 120.00 - | 0.6000 | 0.6000 |
| | | | 130.00 | | |
| T8 | 33 | Fiber Trunk | 120.00 - | 0.6000 | 0.6000 |
| | | | 130.00 | | |
| T8 | 34 | DC Trunk | 120.00 - | 0.6000 | 0.6000 |
| | | | 130.00 | | |
| T9 | 2 | WEP65 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 3 | WEP65 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 4 | 1/2 | 110.00 - | 1.0000 | 1.0000 |
| | | | 120.00 | | |
| T9 | 5 | 1/2 | 110.00 - | 1.0000 | 1.0000 |
| | | | 120.00 | | |
| T9 | 6 | 7/8 | 110.00 - | 0.6000 | 0.6000 |
| | | | 116.00 | | |
| T9 | 11 | 1 5/8 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 12 | 7/8 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 13 | 7/8 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 14 | 7/8 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 16 | 7/8 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 18 | 1 5/8 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 19 | 1 5/8 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 26 | 1 1/4 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 29 | 7/8 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 30 | 7/8 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 31 | EW90 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 32 | EW90 | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 33 | Fiber Trunk | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T9 | 34 | DC Trunk | 110.00 - | 0.6000 | 0.6000 |
| | | | 120.00 | | |
| T10 | 2 | WEP65 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 3 | WEP65 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 4 | 1/2 | 100.00 - | 1.0000 | 1.0000 |
| | | | 110.00 | | |
| T10 | 5 | 1/2 | 100.00 - | 1.0000 | 1.0000 |
| | | | 110.00 | | |
| T10 | 6 | 7/8 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 11 | 1 5/8 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 12 | 7/8 | 100.00 - | 0.6000 | 0.6000 |

| | | | |
|----------------|---------------------------------|--------------------|-------------------|
| Job | 22007.02 - CT2143 | Page | 20 of 83 |
| Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| Client | AT&T | Designed by | TJL |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|---------------------------------|-------------------------|-----------------------|--------------------|
| | | | 110.00 | | |
| T10 | 13 | 7/8 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 14 | 7/8 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 15 | 1 5/8 | 100.00 - | 0.6000 | 0.6000 |
| | | | 107.00 | | |
| T10 | 16 | 7/8 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 17 | 7/8 | 100.00 - | 0.6000 | 0.6000 |
| | | | 106.00 | | |
| T10 | 18 | 1 5/8 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 19 | 1 5/8 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 20 | RFS Hybriflex (3 Sector) | 100.00 - | 0.6000 | 0.6000 |
| | | | 106.00 | | |
| T10 | 22 | Hybrid Cable (1.689 OD) | 100.00 - | 0.6000 | 0.6000 |
| | | | 106.00 | | |
| T10 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 26 | 1 1/4 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 29 | 7/8 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 30 | 7/8 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 31 | EW90 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 32 | EW90 | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 33 | Fiber Trunk | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T10 | 34 | DC Trunk | 100.00 - | 0.6000 | 0.6000 |
| | | | 110.00 | | |
| T11 | 2 | WEP65 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 3 | WEP65 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 4 | 1/2 | 90.00 - 100.00 | 1.0000 | 1.0000 |
| T11 | 5 | 1/2 | 90.00 - 100.00 | 1.0000 | 1.0000 |
| T11 | 6 | 7/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 11 | 1 5/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 12 | 7/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 13 | 7/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 14 | 7/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 15 | 1 5/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 16 | 7/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 17 | 7/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 18 | 1 5/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 19 | 1 5/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 20 | RFS Hybriflex (3 Sector) | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 22 | Hybrid Cable (1.689 OD) | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 90.00 - 100.00 | 0.6000 | 0.6000 |
| | | | | | |
| T11 | 26 | 1 1/4 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 90.00 - 100.00 | 0.6000 | 0.6000 |
| | | | | | |
| T11 | 29 | 7/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 30 | 7/8 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 31 | EW90 | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 32 | EW90 | 90.00 - 100.00 | 0.6000 | 0.6000 |

| | | | |
|----------------|---------------------------------|--------------------|-------------------|
| Job | 22007.02 - CT2143 | Page | 21 of 83 |
| Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| Client | AT&T | Designed by | TJL |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|------------------------------------|-------------------------|-----------------------|--------------------|
| T11 | 33 | Fiber Trunk | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T11 | 34 | DC Trunk | 90.00 - 100.00 | 0.6000 | 0.6000 |
| T12 | 2 | WEP65 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 3 | WEP65 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 4 | 1/2 | 80.00 - 90.00 | 1.0000 | 1.0000 |
| T12 | 5 | 1/2 | 80.00 - 90.00 | 1.0000 | 1.0000 |
| T12 | 6 | 7/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 8 | 7/8 | 80.00 - 85.00 | 0.6000 | 0.6000 |
| T12 | 11 | 1 5/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 12 | 7/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 13 | 7/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 14 | 7/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 15 | 1 5/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 16 | 7/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 17 | 7/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 18 | 1 5/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 19 | 1 5/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 20 | RFS Hybriflex (3 Sector) | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 22 | Hybrid Cable (1.689 OD) | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 26 | 1 1/4 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 29 | 7/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 30 | 7/8 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 31 | EW90 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 32 | EW90 | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 33 | Fiber Trunk | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T12 | 34 | DC Trunk | 80.00 - 90.00 | 0.6000 | 0.6000 |
| T13 | 2 | WEP65 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 3 | WEP65 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 4 | 1/2 | 60.00 - 80.00 | 1.0000 | 1.0000 |
| T13 | 5 | 1/2 | 60.00 - 80.00 | 1.0000 | 1.0000 |
| T13 | 6 | 7/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 7 | 1/2 | 60.00 - 75.00 | 0.6000 | 0.6000 |
| T13 | 8 | 7/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 11 | 1 5/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 12 | 7/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 13 | 7/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 14 | 7/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 15 | 1 5/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 16 | 7/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 17 | 7/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 18 | 1 5/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 19 | 1 5/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 20 | RFS Hybriflex (3 Sector) | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 22 | Hybrid Cable (1.689 OD) | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 26 | 1 1/4 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 29 | 7/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 30 | 7/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 31 | EW90 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 32 | EW90 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 33 | Fiber Trunk | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T13 | 34 | DC Trunk | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T14 | 2 | WEP65 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 3 | WEP65 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 4 | 1/2 | 50.00 - 60.00 | 1.0000 | 1.0000 |

| | | | |
|----------------|---------------------------------|--------------------|-------------------|
| Job | 22007.02 - CT2143 | Page | 22 of 83 |
| Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| Client | AT&T | Designed by | TJL |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|---------------------------------|-------------------------|-----------------------|--------------------|
| T14 | 5 | 1/2 | 50.00 - 60.00 | 1.0000 | 1.0000 |
| T14 | 6 | 7/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 7 | 1/2 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 8 | 7/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 10 | 1/2 | 50.00 - 56.00 | 0.6000 | 0.6000 |
| T14 | 11 | 1 5/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 12 | 7/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 13 | 7/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 14 | 7/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 15 | 1 5/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 16 | 7/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 17 | 7/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 18 | 1 5/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 19 | 1 5/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 20 | RFS Hybriflex (3 Sector) | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 22 | Hybrid Cable (1.689 OD) | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 26 | 1 1/4 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 29 | 7/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 30 | 7/8 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 31 | EW90 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 32 | EW90 | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 33 | Fiber Trunk | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T14 | 34 | DC Trunk | 50.00 - 60.00 | 0.6000 | 0.6000 |
| T15 | 2 | WEP65 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 3 | WEP65 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 4 | 1/2 | 40.00 - 50.00 | 1.0000 | 1.0000 |
| T15 | 5 | 1/2 | 40.00 - 50.00 | 1.0000 | 1.0000 |
| T15 | 6 | 7/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 7 | 1/2 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 8 | 7/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 9 | 1/2 | 40.00 - 47.00 | 0.6000 | 0.6000 |
| T15 | 10 | 1/2 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 11 | 1 5/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 12 | 7/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 13 | 7/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 14 | 7/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 15 | 1 5/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 16 | 7/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 17 | 7/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 18 | 1 5/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 19 | 1 5/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 20 | RFS Hybriflex (3 Sector) | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 22 | Hybrid Cable (1.689 OD) | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 26 | 1 1/4 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 29 | 7/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 30 | 7/8 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 31 | EW90 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 32 | EW90 | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 33 | Fiber Trunk | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T15 | 34 | DC Trunk | 40.00 - 50.00 | 0.6000 | 0.6000 |
| T16 | 2 | WEP65 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 3 | WEP65 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 4 | 1/2 | 30.00 - 40.00 | 1.0000 | 1.0000 |
| T16 | 5 | 1/2 | 30.00 - 40.00 | 1.0000 | 1.0000 |

| | | | |
|----------------|---------------------------------|--------------------|-------------------|
| Job | 22007.02 - CT2143 | Page | 23 of 83 |
| Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| Client | AT&T | Designed by | TJL |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|---------------------------------|-------------------------|-----------------------|--------------------|
| T16 | 6 | 7/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 7 | 1/2 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 8 | 7/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 9 | 1/2 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 10 | 1/2 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 11 | 1 5/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 12 | 7/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 13 | 7/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 14 | 7/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 15 | 1 5/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 16 | 7/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 17 | 7/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 18 | 1 5/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 19 | 1 5/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 20 | RFS Hybriflex (3 Sector) | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 22 | Hybrid Cable (1.689 OD) | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 26 | 1 1/4 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 29 | 7/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 30 | 7/8 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 31 | EW90 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 32 | EW90 | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 33 | Fiber Trunk | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T16 | 34 | DC Trunk | 30.00 - 40.00 | 0.6000 | 0.6000 |
| T17 | 2 | WEP65 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 3 | WEP65 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 4 | 1/2 | 20.00 - 30.00 | 1.0000 | 1.0000 |
| T17 | 5 | 1/2 | 20.00 - 30.00 | 1.0000 | 1.0000 |
| T17 | 6 | 7/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 7 | 1/2 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 8 | 7/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 9 | 1/2 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 10 | 1/2 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 11 | 1 5/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 12 | 7/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 13 | 7/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 14 | 7/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 15 | 1 5/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 16 | 7/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 17 | 7/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 18 | 1 5/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 19 | 1 5/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 20 | RFS Hybriflex (3 Sector) | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 22 | Hybrid Cable (1.689 OD) | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 26 | 1 1/4 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 29 | 7/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 30 | 7/8 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 31 | EW90 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 32 | EW90 | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 33 | Fiber Trunk | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T17 | 34 | DC Trunk | 20.00 - 30.00 | 0.6000 | 0.6000 |
| T18 | 2 | WEP65 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 3 | WEP65 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 4 | 1/2 | 10.00 - 20.00 | 1.0000 | 1.0000 |
| T18 | 5 | 1/2 | 10.00 - 20.00 | 1.0000 | 1.0000 |

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|----------------|---------------------------------|--------------------|-------------------|
| Job | 22007.02 - CT2143 | Page | 24 of 83 |
| Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| Client | AT&T | Designed by | TJL |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|---------------------------------|-------------------------|-----------------------|--------------------|
| T18 | 6 | 7/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 7 | 1/2 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 8 | 7/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 9 | 1/2 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 10 | 1/2 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 11 | 1 5/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 12 | 7/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 13 | 7/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 14 | 7/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 15 | 1 5/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 16 | 7/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 17 | 7/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 18 | 1 5/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 19 | 1 5/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 20 | RFS Hybriflex (3 Sector) | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 22 | Hybrid Cable (1.689 OD) | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 26 | 1 1/4 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 29 | 7/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 30 | 7/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 31 | EW90 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 32 | EW90 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 33 | Fiber Trunk | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T18 | 34 | DC Trunk | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T19 | 2 | WEP65 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 3 | WEP65 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 4 | 1/2 | 6.00 - 10.00 | 1.0000 | 1.0000 |
| T19 | 5 | 1/2 | 6.00 - 10.00 | 1.0000 | 1.0000 |
| T19 | 6 | 7/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 7 | 1/2 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 8 | 7/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 9 | 1/2 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 10 | 1/2 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 11 | 1 5/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 12 | 7/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 13 | 7/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 14 | 7/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 15 | 1 5/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 16 | 7/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 17 | 7/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 18 | 1 5/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 19 | 1 5/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 20 | RFS Hybriflex (3 Sector) | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 22 | Hybrid Cable (1.689 OD) | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 24 | Hybrid HCS 9x18 10 AWG (1-1/4") | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 26 | 1 1/4 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 27 | Hybrid HCS 6x12 4 AWG (1-5/8") | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 29 | 7/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 30 | 7/8 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 31 | EW90 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 32 | EW90 | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 33 | Fiber Trunk | 6.00 - 10.00 | 0.6000 | 0.6000 |
| T19 | 34 | DC Trunk | 6.00 - 10.00 | 0.6000 | 0.6000 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 25 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

Discrete Tower Loads

| Description | Face or Leg | Offset Type | Offsets: | | | Azimuth Adjustment | Placement | C _A A _A Front | C _A A _A Side | Weight |
|---|-------------|-------------|-----------------------|---------|------|--------------------|-----------------|--|------------------------------------|----------------------|
| | | | Horz | Lateral | Vert | | | | | |
| DB803M-Y (A1 / D&K-1) | A | From Leg | 3.00 0.00 0.00 | | | 0.0000 | 50.00 | No Ice 0.50 1/2" Ice 0.68 1" Ice 0.87 | 0.50 0.68 0.87 | 0.00 0.01 0.02 |
| 3' Stand-off (A1 / D&K-1) | A | None | | | | 0.0000 | 50.00 | No Ice 1.00 1/2" Ice 1.20 1" Ice 1.40 | 2.00 2.70 3.40 | 0.05 0.07 0.10 |
| GPS (A2 / Sprint) | B | From Face | 4.00 0.00 0.00 | | | 0.0000 | 61.00 | No Ice 1.00 1/2" Ice 1.50 1" Ice 2.00 | 1.00 1.50 2.00 | 0.01 0.01 0.02 |
| 3/4"x4" Pipe Mount (A2 / Sprint) | B | None | | | | 0.0000 | 61.00 | No Ice 0.88 1/2" Ice 1.27 1" Ice 1.49 | 0.88 1.27 1.49 | 0.04 0.05 0.06 |
| 2'6"x4" Pipe Mount (A3 / D&K-3) | A | None | | | | 0.0000 | 71.00 | No Ice 0.64 1/2" Ice 0.91 1" Ice 1.09 | 0.64 0.91 1.09 | 0.03 0.04 0.05 |
| Dish Ice Shield (A3 / D&K-3) | A | From Leg | 0.50 0.00 0.00 | | | 0.0000 | 75.00 | No Ice 4.00 1/2" Ice 5.07 1" Ice 6.14 | 4.00 5.07 6.14 | 0.20 0.25 0.30 |
| SC479-HF1LDF (A4 / D&K-4) | A | From Leg | 10.00 0.00 0.00 | | | 0.0000 | 79.00 - 91.00 | No Ice 4.53 1/2" Ice 6.54 1" Ice 8.04 | 4.53 6.54 8.04 | 0.03 0.07 0.11 |
| 10' Standoff (A4 / D&K-4) | A | None | | | | 0.0000 | 91.00 | No Ice 17.00 1/2" Ice 22.00 1" Ice 27.00 | 17.00 22.00 27.00 | 0.55 0.75 0.95 |
| DB264-A (A5 / D&K-11) | A | From Leg | 4.00 0.00 0.00 | | | 0.0000 | 106.00 - 86.00 | No Ice 3.16 1/2" Ice 5.69 1" Ice 8.22 | 3.16 5.69 8.22 | 0.04 0.05 0.06 |
| 4' Side Mount Standoff (A5 / D&K-11) | A | None | | | | 0.0000 | 86.00 | No Ice 2.72 1/2" Ice 4.91 1" Ice 7.10 | 2.72 4.91 7.10 | 0.05 0.09 0.13 |
| 10'6"x4" Pipe Mount (A6 / D&K-12 / CSP-11) | C | None | | | | 0.0000 | 106.00 | No Ice 3.27 1/2" Ice 5.62 1" Ice 6.25 | 3.27 5.62 6.25 | 0.11 0.15 0.19 |
| 3" Dia 20' Omni (A7 / D&K-13) | D | From Leg | 6.00 0.00 0.00 | | | 0.0000 | 127.00 - 107.00 | No Ice 4.00 1/2" Ice 6.00 1" Ice 8.00 | 4.00 6.00 8.00 | 0.06 0.10 0.14 |
| 6' Side-Arm Mount (A7 / D&K-13) | D | None | | | | 0.0000 | 107.00 | No Ice 10.60 1/2" Ice 15.40 1" Ice 20.20 | 10.60 15.40 20.20 | 0.14 0.21 0.28 |
| PD128-1 (A8 / D&K-14) | C | From Leg | 10.00 0.00 0.00 | | | 0.0000 | 128.00 - 121.00 | No Ice 1.00 1/2" Ice 1.80 1" Ice 2.60 | 1.00 1.80 2.60 | 0.01 0.02 0.02 |
| 10' Standoff (A8 / D&K-14) | C | None | | | | 0.0000 | 121.00 | No Ice 17.00 1/2" Ice 22.00 1" Ice 27.00 | 17.00 22.00 27.00 | 0.55 0.75 0.95 |
| 12' Omni Antenna (A9 - D&K-15) | D | From Leg | 6.00 0.00 0.00 | | | 0.0000 | 116.00 - 106.00 | No Ice 5.06 1/2" Ice 6.54 1" Ice 8.04 | 5.06 6.54 8.04 | 0.03 0.07 0.11 |
| 6' Side-Arm Mount (A9 - D&K-15) | D | None | | | | 0.0000 | 106.00 | No Ice 10.60 1/2" Ice 15.40 1" Ice 20.20 | 10.60 15.40 20.20 | 0.14 0.21 0.28 |

| | | | | | | | | |
|--|----------------|--|---------------------------------|--|--------------------|--|-------------------|--|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | | 22007.02 - CT2143 | | Page | | 26 of 83 | |
| | Project | | 180-ft Lattice Tower #31 Wilton | | Date | | 09:32:21 04/28/22 | |
| | Client | | AT&T | | Designed by | | TJL | |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} | | Weight |
|---|-------------|-------------|----------------------|---------|--------------------|-----------------|--|-------------------------|----------------------|
| | | | Horz | Lateral | | | Front | Side | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K |
| 2'6"x4" Pipe Mount (A10 / D&K-25) | A | None | | | 0.0000 | 125.00 | No Ice 0.63 1/2" Ice 0.91 1" Ice 1.09 | 0.63 0.91 1.09 | 0.03 0.04 0.05 |
| Dish Ice Shield (A11 / D&K-26) | A | From Leg | 0.50 0.00 0.00 | | 0.0000 | 130.00 | No Ice 4.00 1/2" Ice 5.07 1" Ice 6.14 | 4.00 5.07 6.14 | 0.20 0.25 0.30 |
| BA1010 (A12 / D&K-27) | C | From Leg | 6.00 0.00 0.00 | | 0.0000 | 127.00 - 132.00 | No Ice 1.55 1/2" Ice 2.29 1" Ice 3.03 | 1.55 2.29 3.03 | 0.01 0.01 0.02 |
| BA1010 (A14 / D&K-29) | C | From Leg | 6.00 0.00 0.00 | | 0.0000 | 137.00 - 132.00 | No Ice 1.55 1/2" Ice 2.29 1" Ice 3.03 | 1.55 2.29 3.03 | 0.01 0.01 0.02 |
| 432E-83I-01T TTA Unit (A13 / D&K-28) | C | From Leg | 6.00 0.00 0.00 | | 0.0000 | 132.00 | No Ice 2.85 1/2" Ice 3.06 1" Ice 3.28 | 0.97 1.11 1.26 | 0.03 0.04 0.07 |
| 6' Side-Arm Mount (A12,13,14 / D&K-27,28,29) | C | None | | | 0.0000 | 132.00 | No Ice 10.60 1/2" Ice 15.40 1" Ice 20.20 | 10.60 15.40 20.20 | 0.14 0.21 0.28 |
| 12' Omni Antenna (A15 / D&K-30) | C | From Leg | 8.00 0.00 0.00 | | 0.0000 | 152.00 - 140.50 | No Ice 5.06 1/2" Ice 6.54 1" Ice 8.04 | 5.06 6.54 8.04 | 0.03 0.07 0.11 |
| 8' Side Arm Mount (A15 / D&K-30) | C | None | | | 0.0000 | 140.50 | No Ice 17.20 1/2" Ice 24.50 1" Ice 31.80 | 17.20 24.50 31.80 | 0.33 0.45 0.57 |
| DB222-A (A16 / D&K-31) | A | From Leg | 4.00 0.00 0.00 | | 0.0000 | 136.50 | No Ice 1.60 1/2" Ice 2.88 1" Ice 4.16 | 1.60 2.88 4.16 | 0.02 0.02 0.03 |
| 4' Side Mount Standoff (A16 / D&K-31) | A | None | | | 0.0000 | 136.50 | No Ice 2.72 1/2" Ice 4.91 1" Ice 7.10 | 2.72 4.91 7.10 | 0.05 0.09 0.13 |
| Yagi ASP-816 (A17 / D&K-32) | A | From Leg | 6.00 0.00 0.00 | | 0.0000 | 139.00 | No Ice 0.92 1/2" Ice 1.21 1" Ice 1.51 | 0.02 0.05 0.08 | 0.01 0.01 0.02 |
| 6' Side-Arm Mount (A17 / D&K-32) | A | None | | | 0.0000 | 139.00 | No Ice 10.60 1/2" Ice 15.40 1" Ice 20.20 | 10.60 15.40 20.20 | 0.14 0.21 0.28 |
| 6' Side-Arm Mount (A18 / D&K-33) | D | None | | | 0.0000 | 139.00 | No Ice 10.60 1/2" Ice 15.40 1" Ice 20.20 | 10.60 15.40 20.20 | 0.14 0.21 0.28 |
| *** Following Are D&K NOT Inventoried Appurtenances | | | | | | | | | |
| DB408-B (A19) | D | From Leg | 6.00 0.00 0.00 | | 0.0000 | 161.00 | No Ice 1.65 1/2" Ice 2.61 1" Ice 3.60 | 1.65 2.61 3.60 | 0.02 0.03 0.05 |
| (2) 6' Side Mount Standoff (A19) | D | None | | | 0.0000 | 161.00 | No Ice 1.40 1/2" Ice 1.56 1" Ice 1.73 | 0.13 0.21 0.30 | 0.01 0.02 0.02 |
| BA1010-2 (A20) | C | From Leg | 2.50 0.00 0.00 | | 0.0000 | 169.00 | No Ice 1.40 1/2" Ice 1.77 1" Ice 2.16 | 1.40 1.77 2.16 | 0.02 0.03 0.05 |
| 15' T-Frame Sector Mount (1) (A20) | C | None | | | 0.0000 | 169.00 | No Ice 15.00 1/2" Ice 20.60 1" Ice 26.20 | 15.00 20.60 26.20 | 0.50 0.65 0.80 |
| DB586-Y (A21) | C | From Leg | 3.00 0.00 0.00 | | 0.0000 | 170.00 | No Ice 1.01 1/2" Ice 1.28 1" Ice 1.56 | 1.01 1.28 1.56 | 0.01 0.02 0.03 |

| | | | | |
|--|----------------|---------------------------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 22007.02 - CT2143 | Page | 27 of 83 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} | | Weight |
|---|-------------|-------------|----------|--------|--------------------|-----------|-----------------|-----------------|--------|
| | | | Horz | Vert | | | Front | Side | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K |
| 10'6"x4" Pipe Mount (A22) | A | From Leg | 0.50 | 0.0000 | 170.00 | No Ice | 3.17 | 3.17 | 0.11 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 5.62 | 5.62 | 0.15 |
| | | | 0.00 | 0.00 | | 1" Ice | 6.25 | 6.25 | 0.19 |
| SC479-HF1LDF (D00I-E5764) (A23) | D | From Leg | 2.00 | 0.0000 | 168.00 - 180.00 | No Ice | 5.06 | 5.06 | 0.03 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 6.54 | 6.54 | 0.07 |
| | | | 0.00 | 0.00 | | 1" Ice | 8.04 | 8.04 | 0.11 |
| 15' T-Frame Sector Mount (1) (A23,24,30,31) | D | From Face | 2.00 | 0.0000 | 180.00 | No Ice | 15.00 | 15.00 | 0.50 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 20.60 | 20.60 | 0.65 |
| | | | 0.00 | 0.00 | | 1" Ice | 26.20 | 26.20 | 0.80 |
| SC479-HF1LDF (D00I-E5764) (A24) | D | From Face | 2.00 | 0.0000 | 168.00 - 180.00 | No Ice | 5.06 | 5.06 | 0.03 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 6.54 | 6.54 | 0.07 |
| | | | 0.00 | 0.00 | | 1" Ice | 8.04 | 8.04 | 0.11 |
| 10'6"x4" Pipe Mount (A25) | C | From Leg | 0.50 | 0.0000 | 173.00 | No Ice | 3.16 | 3.16 | 0.11 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 5.62 | 5.62 | 0.15 |
| | | | 0.00 | 0.00 | | 1" Ice | 6.25 | 6.25 | 0.19 |
| SC479-HF1LDF (D00I-E5764) (A26) | A | From Leg | 3.00 | 0.0000 | 168.00 - 180.00 | No Ice | 5.06 | 5.06 | 0.03 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 6.54 | 6.54 | 0.07 |
| | | | 0.00 | 0.00 | | 1" Ice | 8.04 | 8.04 | 0.11 |
| 15' T-Frame Sector Mount (1) (A26,27,28,29) | B | From Face | 2.00 | 0.0000 | 180.00 | No Ice | 15.00 | 15.00 | 0.50 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 20.60 | 20.60 | 0.65 |
| | | | 0.00 | 0.00 | | 1" Ice | 26.20 | 26.20 | 0.80 |
| TMA 432-83H-01T - Future Decom. (A27) | A | From Leg | 2.00 | 0.0000 | 181.00 | No Ice | 1.63 | 0.95 | 0.03 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 1.81 | 1.09 | 0.04 |
| | | | 0.00 | 0.00 | | 1" Ice | 1.99 | 1.24 | 0.05 |
| SC479-HF1LDF (D00-E5764) (A28) | A | From Leg | 3.00 | 0.0000 | 183.00 | No Ice | 5.06 | 5.06 | 0.03 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 6.54 | 6.54 | 0.07 |
| | | | 0.00 | 0.00 | | 1" Ice | 8.04 | 8.04 | 0.11 |
| ANT150D (A29a) | A | From Leg | 1.00 | 0.0000 | 183.00 | No Ice | 7.00 | 2.02 | 0.08 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 7.47 | 2.90 | 0.12 |
| | | | 0.00 | 0.00 | | 1" Ice | 7.95 | 3.79 | 0.17 |
| DB222 (A29b) | A | From Leg | 1.50 | 0.0000 | 183.00 | No Ice | 1.60 | 1.60 | 0.02 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 2.88 | 2.88 | 0.02 |
| | | | 0.00 | 0.00 | | 1" Ice | 4.16 | 4.16 | 0.03 |
| SC479-HF1LDF (D00-E5764) (A30) | D | From Leg | 2.00 | 0.0000 | 183.00 | No Ice | 5.06 | 5.06 | 0.03 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 6.54 | 6.54 | 0.07 |
| | | | 0.00 | 0.00 | | 1" Ice | 8.04 | 8.04 | 0.11 |
| Lightning Rod 2"x15" (A32) | C | None | | 0.0000 | 185.00 | No Ice | 3.00 | 3.00 | 0.08 |
| | | | | 0.00 | | 1/2" Ice | 4.53 | 4.53 | 0.10 |
| | | | | 0.00 | | 1" Ice | 6.07 | 6.07 | 0.14 |
| 10'6"x4" Pipe Mount (A33) | A | From Leg | 0.50 | 0.0000 | 175.00 | No Ice | 3.16 | 3.16 | 0.11 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 5.62 | 5.62 | 0.15 |
| | | | 0.00 | 0.00 | | 1" Ice | 6.25 | 6.25 | 0.19 |
| *** Empire EMP-004 Inventory | | | | | | | | | |
| SitePro VFA14-10 (AT&T) | A | From Leg | 0.50 | 0.0000 | 163.00 | No Ice | 30.00 | 30.00 | 0.95 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 35.00 | 35.00 | 1.40 |
| | | | 0.00 | 0.00 | | 1" Ice | 40.00 | 40.00 | 1.85 |
| SitePro VFA14-10 (AT&T) | B | From Leg | 0.50 | 0.0000 | 163.00 | No Ice | 30.00 | 30.00 | 0.95 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 35.00 | 35.00 | 1.40 |
| | | | 0.00 | 0.00 | | 1" Ice | 40.00 | 40.00 | 1.85 |
| SitePro VFA14-10 (AT&T) | C | From Leg | 0.50 | 0.0000 | 163.00 | No Ice | 30.00 | 30.00 | 0.95 |
| | | | 0.00 | 0.00 | | 1/2" Ice | 35.00 | 35.00 | 1.40 |
| | | | 0.00 | 0.00 | | 1" Ice | 40.00 | 40.00 | 1.85 |
| DMP65R-BU6E (AT&T - Proposed) | A | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 12.71 | 6.77 | 0.13 |
| | | | -6.00 | 0.00 | | 1/2" Ice | 13.21 | 7.23 | 0.20 |
| | | | 0.00 | 0.00 | | 1" Ice | 13.71 | 7.68 | 0.29 |
| AIR6449 | A | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 5.65 | 2.42 | 0.10 |

| | | | | |
|--|----------------|---------------------------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 22007.02 - CT2143 | Page | 28 of 83 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment ° | Placement ft | C _{AA} Front ft ² | C _{AA} Side ft ² | Weight K |
|-------------------|-------------------|----------------|-----------------------|------------|----------------------------|-----------------|---|--|-------------|
| | | | Horz Lateral ft | Vert ft | | | | | |
| (AT&T - Proposed) | | | -2.00 | | | 1/2" Ice | 5.96 | 2.64 | 0.14 |
| | | | 2.50 | | | 1" Ice | 6.26 | 2.87 | 0.18 |
| AIR6419 | A | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 3.66 | 1.66 | 0.07 |
| (AT&T - Proposed) | | | -2.00 | | | 1/2" Ice | 3.91 | 1.85 | 0.09 |
| | | | -2.50 | | | 1" Ice | 4.16 | 2.05 | 0.12 |
| 80010965 | A | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 13.81 | 5.83 | 0.11 |
| (AT&T) | | | 2.00 | | | 1/2" Ice | 14.35 | 6.32 | 0.19 |
| | | | 0.00 | | | 1" Ice | 14.89 | 6.82 | 0.27 |
| DMP65R-BU6E | B | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 12.71 | 6.77 | 0.13 |
| (AT&T - Proposed) | | | -6.00 | | | 1/2" Ice | 13.21 | 7.23 | 0.20 |
| | | | 0.00 | | | 1" Ice | 13.71 | 7.68 | 0.29 |
| AIR6449 | B | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 5.65 | 2.42 | 0.10 |
| (AT&T - Proposed) | | | -2.00 | | | 1/2" Ice | 5.96 | 2.64 | 0.14 |
| | | | 2.50 | | | 1" Ice | 6.26 | 2.87 | 0.18 |
| AIR6419 | B | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 3.66 | 1.66 | 0.07 |
| (AT&T - Proposed) | | | -2.00 | | | 1/2" Ice | 3.91 | 1.85 | 0.09 |
| | | | -2.50 | | | 1" Ice | 4.16 | 2.05 | 0.12 |
| 80010965 | B | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 13.81 | 5.83 | 0.11 |
| (AT&T) | | | 2.00 | | | 1/2" Ice | 14.35 | 6.32 | 0.19 |
| | | | 0.00 | | | 1" Ice | 14.89 | 6.82 | 0.27 |
| DMP65R-BU6E | C | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 12.71 | 6.77 | 0.13 |
| (AT&T - Proposed) | | | -6.00 | | | 1/2" Ice | 13.21 | 7.23 | 0.20 |
| | | | 0.00 | | | 1" Ice | 13.71 | 7.68 | 0.29 |
| AIR6449 | C | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 5.65 | 2.42 | 0.10 |
| (AT&T - Proposed) | | | -2.00 | | | 1/2" Ice | 5.96 | 2.64 | 0.14 |
| | | | 2.50 | | | 1" Ice | 6.26 | 2.87 | 0.18 |
| AIR6419 | C | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 3.66 | 1.66 | 0.07 |
| (AT&T - Proposed) | | | -2.00 | | | 1/2" Ice | 3.91 | 1.85 | 0.09 |
| | | | -2.50 | | | 1" Ice | 4.16 | 2.05 | 0.12 |
| 80010965 | C | From Leg | 3.00 | 0.0000 | 163.00 | No Ice | 13.81 | 5.83 | 0.11 |
| (AT&T) | | | 2.00 | | | 1/2" Ice | 14.35 | 6.32 | 0.19 |
| | | | 0.00 | | | 1" Ice | 14.89 | 6.82 | 0.27 |
| 4478 B14 | A | From Leg | 2.00 | 0.0000 | 163.00 | No Ice | 1.84 | 1.06 | 0.06 |
| (AT&T) | | | 2.00 | | | 1/2" Ice | 2.01 | 1.20 | 0.08 |
| | | | 0.00 | | | 1" Ice | 2.19 | 1.34 | 0.09 |
| 4478 B14 | B | From Leg | 2.00 | 0.0000 | 163.00 | No Ice | 1.84 | 1.06 | 0.06 |
| (AT&T) | | | 2.00 | | | 1/2" Ice | 2.01 | 1.20 | 0.08 |
| | | | 0.00 | | | 1" Ice | 2.19 | 1.34 | 0.09 |
| 4478 B14 | C | From Leg | 2.00 | 0.0000 | 163.00 | No Ice | 1.84 | 1.06 | 0.06 |
| (AT&T) | | | 2.00 | | | 1/2" Ice | 2.01 | 1.20 | 0.08 |
| | | | 0.00 | | | 1" Ice | 2.19 | 1.34 | 0.09 |
| 4449 B5/B12 | A | From Leg | 2.00 | 0.0000 | 163.00 | No Ice | 1.97 | 1.41 | 0.07 |
| (AT&T - Proposed) | | | 2.00 | | | 1/2" Ice | 2.14 | 1.56 | 0.09 |
| | | | 0.00 | | | 1" Ice | 2.33 | 1.73 | 0.11 |
| 4449 B5/B12 | B | From Leg | 2.00 | 0.0000 | 163.00 | No Ice | 1.97 | 1.41 | 0.07 |
| (AT&T - Proposed) | | | 2.00 | | | 1/2" Ice | 2.14 | 1.56 | 0.09 |
| | | | 0.00 | | | 1" Ice | 2.33 | 1.73 | 0.11 |
| 4449 B5/B12 | C | From Leg | 2.00 | 0.0000 | 163.00 | No Ice | 1.97 | 1.41 | 0.07 |
| (AT&T - Proposed) | | | 2.00 | | | 1/2" Ice | 2.14 | 1.56 | 0.09 |
| | | | 0.00 | | | 1" Ice | 2.33 | 1.73 | 0.11 |
| (3) RRUS-32 | A | From Leg | 2.00 | 0.0000 | 163.00 | No Ice | 3.31 | 2.42 | 0.08 |
| (AT&T) | | | -6.00 | | | 1/2" Ice | 3.56 | 2.64 | 0.10 |
| | | | 0.00 | | | 1" Ice | 3.81 | 2.86 | 0.14 |
| (3) RRUS-32 | B | From Leg | 2.00 | 0.0000 | 163.00 | No Ice | 3.31 | 2.42 | 0.08 |
| (AT&T) | | | -6.00 | | | 1/2" Ice | 3.56 | 2.64 | 0.10 |
| | | | 0.00 | | | 1" Ice | 3.81 | 2.86 | 0.14 |
| (3) RRUS-32 | C | From Leg | 2.00 | 0.0000 | 163.00 | No Ice | 3.31 | 2.42 | 0.08 |

| | | | | | | | | |
|--|----------------|--|---------------------------------|--|--------------------|--|-------------------|--|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | | 22007.02 - CT2143 | | Page | | 29 of 83 | |
| | Project | | 180-ft Lattice Tower #31 Wilton | | Date | | 09:32:21 04/28/22 | |
| | Client | | AT&T | | Designed by | | TJL | |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} Front | C _{AA} Side | Weight |
|---|-------------------|----------------|-----------------|--------|-----------------------|-----------|--------------------------|-------------------------|--------|
| | | | Horz Lateral | Vert | | | | | |
| (AT&T) | | | -6.00 | | | 1/2" Ice | 3.56 | 2.64 | 0.10 |
| | | | 0.00 | | | 1" Ice | 3.81 | 2.86 | 0.14 |
| DC6-48-60-18-8F Surge Arrestor (AT&T) | B | From Leg | 2.00 | 0.0000 | 163.00 | No Ice | 1.91 | 1.91 | 0.02 |
| | | | 0.00 | | | 1/2" Ice | 2.10 | 2.10 | 0.04 |
| | | | 0.00 | | | 1" Ice | 2.29 | 2.29 | 0.06 |
| DC6-48-60-18-8F Surge Arrestor (AT&T) DC9 | B | From Leg | 2.00 | 0.0000 | 163.00 | No Ice | 1.91 | 1.91 | 0.02 |
| | | | 0.00 | | | 1/2" Ice | 2.10 | 2.10 | 0.04 |
| | | | 0.00 | | | 1" Ice | 2.29 | 2.29 | 0.06 |
| (AT&T - Proposed) | | | 2.00 | 0.0000 | 163.00 | No Ice | 1.91 | 1.91 | 0.02 |
| | | | 0.00 | | | 1/2" Ice | 2.10 | 2.10 | 0.04 |
| | | | 0.00 | | | 1" Ice | 2.29 | 2.29 | 0.06 |
| 12' Wireless Frame (Sprint) | A | From Leg | 1.00 | 0.0000 | 105.00 | No Ice | 11.07 | 11.07 | 0.24 |
| | | | 0.00 | | | 1/2" Ice | 15.53 | 15.53 | 0.35 |
| | | | 0.00 | | | 1" Ice | 19.99 | 19.99 | 0.45 |
| 12' Wireless Frame (Sprint) | B | From Leg | 1.00 | 0.0000 | 105.00 | No Ice | 11.07 | 11.07 | 0.24 |
| | | | 0.00 | | | 1/2" Ice | 15.53 | 15.53 | 0.35 |
| | | | 0.00 | | | 1" Ice | 19.99 | 19.99 | 0.45 |
| 12' Wireless Frame (Sprint) | C | From Leg | 1.00 | 0.0000 | 105.00 | No Ice | 11.07 | 11.07 | 0.24 |
| | | | 0.00 | | | 1/2" Ice | 15.53 | 15.53 | 0.35 |
| | | | 0.00 | | | 1" Ice | 19.99 | 19.99 | 0.45 |
| APXVSPP18-C-A20 w/ Mount Pipe (Sprint) | A | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 8.02 | 7.23 | 0.11 |
| | | | -5.00 | | | 1/2" Ice | 8.48 | 8.19 | 0.18 |
| | | | 0.00 | | | 1" Ice | 8.94 | 9.02 | 0.26 |
| APXVSPP18-C-A20 w/ Mount Pipe (Sprint) | B | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 8.02 | 7.23 | 0.11 |
| | | | -5.00 | | | 1/2" Ice | 8.48 | 8.19 | 0.18 |
| | | | 0.00 | | | 1" Ice | 8.94 | 9.02 | 0.26 |
| APXVSPP18-C-A20 w/ Mount Pipe (Sprint) | C | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 8.02 | 7.23 | 0.11 |
| | | | -5.00 | | | 1/2" Ice | 8.48 | 8.19 | 0.18 |
| | | | 0.00 | | | 1" Ice | 8.94 | 9.02 | 0.26 |
| ALU 800MHz 2x50W (Sprint) | A | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 2.40 | 2.25 | 0.06 |
| | | | 0.00 | | | 1/2" Ice | 2.61 | 2.46 | 0.09 |
| | | | 2.50 | | | 1" Ice | 2.83 | 2.68 | 0.11 |
| ALU 800MHz 2x50W (Sprint) | B | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 2.40 | 2.25 | 0.06 |
| | | | 0.00 | | | 1/2" Ice | 2.61 | 2.46 | 0.09 |
| | | | 2.50 | | | 1" Ice | 2.83 | 2.68 | 0.11 |
| ALU 800MHz 2x50W (Sprint) | C | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 2.40 | 2.25 | 0.06 |
| | | | 0.00 | | | 1/2" Ice | 2.61 | 2.46 | 0.09 |
| | | | 2.50 | | | 1" Ice | 2.83 | 2.68 | 0.11 |
| ALU 4x45W (1900 MHz) (Sprint) | A | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 2.96 | 1.81 | 0.06 |
| | | | 0.00 | | | 1/2" Ice | 3.21 | 2.02 | 0.08 |
| | | | -2.50 | | | 1" Ice | 3.46 | 2.25 | 0.10 |
| ALU 4x45W (1900 MHz) (Sprint) | B | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 2.96 | 1.81 | 0.06 |
| | | | 0.00 | | | 1/2" Ice | 3.21 | 2.02 | 0.08 |
| | | | -2.50 | | | 1" Ice | 3.46 | 2.25 | 0.10 |
| ALU 4x45W (1900 MHz) (Sprint) | C | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 2.96 | 1.81 | 0.06 |
| | | | 0.00 | | | 1/2" Ice | 3.21 | 2.02 | 0.08 |
| | | | -2.50 | | | 1" Ice | 3.46 | 2.25 | 0.10 |
| AAHC Panel Antenna (Sprint) | A | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 4.90 | 2.40 | 0.10 |
| | | | 0.00 | | | 1/2" Ice | 5.20 | 2.63 | 0.14 |
| | | | 0.00 | | | 1" Ice | 5.51 | 2.87 | 0.17 |
| AAHC Panel Antenna (Sprint) | B | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 4.90 | 2.40 | 0.10 |
| | | | 0.00 | | | 1/2" Ice | 5.20 | 2.63 | 0.14 |
| | | | 0.00 | | | 1" Ice | 5.51 | 2.87 | 0.17 |
| AAHC Panel Antenna (Sprint) | C | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 4.90 | 2.40 | 0.10 |
| | | | 0.00 | | | 1/2" Ice | 5.20 | 2.63 | 0.14 |
| | | | 0.00 | | | 1" Ice | 5.51 | 2.87 | 0.17 |
| NNVV-65B-R4 Panel | A | From Leg | 1.50 | 0.0000 | 105.00 | No Ice | 13.72 | 5.75 | 0.09 |

| | | | | | | | | |
|--|----------------|--|---------------------------------|--|--------------------|--|-------------------|--|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | | 22007.02 - CT2143 | | Page | | 30 of 83 | |
| | Project | | 180-ft Lattice Tower #31 Wilton | | Date | | 09:32:21 04/28/22 | |
| | Client | | AT&T | | Designed by | | TJL | |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment ° | Placement ft | C _{AA} Front ft ² | C _{AA} Side ft ² | Weight K | |
|--|-------------------|----------------|------------|---------------|----------------------------|-----------------|---|--|-------------|------|
| | | | Horz ft | Lateral ft | | | | | | |
| Antenna (Sprint) | | | 5.00 | | | 1/2" Ice | 14.32 | 6.21 | 0.16 | |
| | | | 0.00 | | | 1" Ice | 14.92 | 6.67 | 0.24 | |
| NNVV-65B-R4 Panel | B | From Leg | 1.50 | | 0.0000 | 105.00 | No Ice | 13.72 | 5.75 | 0.09 |
| Antenna (Sprint) | | | 5.00 | | | 1/2" Ice | 14.32 | 6.21 | 0.16 | |
| | | | 0.00 | | | 1" Ice | 14.92 | 6.67 | 0.24 | |
| NNVV-65B-R4 Panel | C | From Leg | 1.50 | | 0.0000 | 105.00 | No Ice | 13.72 | 5.75 | 0.09 |
| Antenna (Sprint) | | | 5.00 | | | 1/2" Ice | 14.32 | 6.21 | 0.16 | |
| | | | 0.00 | | | 1" Ice | 14.92 | 6.67 | 0.24 | |
| TD-RRH8x20-25 (Sprint) | A | From Leg | 1.50 | | 0.0000 | 105.00 | No Ice | 4.72 | 1.70 | 0.07 |
| | | | 0.00 | | | 1/2" Ice | 5.01 | 1.92 | 0.10 | |
| | | | 2.50 | | | 1" Ice | 5.32 | 2.14 | 0.13 | |
| TD-RRH8x20-25 (Sprint) | B | From Leg | 1.50 | | 0.0000 | 105.00 | No Ice | 4.72 | 1.70 | 0.07 |
| | | | 0.00 | | | 1/2" Ice | 5.01 | 1.92 | 0.10 | |
| | | | 2.50 | | | 1" Ice | 5.32 | 2.14 | 0.13 | |
| TD-RRH8x20-25 (Sprint) | C | From Leg | 1.50 | | 0.0000 | 105.00 | No Ice | 4.72 | 1.70 | 0.07 |
| | | | 0.00 | | | 1/2" Ice | 5.01 | 1.92 | 0.10 | |
| | | | 2.50 | | | 1" Ice | 5.32 | 2.14 | 0.13 | |
| ** Sprint Equipment | | | | | | | | | | |
| ASM-008 | | | | | | | | | | |
| ** T-Mobile Equipment | | | | | | | | | | |
| TWM-013 | | | | | | | | | | |
| EUSF10-U w/ (2) Stiff-Arm Supports (T-Mobile) | A | From Leg | 0.50 | | 0.0000 | 122.00 | No Ice | 8.91 | 3.67 | 0.41 |
| | | | 0.00 | | | 1/2" Ice | 12.66 | 5.24 | 0.51 | |
| | | | 0.00 | | | 1" Ice | 16.41 | 6.81 | 0.61 | |
| EUSF10-U w/ (2) Stiff-Arm Supports (T-Mobile) | D | From Leg | 0.50 | | 0.0000 | 122.00 | No Ice | 8.91 | 3.67 | 0.41 |
| | | | 0.00 | | | 1/2" Ice | 12.66 | 5.24 | 0.51 | |
| | | | 0.00 | | | 1" Ice | 16.41 | 6.81 | 0.61 | |
| EUSF10-U w/ (2) Stiff-Arm Supports (T-Mobile) | B | From Leg | 0.50 | | 0.0000 | 122.00 | No Ice | 8.91 | 3.67 | 0.41 |
| | | | 0.00 | | | 1/2" Ice | 12.66 | 5.24 | 0.51 | |
| | | | 0.00 | | | 1" Ice | 16.41 | 6.81 | 0.61 | |
| RFS | A | From Leg | 4.00 | | 0.0000 | 122.00 | No Ice | 20.48 | 11.03 | 0.19 |
| APXVAARR24_43-U-NA20 Panel Antenna w/ 108" Pipe Mount (T-Mobile) | | | -3.00 | | | 1/2" Ice | 21.23 | 12.55 | 0.32 | |
| | | | 0.00 | | | 1" Ice | 21.99 | 14.10 | 0.47 | |
| RFS | B | From Leg | 4.00 | | 0.0000 | 122.00 | No Ice | 20.48 | 11.03 | 0.19 |
| APXVAARR24_43-U-NA20 Panel Antenna w/ 108" Pipe Mount (T-Mobile) | | | -3.00 | | | 1/2" Ice | 21.23 | 12.55 | 0.32 | |
| | | | 0.00 | | | 1" Ice | 21.99 | 14.10 | 0.47 | |
| RFS | D | From Leg | 4.00 | | 0.0000 | 122.00 | No Ice | 20.48 | 11.03 | 0.19 |
| APXVAARR24_43-U-NA20 Panel Antenna w/ 108" Pipe Mount (T-Mobile) | | | -3.00 | | | 1/2" Ice | 21.23 | 12.55 | 0.32 | |
| | | | 0.00 | | | 1" Ice | 21.99 | 14.10 | 0.47 | |
| Generic Twin TMA unit (T-Mobile) | A | From Leg | 4.00 | | 0.0000 | 122.00 | No Ice | 0.37 | 0.96 | 0.03 |
| | | | -3.00 | | | 1/2" Ice | 0.46 | 1.09 | 0.03 | |
| | | | 3.00 | | | 1" Ice | 0.55 | 1.22 | 0.04 | |
| Generic Twin TMA unit (T-Mobile) | B | From Leg | 4.00 | | 0.0000 | 122.00 | No Ice | 0.37 | 0.96 | 0.03 |
| | | | -3.00 | | | 1/2" Ice | 0.46 | 1.09 | 0.03 | |
| | | | 3.00 | | | 1" Ice | 0.55 | 1.22 | 0.04 | |
| Generic Twin TMA unit (T-Mobile) | D | From Leg | 4.00 | | 0.0000 | 122.00 | No Ice | 0.37 | 0.96 | 0.03 |
| | | | -3.00 | | | 1/2" Ice | 0.46 | 1.09 | 0.03 | |
| | | | 3.00 | | | 1" Ice | 0.55 | 1.22 | 0.04 | |
| Ericsson 4449 B71 + B12 Radio Unit (T-Mobile) | A | From Leg | 4.00 | | 0.0000 | 122.00 | No Ice | 1.66 | 1.16 | 0.08 |
| | | | -3.00 | | | 1/2" Ice | 1.82 | 1.29 | 0.10 | |
| | | | -3.00 | | | 1" Ice | 1.98 | 1.44 | 0.11 | |

| | | | | |
|--|----------------|---------------------------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 22007.02 - CT2143 | Page | 31 of 83 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} Front | C _{AA} Side | Weight |
|--|-------------|-------------|----------|--------|--------------------|-----------|-----------------------|----------------------|--------|
| | | | Horz | Vert | | | | | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K |
| Ericsson 4449 B71 + B12 Radio Unit (T-Mobile) | B | From Leg | 4.00 | 0.0000 | 122.00 | No Ice | 1.66 | 1.16 | 0.08 |
| | | | -3.00 | | | 1/2" Ice | 1.82 | 1.29 | 0.10 |
| | | | -3.00 | | | 1" Ice | 1.98 | 1.44 | 0.11 |
| Ericsson 4449 B71 + B12 Radio Unit (T-Mobile) | D | From Leg | 4.00 | 0.0000 | 122.00 | No Ice | 1.66 | 1.16 | 0.08 |
| | | | -3.00 | | | 1/2" Ice | 1.82 | 1.29 | 0.10 |
| | | | -3.00 | | | 1" Ice | 1.98 | 1.44 | 0.11 |
| Ericsson AIR32 B66A/B2A Panel Antenna w/ 108" Pipe Mount (T-Mobile) | A | From Leg | 4.00 | 0.0000 | 122.00 | No Ice | 7.53 | 6.85 | 0.17 |
| | | | 3.00 | | | 1/2" Ice | 8.35 | 8.13 | 0.23 |
| | | | 0.00 | | | 1" Ice | 9.18 | 9.44 | 0.31 |
| Ericsson AIR32 B66A/B2A Panel Antenna w/ 108" Pipe Mount (T-Mobile) | B | From Leg | 4.00 | 0.0000 | 122.00 | No Ice | 7.53 | 6.85 | 0.17 |
| | | | 3.00 | | | 1/2" Ice | 8.35 | 8.13 | 0.23 |
| | | | 0.00 | | | 1" Ice | 9.18 | 9.44 | 0.31 |
| Ericsson AIR32 B66A/B2A Panel Antenna w/ 108" Pipe Mount (T-Mobile) | D | From Leg | 4.00 | 0.0000 | 122.00 | No Ice | 7.53 | 6.85 | 0.17 |
| | | | 3.00 | | | 1/2" Ice | 8.35 | 8.13 | 0.23 |
| | | | 0.00 | | | 1" Ice | 9.18 | 9.44 | 0.31 |
| ** T-Mobile Equipment TWM-013 | | | | | | | | | |
| ** Eversource Proposed Equipment | | | | | | | | | |
| 871F-70-220-025 Antenna (Eversource) | A | From Leg | 4.00 | 0.0000 | 116.00 | No Ice | 0.82 | 0.82 | 0.01 |
| | | | 0.00 | | | 1/2" Ice | 1.12 | 1.12 | 0.03 |
| | | | 0.00 | | | 1" Ice | 1.41 | 1.41 | 0.04 |
| ANT220F2 w/clamps (Eversource) | B | From Leg | 4.00 | 0.0000 | 135.00 | No Ice | 0.58 | 0.58 | 0.01 |
| | | | 0.00 | | | 1/2" Ice | 0.81 | 0.81 | 0.03 |
| | | | 0.00 | | | 1" Ice | 1.04 | 1.04 | 0.04 |
| Site Pro USF-4U w/ (2) Stiff-Arm Supports (Eversource) | A | From Leg | 0.50 | 0.0000 | 116.00 | No Ice | 1.25 | 2.50 | 0.17 |
| | | | 0.00 | | | 1/2" Ice | 1.49 | 2.76 | 0.20 |
| | | | 0.00 | | | 1" Ice | 1.73 | 3.02 | 0.23 |
| Site Pro USF-4U w/ (2) Stiff-Arm Supports (Eversource) | B | From Leg | 0.50 | 0.0000 | 135.00 | No Ice | 1.25 | 2.50 | 0.17 |
| | | | 0.00 | | | 1/2" Ice | 1.49 | 2.76 | 0.20 |
| | | | 0.00 | | | 1" Ice | 1.73 | 3.02 | 0.23 |

Dishes

| Description | Face or Leg | Dish Type | Offset Type | Offsets: | | Azimuth Adjustment | 3 dB Beam Width | Elevation | Outside Diameter | Aperture Area | Weight | | |
|------------------------------------|-------------|------------------------|-------------|----------|------|--------------------|-----------------|-----------|------------------|---------------|----------|--------|-------|
| | | | | Horz | Vert | | | | | | | | |
| | | | ft | ft | ° | ° | ft | ft | ft ² | K | | | |
| 6' PAD w/ Radome (A10 / D&K-25) | A | Paraboloid w/Radome | From Leg | 0.50 | 0.00 | Worst | | 125.00 | 6.00 | No Ice | 28.27 | 0.24 | |
| | | | | 0.00 | | | | | | | 1/2" Ice | 29.07 | 0.29 |
| | | | | 0.00 | | | | | | | | 1" Ice | 29.87 |
| 6' PAD w/ Radome (A33) | B | Paraboloid w/Radome | From Leg | 1.00 | 0.00 | Worst | | 175.00 | 6.00 | No Ice | 28.27 | 0.24 | |
| | | | | 0.00 | | | | | | | 1/2" Ice | 29.07 | 0.29 |
| | | | | 0.00 | | | | | | | | 1" Ice | 29.87 |
| 6' PAD w/ Radome (A22) | A | Paraboloid w/Radome | From Leg | 0.50 | 0.00 | Worst | | 170.00 | 6.00 | No Ice | 28.27 | 0.24 | |
| | | | | 0.00 | | | | | | | 1/2" Ice | 29.07 | 0.29 |
| | | | | 0.00 | | | | | | | | 1" Ice | 29.87 |

| | | |
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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 32 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Description | Face or Leg | Dish Type | Offset Type | Offsets: Horz Lateral Vert ft | Azimuth Adjustment ° | 3 dB Beam Width ° | Elevation ft | Outside Diameter ft | Aperture Area ft ² | Weight K | |
|--------------------------------|-------------|---------------------|-------------|-------------------------------|----------------------|-------------------|--------------|---------------------|-------------------------------|----------|------|
| 6' PAD w/ Radome (A25) | C | Paraboloid w/Radome | From Leg | 0.50 | Worst | | 173.00 | 6.00 | No Ice | 28.27 | 0.24 |
| | | | | 0.00 | | | | | 1/2" Ice | 29.07 | 0.29 |
| | | | | 0.00 | | | | | 1" Ice | 29.87 | 0.34 |
| RFS SC3-100 (Town of Westport) | B | Paraboloid w/Radome | From Leg | 0.50 | Worst | | 150.00 | 3.28 | No Ice | 8.45 | 0.05 |
| | | | | 0.00 | | | | | 1/2" Ice | 8.88 | 0.10 |
| | | | | 0.00 | | | | | 1" Ice | 9.32 | 0.14 |
| RFS SC3-100 (City of Norwalk) | C | Paraboloid w/Radome | From Leg | 0.50 | Worst | | 145.00 | 3.28 | No Ice | 8.45 | 0.05 |
| | | | | 0.00 | | | | | 1/2" Ice | 8.88 | 0.10 |
| | | | | 0.00 | | | | | 1" Ice | 9.32 | 0.14 |

222-H Verification Constants

| Constant | Value |
|---------------------------------|-------|
| K _d | 0.85 |
| Ice Thickness Importance Factor | 1.15 |
| Z _g | 900 |
| α | 9.5 |
| K _{zmin} | 0.85 |
| K _c | 1 |
| K _t | 0.53 |
| f | 2 |
| K _e | 1 |

222-H Section Verification ArRr By Element

| Section Elevation ft | Elem. Num. | Size | C | C w/Ice | F a c e | e | e w/Ice | A _r ft ² | A _r w/Ice ft ² | A _r R _r ft ² | A _r R _r w/Ice ft ² |
|----------------------|------------|------|---|---------|---------|---|---------|--------------------------------|--------------------------------------|---|---|
| T1 180.00-170.00 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |
| T2 170.00-163.57 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |
| T3 163.57-159.05 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |
| T4 159.05-154.52 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |
| T5 154.52-150.00 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |
| T6 150.00-140.00 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |

tnxTower

Centek Engineering Inc.
 63-2 North Branford Rd.
 Branford, CT 06405
 Phone: (203) 488-0580
 FAX: (203) 488-8587

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|----------------|---------------------------------|--------------------|-------------------|
| Job | 22007.02 - CT2143 | Page | 33 of 83 |
| Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| Client | AT&T | Designed by | TJL |

| Section Elevation | Elem. Num. | Size | C | C w/Ice | F a c e | e | e w/Ice | A _r | A _r w/Ice | A _r R _r | A _r R _r w/Ice |
|----------------------|------------|----------------------------|---------|---------|---------|-------|---------|-----------------|----------------------|-------------------------------|-------------------------------------|
| ft | | | | | | | | ft ² | ft ² | ft ² | ft ² |
| T7 140.00-130.00 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |
| T8 130.00-120.00 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |
| T9 120.00-110.00 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |
| T10 110.00-100.00 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |
| T11 100.00-90.00 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |
| T12 90.00-80.00 | | | | | A | | Sum: | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | B | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | C | | | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | D | | | 0.000 | 0.000 | 0.000 | 0.000 |
| T13 80.00-60.00 | 220 | L8x8x1 w/ 1/2x7 Plates | 105.912 | 48.996 | D | 0.167 | 0.256 | 14.185 | 18.499 | 6.062 | 10.851 |
| | 220 | L8x8x1 w/ 1/2x7 Plates | 105.912 | 48.996 | A | 0.167 | 0.256 | 14.185 | 18.499 | 6.062 | 10.851 |
| | 221 | L8x8x1 w/ 1/2x7 Plates | 105.912 | 48.996 | D | 0.167 | 0.256 | 14.185 | 18.499 | 6.062 | 10.851 |
| | 221 | L8x8x1 w/ 1/2x7 Plates | 105.912 | 48.996 | C | 0.167 | 0.256 | 14.185 | 18.499 | 6.062 | 10.851 |
| | 222 | L8x8x1 w/ 1/2x7 Plates | 105.912 | 48.996 | C | 0.167 | 0.256 | 14.185 | 18.499 | 6.062 | 10.851 |
| | 222 | L8x8x1 w/ 1/2x7 Plates | 105.912 | 48.996 | B | 0.167 | 0.256 | 14.185 | 18.499 | 6.062 | 10.851 |
| | 223 | L8x8x1 w/ 1/2x7 Plates | 105.912 | 48.996 | B | 0.167 | 0.256 | 14.185 | 18.499 | 6.062 | 10.851 |
| | 223 | L8x8x1 w/ 1/2x7 Plates | 105.912 | 48.996 | A | 0.167 | 0.256 | 14.185 | 18.499 | 6.062 | 10.851 |
| | | | | | A | | Sum: | 28.370 | 36.999 | 12.124 | 21.701 |
| | | | | | B | | | 28.370 | 36.999 | 12.124 | 21.701 |
| | | | | | C | | | 28.370 | 36.999 | 12.124 | 21.701 |
| | | | | | D | | | 28.370 | 36.999 | 12.124 | 21.701 |
| T14 60.00-50.00 | 249 | L8x8x1-1/8 w/ 1/2x7 Plates | 106.766 | 49.385 | D | 0.163 | 0.259 | 7.092 | 9.248 | 3.018 | 5.431 |
| | 249 | L8x8x1-1/8 w/ 1/2x7 Plates | 106.766 | 49.385 | A | 0.163 | 0.259 | 7.092 | 9.248 | 3.018 | 5.431 |
| | 250 | L8x8x1-1/8 w/ 1/2x7 Plates | 106.766 | 49.385 | D | 0.163 | 0.259 | 7.092 | 9.248 | 3.018 | 5.431 |
| | 250 | L8x8x1-1/8 w/ 1/2x7 Plates | 106.766 | 49.385 | C | 0.163 | 0.259 | 7.092 | 9.248 | 3.018 | 5.431 |
| | 251 | L8x8x1-1/8 w/ 1/2x7 Plates | 106.766 | 49.385 | C | 0.163 | 0.259 | 7.092 | 9.248 | 3.018 | 5.431 |
| | 251 | L8x8x1-1/8 w/ 1/2x7 Plates | 106.766 | 49.385 | B | 0.163 | 0.259 | 7.092 | 9.248 | 3.018 | 5.431 |
| | 252 | L8x8x1-1/8 w/ 1/2x7 Plates | 106.766 | 49.385 | B | 0.163 | 0.259 | 7.092 | 9.248 | 3.018 | 5.431 |
| | 252 | L8x8x1-1/8 w/ 1/2x7 Plates | 106.766 | 49.385 | A | 0.163 | 0.259 | 7.092 | 9.248 | 3.018 | 5.431 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 34 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation <i>ft</i> | Elem. Num. | Size | C | C w/Ice | F a c e | e | e w/Ice | A _r <i>ft</i> ² | A _r w/Ice <i>ft</i> ² | A _r R _r <i>ft</i> ² | A _r R _r w/Ice <i>ft</i> ² | | | | |
|--------------------------------|------------|----------------------------|---------|---------|---------|-------|---------|--|--|---|---|--------|--------|-------|--------|
| T15 50.00-40.00 | 270 | L8x8x1-1/8 w/ 1/2x7 Plates | 107.883 | 49.918 | A | 0.17 | 0.264 | 14.185 | 18.496 | 6.035 | 10.862 | | | | |
| | | | | | B | | | | | | | | | | |
| | | | | | C | | | | | | | | | | |
| | | | | | D | | | | | | | | | | |
| | 271 | L8x8x1-1/8 w/ 1/2x7 Plates | 107.883 | 49.918 | A | 0.17 | 0.264 | 7.092 | 9.252 | 3.042 | 5.446 | | | | |
| | | | | | D | | | | | | | | | | |
| | | | | | C | | | | | | | | | | |
| | | | | | B | | | | | | | | | | |
| T16 40.00-30.00 | 272 | L8x8x1-1/8 w/ 1/2x7 Plates | 107.883 | 49.918 | C | 0.17 | 0.264 | 7.092 | 9.252 | 3.042 | 5.446 | | | | |
| | | | | | B | | | | | | | | | | |
| | | | | | A | | | | | | | | | | |
| | | | | | Sum: | | | | | | | 14.185 | 18.505 | 6.084 | 10.892 |
| | 273 | L8x8x1-1/8 w/ 1/2x7 Plates | 107.883 | 49.918 | B | 0.17 | 0.264 | 7.092 | 9.252 | 3.042 | 5.446 | | | | |
| | | | | | A | | | | | | | | | | |
| | | | | | Sum: | | | | | | | 14.185 | 18.505 | 6.084 | 10.892 |
| | | | | | D | | | | | | | | | | |
| T17 30.00-20.00 | A | Sum: | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | | | |
| | | | | | | | | | | | | B | | | |
| | | | | | | | | | | | | C | | | |
| | | | | | | | | | | | | D | | | |
| T18 20.00-10.00 | A | Sum: | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | | | |
| | | | | | | | | | | | | B | | | |
| | | | | | | | | | | | | C | | | |
| | | | | | | | | | | | | D | | | |
| T19 10.00-0.00 | A | Sum: | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | | | |
| | | | | | | | | | | | | B | | | |
| | | | | | | | | | | | | C | | | |
| | | | | | | | | | | | | D | | | |

222-H Section Verification Tables - No Ice

| Section Elevation <i>ft</i> | z _{wind} <i>ft</i> | z _{ice} <i>ft</i> | K _z | K _h | K _{zr} | t _z <i>in</i> | q _z <i>psf</i> | F a c e | e | A _r R _r <i>ft</i> ² |
|--------------------------------|--------------------------------|-------------------------------|----------------|----------------|-----------------|-----------------------------|------------------------------|---------|-------|---|
| T1 180.00-170.00 | 175.00 | | 1.424 | 218.026 | 1.005 | | 53 | A | 0.203 | 0.000 |
| T2 170.00-163.57 | 166.79 | | 1.41 | 169.337 | 1.006 | | 52 | B | 0.203 | 0.000 |
| | | | | | | | | C | 0.203 | 0.000 |
| | | | | | | | | D | 0.203 | 0.000 |
| | | | | | | | | A | 0.245 | 0.000 |
| | | | | | | | | B | 0.245 | 0.000 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 35 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation | z_{wind} | z_{ice} | K_z | K_h | K_{st} | t_z | q_z | F a c e | e | $A_s R_r$ |
|----------------------|------------|-----------|-------|---------|----------|-------|-------|--------------------------|-------|-----------------|
| ft | ft | ft | | | | in | psf | | | ft ² |
| T3 163.57-159.05 | 161.31 | | 1.4 | 143.081 | 1.007 | | 52 | C | 0.245 | 0.000 |
| | | | | | | | | D | 0.245 | 0.000 |
| | | | | | | | | A | 0.246 | 0.000 |
| | | | | | | | | B | 0.246 | 0.000 |
| T4 159.05-154.52 | 156.79 | | 1.391 | 124.487 | 1.009 | | 52 | C | 0.246 | 0.000 |
| | | | | | | | | D | 0.246 | 0.000 |
| | | | | | | | | A | 0.227 | 0.000 |
| | | | | | | | | B | 0.227 | 0.000 |
| T5 154.52-150.00 | 152.26 | | 1.383 | 108.309 | 1.01 | | 51 | C | 0.227 | 0.000 |
| | | | | | | | | D | 0.227 | 0.000 |
| | | | | | | | | A | 0.22 | 0.000 |
| | | | | | | | | B | 0.22 | 0.000 |
| T6 150.00-140.00 | 145.00 | | 1.369 | 86.621 | 1.012 | | 51 | C | 0.22 | 0.000 |
| | | | | | | | | D | 0.22 | 0.000 |
| | | | | | | | | A | 0.222 | 0.000 |
| | | | | | | | | B | 0.222 | 0.000 |
| T7 140.00-130.00 | 135.00 | | 1.348 | 63.678 | 1.017 | | 50 | C | 0.222 | 0.000 |
| | | | | | | | | D | 0.222 | 0.000 |
| | | | | | | | | A | 0.229 | 0.000 |
| | | | | | | | | B | 0.229 | 0.000 |
| T8 130.00-120.00 | 125.00 | | 1.326 | 46.813 | 1.023 | | 50 | C | 0.229 | 0.000 |
| | | | | | | | | D | 0.229 | 0.000 |
| | | | | | | | | A | 0.198 | 0.000 |
| | | | | | | | | B | 0.198 | 0.000 |
| T9 120.00-110.00 | 115.00 | | 1.303 | 34.414 | 1.031 | | 49 | C | 0.198 | 0.000 |
| | | | | | | | | D | 0.198 | 0.000 |
| | | | | | | | | A | 0.205 | 0.000 |
| | | | | | | | | B | 0.205 | 0.000 |
| T10 110.00-100.00 | 105.00 | | 1.279 | 25.299 | 1.042 | | 49 | C | 0.205 | 0.000 |
| | | | | | | | | D | 0.205 | 0.000 |
| | | | | | | | | A | 0.188 | 0.000 |
| | | | | | | | | B | 0.188 | 0.000 |
| T11 100.00-90.00 | 95.00 | | 1.252 | 18.598 | 1.058 | | 49 | C | 0.188 | 0.000 |
| | | | | | | | | D | 0.188 | 0.000 |
| | | | | | | | | A | 0.211 | 0.000 |
| | | | | | | | | B | 0.211 | 0.000 |
| T12 90.00-80.00 | 85.00 | | 1.223 | 13.672 | 1.079 | | 49 | C | 0.211 | 0.000 |
| | | | | | | | | D | 0.211 | 0.000 |
| | | | | | | | | A | 0.203 | 0.000 |
| | | | | | | | | B | 0.203 | 0.000 |
| T13 80.00-60.00 | 70.00 | | 1.174 | 8.618 | 1.127 | | 49 | C | 0.203 | 0.000 |
| | | | | | | | | D | 0.203 | 0.000 |
| | | | | | | | | A | 0.167 | 12.124 |
| | | | | | | | | B | 0.167 | 12.124 |
| T14 60.00-50.00 | 55.00 | | 1.116 | 5.432 | 1.205 | | 49 | C | 0.167 | 12.124 |
| | | | | | | | | D | 0.167 | 12.124 |
| | | | | | | | | A | 0.163 | 6.035 |
| | | | | | | | | B | 0.163 | 6.035 |
| T15 50.00-40.00 | 45.00 | | 1.07 | 3.993 | 1.283 | | 50 | C | 0.163 | 6.035 |
| | | | | | | | | D | 0.163 | 6.035 |
| | | | | | | | | A | 0.17 | 6.084 |
| | | | | | | | | B | 0.17 | 6.084 |
| T16 40.00-30.00 | 35.00 | | 1.015 | 2.936 | 1.394 | | 52 | C | 0.17 | 6.084 |
| | | | | | | | | D | 0.17 | 6.084 |
| | | | | | | | | A | 0.175 | 0.000 |
| | | | | | | | | B | 0.175 | 0.000 |
| T17 30.00-20.00 | 25.00 | | 0.945 | 2.158 | 1.551 | | 54 | C | 0.175 | 0.000 |
| | | | | | | | | A | 0.156 | 0.000 |
| | | | | | | | | B | 0.156 | 0.000 |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation ft | z_{wind} ft | z_{ice} ft | K_z | K_h | K_{st} | t_z in | q_z psf | F a c e | e | A,R_r ft ² |
|-------------------------|------------------|-----------------|-------|-------|----------|-------------|--------------|------------------|-------|----------------------------|
| T18 20.00-10.00 | 15.00 | | 0.85 | 1.587 | 1.78 | | 56 | C | 0.156 | 0.000 |
| | | | | | | | | D | 0.156 | 0.000 |
| | | | | | | | | A | 0.167 | 0.000 |
| | | | | | | | | B | 0.167 | 0.000 |
| T19 10.00-0.00 | 5.00 | | 0.85 | 1.166 | 2.115 | | 66 | C | 0.167 | 0.000 |
| | | | | | | | | D | 0.167 | 0.000 |
| | | | | | | | | A | 0.16 | 0.000 |
| | | | | | | | | B | 0.16 | 0.000 |
| | | | | | | | | C | 0.16 | 0.000 |
| | | | | | | | | D | 0.16 | 0.000 |

222-H Section Verification Tables - Ice

| Section Elevation ft | z_{wind} ft | z_{ice} ft | K_z | K_h | K_{st} | t_z in | q_z psf | F a c e | e | A,R_r ft ² |
|-------------------------|------------------|-----------------|-------|---------|----------|-------------|--------------|------------------|-------|----------------------------|
| T1 180.00-170.00 | 175.00 | 175.00 | 1.424 | 218.026 | 1.005 | 1.3611 | 8 | A | 0.388 | 7.765 |
| | | | | | | | | B | 0.388 | 7.765 |
| | | | | | | | | C | 0.388 | 7.765 |
| | | | | | | | | D | 0.388 | 7.765 |
| T2 170.00-163.57 | 166.79 | 166.79 | 1.41 | 169.337 | 1.006 | 1.3552 | 8 | A | 0.429 | 5.185 |
| | | | | | | | | B | 0.429 | 5.185 |
| | | | | | | | | C | 0.429 | 5.185 |
| | | | | | | | | D | 0.429 | 5.185 |
| T3 163.57-159.05 | 161.31 | 161.31 | 1.4 | 143.081 | 1.007 | 1.3513 | 8 | A | 0.457 | 4.351 |
| | | | | | | | | B | 0.457 | 4.351 |
| | | | | | | | | C | 0.457 | 4.351 |
| | | | | | | | | D | 0.457 | 4.351 |
| T4 159.05-154.52 | 156.79 | 156.79 | 1.391 | 124.487 | 1.009 | 1.3479 | 8 | A | 0.392 | 3.422 |
| | | | | | | | | B | 0.392 | 3.422 |
| | | | | | | | | C | 0.392 | 3.422 |
| | | | | | | | | D | 0.392 | 3.422 |
| T5 154.52-150.00 | 152.26 | 152.26 | 1.383 | 108.309 | 1.01 | 1.3446 | 8 | A | 0.381 | 3.463 |
| | | | | | | | | B | 0.381 | 3.463 |
| | | | | | | | | C | 0.381 | 3.463 |
| | | | | | | | | D | 0.381 | 3.463 |
| T6 150.00-140.00 | 145.00 | 145.00 | 1.369 | 86.621 | 1.012 | 1.3392 | 8 | A | 0.389 | 8.520 |
| | | | | | | | | B | 0.389 | 8.520 |
| | | | | | | | | C | 0.389 | 8.520 |
| | | | | | | | | D | 0.389 | 8.520 |
| T7 140.00-130.00 | 135.00 | 135.00 | 1.348 | 63.678 | 1.017 | 1.3317 | 7 | A | 0.378 | 8.323 |
| | | | | | | | | B | 0.378 | 8.323 |
| | | | | | | | | C | 0.378 | 8.323 |
| | | | | | | | | D | 0.378 | 8.323 |
| T8 130.00-120.00 | 125.00 | 125.00 | 1.326 | 46.813 | 1.023 | 1.3242 | 7 | A | 0.322 | 7.255 |
| | | | | | | | | B | 0.322 | 7.255 |
| | | | | | | | | C | 0.322 | 7.255 |
| | | | | | | | | D | 0.322 | 7.255 |
| T9 120.00-110.00 | 115.00 | 115.00 | 1.303 | 34.414 | 1.031 | 1.3169 | 7 | A | 0.342 | 8.681 |
| | | | | | | | | B | 0.342 | 8.681 |
| | | | | | | | | C | 0.342 | 8.681 |
| | | | | | | | | D | 0.342 | 8.681 |
| T10 110.00-100.00 | 105.00 | 105.00 | 1.279 | 25.299 | 1.042 | 1.3100 | 7 | A | 0.302 | 7.537 |
| | | | | | | | | B | 0.302 | 7.537 |
| | | | | | | | | C | 0.302 | 7.537 |
| | | | | | | | | D | 0.302 | 7.537 |

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|--|----------------|---------------------------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 22007.02 - CT2143 | Page | 37 of 83 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Section Elevation | z_{wind} | z_{ice} | K_z | K_h | K_{st} | t_z | q_z | F a c e | e | $A_s R_r$ |
|----------------------|------------|-----------|-------|--------|----------|--------|-------|--------------------------|----------------------------------|--------------------------------------|
| ft | ft | ft | | | | in | psf | | | ft ² |
| T11 100.00-90.00 | 95.00 | 95.00 | 1.252 | 18.598 | 1.058 | 1.3036 | 7 | A B C D | 0.318 0.318 0.318 0.318 | 7.727 7.727 7.727 7.727 |
| T12 90.00-80.00 | 85.00 | 85.00 | 1.223 | 13.672 | 1.079 | 1.2982 | 7 | A B C D | 0.307 0.307 0.307 0.307 | 7.924 7.924 7.924 7.924 |
| T13 80.00-60.00 | 70.00 | 70.00 | 1.174 | 8.618 | 1.127 | 1.2927 | 7 | A B C D | 0.256 0.256 0.256 0.256 | 31.108 31.108 31.108 31.108 |
| T14 60.00-50.00 | 55.00 | 55.00 | 1.116 | 5.432 | 1.205 | 1.2918 | 7 | A B C D | 0.259 0.259 0.259 0.259 | 16.676 16.676 16.676 16.676 |
| T15 50.00-40.00 | 45.00 | 45.00 | 1.07 | 3.993 | 1.283 | 1.2944 | 7 | A B C D | 0.264 0.264 0.264 0.264 | 17.013 17.013 17.013 17.013 |
| T16 40.00-30.00 | 35.00 | 35.00 | 1.015 | 2.936 | 1.394 | 1.2993 | 8 | A B C D | 0.288 0.288 0.288 0.288 | 10.876 10.876 10.876 10.876 |
| T17 30.00-20.00 | 25.00 | 25.00 | 0.945 | 2.158 | 1.551 | 1.3044 | 8 | A B C D | 0.248 0.248 0.248 0.248 | 9.161 9.161 9.161 9.161 |
| T18 20.00-10.00 | 15.00 | 15.00 | 0.85 | 1.587 | 1.78 | 1.3004 | 8 | A B C D | 0.278 0.278 0.278 0.278 | 11.507 11.507 11.507 11.507 |
| T19 10.00-0.00 | 5.00 | 5.00 | 0.85 | 1.166 | 2.115 | 1.2377 | 10 | A B C D | 0.262 0.262 0.262 0.262 | 10.998 10.998 10.998 10.998 |

222-H Section Verification Tables - Service

| Section Elevation | z_{wind} | z_{ice} | K_z | K_h | K_{st} | t_z | q_z | F a c e | e | $A_s R_r$ |
|----------------------|------------|-----------|-------|---------|----------|-------|-------|--------------------------|----------------------------------|----------------------------------|
| ft | ft | ft | | | | in | psf | | | ft ² |
| T1 180.00-170.00 | 175.00 | | 1.424 | 218.026 | 1.005 | | 11 | A B C D | 0.203 0.203 0.203 0.203 | 0.000 0.000 0.000 0.000 |
| T2 170.00-163.57 | 166.79 | | 1.41 | 169.337 | 1.006 | | 11 | A B C D | 0.245 0.245 0.245 0.245 | 0.000 0.000 0.000 0.000 |
| T3 163.57-159.05 | 161.31 | | 1.4 | 143.081 | 1.007 | | 11 | A B C D | 0.246 0.246 0.246 0.246 | 0.000 0.000 0.000 0.000 |
| T4 159.05-154.52 | 156.79 | | 1.391 | 124.487 | 1.009 | | 11 | A B | 0.227 0.227 | 0.000 0.000 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 38 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation | z_{wind} | z_{ice} | K_z | K_h | K_{st} | t_z | q_z | F a c e | e | $A_r R_r$ |
|----------------------|------------|-----------|-------|---------|----------|-------|-------|--------------------------|-------|-----------------|
| ft | ft | ft | | | | in | psf | | | ft ² |
| T5 154.52-150.00 | 152.26 | | 1.383 | 108.309 | 1.01 | | 11 | C | 0.227 | 0.000 |
| | | | | | | | | D | 0.227 | 0.000 |
| | | | | | | | | A | 0.22 | 0.000 |
| | | | | | | | | B | 0.22 | 0.000 |
| T6 150.00-140.00 | 145.00 | | 1.369 | 86.621 | 1.012 | | 11 | C | 0.22 | 0.000 |
| | | | | | | | | D | 0.22 | 0.000 |
| | | | | | | | | A | 0.222 | 0.000 |
| | | | | | | | | B | 0.222 | 0.000 |
| T7 140.00-130.00 | 135.00 | | 1.348 | 63.678 | 1.017 | | 11 | C | 0.222 | 0.000 |
| | | | | | | | | D | 0.222 | 0.000 |
| | | | | | | | | A | 0.229 | 0.000 |
| | | | | | | | | B | 0.229 | 0.000 |
| T8 130.00-120.00 | 125.00 | | 1.326 | 46.813 | 1.023 | | 11 | C | 0.229 | 0.000 |
| | | | | | | | | D | 0.229 | 0.000 |
| | | | | | | | | A | 0.198 | 0.000 |
| | | | | | | | | B | 0.198 | 0.000 |
| T9 120.00-110.00 | 115.00 | | 1.303 | 34.414 | 1.031 | | 11 | C | 0.198 | 0.000 |
| | | | | | | | | D | 0.198 | 0.000 |
| | | | | | | | | A | 0.205 | 0.000 |
| | | | | | | | | B | 0.205 | 0.000 |
| T10 110.00-100.00 | 105.00 | | 1.279 | 25.299 | 1.042 | | 10 | C | 0.205 | 0.000 |
| | | | | | | | | D | 0.205 | 0.000 |
| | | | | | | | | A | 0.188 | 0.000 |
| | | | | | | | | B | 0.188 | 0.000 |
| T11 100.00-90.00 | 95.00 | | 1.252 | 18.598 | 1.058 | | 10 | C | 0.188 | 0.000 |
| | | | | | | | | D | 0.188 | 0.000 |
| | | | | | | | | A | 0.211 | 0.000 |
| | | | | | | | | B | 0.211 | 0.000 |
| T12 90.00-80.00 | 85.00 | | 1.223 | 13.672 | 1.079 | | 10 | C | 0.211 | 0.000 |
| | | | | | | | | D | 0.211 | 0.000 |
| | | | | | | | | A | 0.203 | 0.000 |
| | | | | | | | | B | 0.203 | 0.000 |
| T13 80.00-60.00 | 70.00 | | 1.174 | 8.618 | 1.127 | | 10 | C | 0.203 | 0.000 |
| | | | | | | | | D | 0.203 | 0.000 |
| | | | | | | | | A | 0.167 | 15.134 |
| | | | | | | | | B | 0.167 | 15.134 |
| T14 60.00-50.00 | 55.00 | | 1.116 | 5.432 | 1.205 | | 11 | C | 0.167 | 15.134 |
| | | | | | | | | D | 0.167 | 15.134 |
| | | | | | | | | A | 0.163 | 7.535 |
| | | | | | | | | B | 0.163 | 7.535 |
| T15 50.00-40.00 | 45.00 | | 1.07 | 3.993 | 1.283 | | 11 | C | 0.163 | 7.535 |
| | | | | | | | | D | 0.163 | 7.535 |
| | | | | | | | | A | 0.17 | 7.530 |
| | | | | | | | | B | 0.17 | 7.530 |
| T16 40.00-30.00 | 35.00 | | 1.015 | 2.936 | 1.394 | | 11 | C | 0.17 | 7.530 |
| | | | | | | | | D | 0.17 | 7.530 |
| | | | | | | | | A | 0.175 | 0.000 |
| | | | | | | | | B | 0.175 | 0.000 |
| T17 30.00-20.00 | 25.00 | | 0.945 | 2.158 | 1.551 | | 11 | C | 0.175 | 0.000 |
| | | | | | | | | D | 0.175 | 0.000 |
| | | | | | | | | A | 0.156 | 0.000 |
| | | | | | | | | B | 0.156 | 0.000 |
| T18 20.00-10.00 | 15.00 | | 0.85 | 1.587 | 1.78 | | 12 | C | 0.156 | 0.000 |
| | | | | | | | | D | 0.156 | 0.000 |
| | | | | | | | | A | 0.167 | 0.000 |
| | | | | | | | | B | 0.167 | 0.000 |
| T19 10.00-0.00 | 5.00 | | 0.85 | 1.166 | 2.115 | | 14 | C | 0.167 | 0.000 |
| | | | | | | | | D | 0.167 | 0.000 |
| | | | | | | | | A | 0.16 | 0.000 |
| | | | | | | | | B | 0.16 | 0.000 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 39 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation | z_{wind} | z_{ice} | K_z | K_h | K_{st} | t_z | q_z | F_{ac} | e | A_{Rr} |
|-------------------|------------|-----------|-------|-------|----------|-------|-------|----------|------|-----------------|
| ft | ft | ft | | | | in | psf | | | ft ² |
| | | | | | | | | C | 0.16 | 0.000 |
| | | | | | | | | D | 0.16 | 0.000 |

Tower Pressures - No Ice

$G_H = 0.850$

| Section Elevation | z | K_z | q_z | A_G | F_{ac} | A_F | A_R | A_{leg} | Leg % | C_{AA} In Face | C_{AA} Out Face |
|----------------------|--------|-------|-------|-----------------|--|--|----------------------------------|-----------------|----------------------------------|-------------------------------------|----------------------------------|
| ft | ft | | psf | ft ² | ft ² | ft ² | ft ² | ft ² | | ft ² | ft ² |
| T1 180.00-170.00 | 175.00 | 1.424 | 53 | 61.674 | A 12.491 B 12.491 C 12.491 D 12.491 | 12.491 0.000 0.000 0.000 0.000 | 0.000 0.000 0.000 0.000 | 5.833 | 46.70 46.70 46.70 46.70 | 0.000 0.000 0.000 18.723 | 0.000 0.000 0.000 0.000 |
| T2 170.00-163.57 | 166.79 | 1.41 | 52 | 40.022 | A 9.811 B 9.811 C 9.811 D 9.811 | 9.811 0.000 0.000 0.000 0.000 | 0.000 0.000 0.000 0.000 | 5.356 | 54.59 54.59 54.59 54.59 | 0.000 0.000 0.000 20.790 | 0.000 0.000 0.000 0.000 |
| T3 163.57-159.05 | 161.31 | 1.4 | 52 | 28.908 | A 7.122 B 7.122 C 7.122 D 7.122 | 7.122 0.000 0.000 0.000 0.000 | 0.000 0.000 0.000 0.000 | 3.775 | 53.00 53.00 53.00 53.00 | 0.000 0.000 6.275 15.129 | 0.000 0.000 0.000 0.000 |
| T4 159.05-154.52 | 156.79 | 1.391 | 52 | 30.376 | A 6.903 B 6.903 C 6.903 D 6.903 | 6.903 0.000 0.000 0.000 0.000 | 0.000 0.000 0.000 0.000 | 3.775 | 54.69 54.69 54.69 54.69 | 0.000 0.000 7.185 15.400 | 0.000 0.000 0.000 0.000 |
| T5 154.52-150.00 | 152.26 | 1.383 | 51 | 31.844 | A 7.011 B 7.011 C 7.011 D 7.011 | 7.011 0.000 0.000 0.000 0.000 | 0.000 0.000 0.000 0.000 | 3.775 | 53.84 53.84 53.84 53.84 | 0.000 0.000 7.185 15.400 | 0.000 0.000 0.000 0.000 |
| T6 150.00-140.00 | 145.00 | 1.369 | 51 | 75.634 | A 16.767 B 16.767 C 16.767 D 16.767 | 16.767 0.000 0.000 0.000 0.000 | 0.000 0.000 0.000 0.000 | 8.344 | 49.76 49.76 49.76 49.76 | 0.000 0.000 15.880 36.456 | 0.000 0.000 0.000 0.000 |
| T7 140.00-130.00 | 135.00 | 1.348 | 50 | 83.296 | A 19.034 B 19.034 C 19.034 D 19.034 | 19.034 0.000 0.000 0.000 0.000 | 0.000 0.000 0.000 0.000 | 10.013 | 52.61 52.61 52.61 52.61 | 0.000 0.000 15.880 39.342 | 0.000 0.000 0.000 0.000 |
| T8 130.00-120.00 | 125.00 | 1.326 | 50 | 90.466 | A 17.878 B 17.878 C 17.878 D 17.878 | 17.878 0.000 0.000 0.000 0.000 | 0.000 0.000 0.000 0.000 | 10.013 | 56.01 56.01 56.01 56.01 | 10.086 0.000 15.880 40.661 | 0.000 0.000 0.000 0.000 |
| T9 120.00-110.00 | 115.00 | 1.303 | 49 | 97.774 | A 20.028 B 20.028 C 20.028 D 20.028 | 20.028 0.000 0.000 0.000 0.000 | 0.000 0.000 0.000 0.000 | 10.013 | 49.99 49.99 49.99 49.99 | 16.810 0.000 15.880 43.313 | 0.000 0.000 0.000 0.000 |
| T10 110.00-100.00 | 105.00 | 1.279 | 49 | 104.945 | A 19.757 B 19.757 C 19.757 D 19.757 | 19.757 0.000 0.000 0.000 0.000 | 0.000 0.000 0.000 0.000 | 10.013 | 50.68 50.68 50.68 50.68 | 20.799 0.000 15.880 46.919 | 0.000 0.000 0.000 0.000 |
| T11 100.00-90.00 | 95.00 | 1.252 | 49 | 112.984 | A 23.837 B 23.837 C 23.837 D 23.837 | 23.837 0.000 0.000 0.000 0.000 | 0.000 0.000 0.000 0.000 | 13.350 | 56.01 56.01 56.01 56.01 | 23.458 0.000 15.880 48.401 | 0.000 0.000 0.000 0.000 |
| T12 | 85.00 | 1.223 | 49 | 120.155 | A | 24.365 | 0.000 | 13.350 | 54.79 | 23.458 | 0.000 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 40 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation ft | z ft | K _Z | q _z psf | A _G ft ² | F a c e | A _F ft ² | A _R ft ² | A _{leg} ft ² | Leg % | C _{AA} In Face ft ² | C _{AA} Out Face ft ² |
|-------------------------|---------|----------------|-----------------------|-----------------------------------|------------------|-----------------------------------|-----------------------------------|-------------------------------------|----------|--|---|
| 90.00-80.00 | | | | | B | 24.365 | 0.000 | | 54.79 | 0.000 | 0.000 |
| | | | | | C | 24.365 | 0.000 | | 54.79 | 15.880 | 0.000 |
| | | | | | D | 24.365 | 0.000 | | 54.79 | 48.956 | 0.000 |
| T13 80.00-60.00 | 70.00 | 1.174 | 49 | 263.233 | A | 15.507 | 28.370 | 28.370 | 64.66 | 46.916 | 0.000 |
| | | | | | B | 15.507 | 28.370 | | 64.66 | 0.000 | 0.000 |
| | | | | | C | 15.507 | 28.370 | | 64.66 | 31.760 | 0.000 |
| | | | | | D | 15.507 | 28.370 | | 64.66 | 99.892 | 0.000 |
| T14 60.00-50.00 | 55.00 | 1.116 | 49 | 142.444 | A | 9.050 | 14.185 | 14.185 | 61.05 | 23.458 | 0.000 |
| | | | | | B | 9.050 | 14.185 | | 61.05 | 0.000 | 0.000 |
| | | | | | C | 9.050 | 14.185 | | 61.05 | 15.880 | 0.000 |
| | | | | | D | 9.050 | 14.185 | | 61.05 | 50.439 | 0.000 |
| T15 50.00-40.00 | 45.00 | 1.07 | 50 | 149.614 | A | 11.192 | 14.185 | 14.185 | 55.90 | 23.458 | 0.000 |
| | | | | | B | 11.192 | 14.185 | | 55.90 | 0.000 | 0.000 |
| | | | | | C | 11.192 | 14.185 | | 55.90 | 15.880 | 0.000 |
| | | | | | D | 11.192 | 14.185 | | 55.90 | 51.077 | 0.000 |
| T16 40.00-30.00 | 35.00 | 1.015 | 52 | 156.196 | A | 27.374 | 0.000 | 13.350 | 48.77 | 23.458 | 0.000 |
| | | | | | B | 27.374 | 0.000 | | 48.77 | 0.000 | 0.000 |
| | | | | | C | 27.374 | 0.000 | | 48.77 | 15.880 | 0.000 |
| | | | | | D | 27.374 | 0.000 | | 48.77 | 51.251 | 0.000 |
| T17 30.00-20.00 | 25.00 | 0.945 | 54 | 163.366 | A | 25.467 | 0.000 | 13.350 | 52.42 | 23.458 | 0.000 |
| | | | | | B | 25.467 | 0.000 | | 52.42 | 0.000 | 0.000 |
| | | | | | C | 25.467 | 0.000 | | 52.42 | 15.880 | 0.000 |
| | | | | | D | 25.467 | 0.000 | | 52.42 | 51.251 | 0.000 |
| T18 20.00-10.00 | 15.00 | 0.85 | 56 | 170.539 | A | 28.533 | 0.000 | 13.350 | 46.79 | 23.458 | 0.000 |
| | | | | | B | 28.533 | 0.000 | | 46.79 | 0.000 | 0.000 |
| | | | | | C | 28.533 | 0.000 | | 46.79 | 15.880 | 0.000 |
| | | | | | D | 28.533 | 0.000 | | 46.79 | 51.251 | 0.000 |
| T19 10.00-0.00 | 5.00 | 0.85 | 66 | 177.715 | A | 28.435 | 0.000 | 13.350 | 46.95 | 9.383 | 0.000 |
| | | | | | B | 28.435 | 0.000 | | 46.95 | 0.000 | 0.000 |
| | | | | | C | 28.435 | 0.000 | | 46.95 | 6.352 | 0.000 |
| | | | | | D | 28.435 | 0.000 | | 46.95 | 20.500 | 0.000 |

Tower Pressure - With Ice

$$G_H = 0.850$$

| Section Elevation ft | z ft | K _Z | q _z psf | t _z in | A _G ft ² | F a c e | A _F ft ² | A _R ft ² | A _{leg} ft ² | Leg % | C _{AA} In Face ft ² | C _{AA} Out Face ft ² |
|-------------------------|---------|----------------|-----------------------|----------------------|-----------------------------------|------------------|-----------------------------------|-----------------------------------|-------------------------------------|----------|--|---|
| T1 180.00-170.00 | 175.00 | 1.424 | 8 | 1.3611 | 63.942 | A | 12.491 | 12.305 | 10.370 | 41.82 | 0.000 | 0.000 |
| | | | | | | B | 12.491 | 12.305 | | 41.82 | 0.000 | 0.000 |
| | | | | | | C | 12.491 | 12.305 | | 41.82 | 0.000 | 0.000 |
| | | | | | | D | 12.491 | 12.305 | | 41.82 | 48.584 | 0.000 |
| T2 170.00-163.57 | 166.79 | 1.41 | 8 | 1.3552 | 41.473 | A | 9.811 | 7.986 | 8.259 | 46.41 | 0.000 | 0.000 |
| | | | | | | B | 9.811 | 7.986 | | 46.41 | 0.000 | 0.000 |
| | | | | | | C | 9.811 | 7.986 | | 46.41 | 0.000 | 0.000 |
| | | | | | | D | 9.811 | 7.986 | | 46.41 | 52.648 | 0.000 |
| T3 163.57-159.05 | 161.31 | 1.4 | 8 | 1.3513 | 29.928 | A | 7.122 | 6.563 | 5.816 | 42.49 | 0.000 | 0.000 |
| | | | | | | B | 7.122 | 6.563 | | 42.49 | 0.000 | 0.000 |
| | | | | | | C | 7.122 | 6.563 | | 42.49 | 18.369 | 0.000 |
| | | | | | | D | 7.122 | 6.563 | | 42.49 | 38.841 | 0.000 |
| T4 159.05-154.52 | 156.79 | 1.391 | 8 | 1.3479 | 31.393 | A | 6.903 | 5.408 | 5.811 | 47.20 | 0.000 | 0.000 |
| | | | | | | B | 6.903 | 5.408 | | 47.20 | 0.000 | 0.000 |
| | | | | | | C | 6.903 | 5.408 | | 47.20 | 21.018 | 0.000 |
| | | | | | | D | 6.903 | 5.408 | | 47.20 | 40.193 | 0.000 |

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|----------------|---------------------------------|--------------------|-------------------|
| Job | 22007.02 - CT2143 | Page | 41 of 83 |
| Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| Client | AT&T | Designed by | TJL |

| Section Elevation ft | z ft | K _Z | q _z psf | t _z in | A _G ft ² | F a c e | A _F ft ² | A _R ft ² | A _{leg} ft ² | Leg % | C _{AA} In Face ft ² | C _{AA} Out Face ft ² |
|-------------------------|---------|----------------|-----------------------|----------------------|-----------------------------------|---------|-----------------------------------|-----------------------------------|-------------------------------------|-------|---|--|
| T5 154.52-150.00 | 152.26 | 1.383 | 8 | 1.3446 | 32.858 | A | 7.011 | 5.512 | 5.806 | 46.36 | 0.000 | 0.000 |
| | | | | | | B | 7.011 | 5.512 | | 46.36 | 0.000 | 0.000 |
| | | | | | | C | 7.011 | 5.512 | | 46.36 | 21.003 | 0.000 |
| | | | | | | D | 7.011 | 5.512 | | 46.36 | 40.154 | 0.000 |
| T6 150.00-140.00 | 145.00 | 1.369 | 8 | 1.3392 | 77.867 | A | 16.767 | 13.494 | 12.814 | 42.34 | 0.000 | 0.000 |
| | | | | | | B | 16.767 | 13.494 | | 42.34 | 0.000 | 0.000 |
| | | | | | | C | 16.767 | 13.494 | | 42.34 | 46.369 | 0.000 |
| | | | | | | D | 16.767 | 13.494 | | 42.34 | 97.455 | 0.000 |
| T7 140.00-130.00 | 135.00 | 1.348 | 7 | 1.3317 | 85.516 | A | 19.034 | 13.276 | 14.457 | 44.75 | 0.000 | 0.000 |
| | | | | | | B | 19.034 | 13.276 | | 44.75 | 0.000 | 0.000 |
| | | | | | | C | 19.034 | 13.276 | | 44.75 | 46.294 | 0.000 |
| | | | | | | D | 19.034 | 13.276 | | 44.75 | 108.341 | 0.000 |
| T8 130.00-120.00 | 125.00 | 1.326 | 7 | 1.3242 | 92.674 | A | 17.878 | 11.970 | 14.433 | 48.35 | 27.688 | 0.000 |
| | | | | | | B | 17.878 | 11.970 | | 48.35 | 0.000 | 0.000 |
| | | | | | | C | 17.878 | 11.970 | | 48.35 | 46.220 | 0.000 |
| | | | | | | D | 17.878 | 11.970 | | 48.35 | 110.720 | 0.000 |
| T9 120.00-110.00 | 115.00 | 1.303 | 7 | 1.3169 | 99.970 | A | 20.028 | 14.160 | 14.408 | 42.14 | 46.086 | 0.000 |
| | | | | | | B | 20.028 | 14.160 | | 42.14 | 0.000 | 0.000 |
| | | | | | | C | 20.028 | 14.160 | | 42.14 | 46.148 | 0.000 |
| | | | | | | D | 20.028 | 14.160 | | 42.14 | 118.371 | 0.000 |
| T10 110.00-100.00 | 105.00 | 1.279 | 7 | 1.3100 | 107.129 | A | 19.757 | 12.573 | 14.385 | 44.50 | 59.300 | 0.000 |
| | | | | | | B | 19.757 | 12.573 | | 44.50 | 0.000 | 0.000 |
| | | | | | | C | 19.757 | 12.573 | | 44.50 | 46.079 | 0.000 |
| | | | | | | D | 19.757 | 12.573 | | 44.50 | 130.095 | 0.000 |
| T11 100.00-90.00 | 95.00 | 1.252 | 7 | 1.3036 | 115.158 | A | 23.837 | 12.777 | 17.702 | 48.35 | 68.053 | 0.000 |
| | | | | | | B | 23.837 | 12.777 | | 48.35 | 0.000 | 0.000 |
| | | | | | | C | 23.837 | 12.777 | | 48.35 | 46.016 | 0.000 |
| | | | | | | D | 23.837 | 12.777 | | 48.35 | 134.692 | 0.000 |
| T12 90.00-80.00 | 85.00 | 1.223 | 7 | 1.2982 | 122.320 | A | 24.365 | 13.182 | 17.683 | 47.10 | 67.972 | 0.000 |
| | | | | | | B | 24.365 | 13.182 | | 47.10 | 0.000 | 0.000 |
| | | | | | | C | 24.365 | 13.182 | | 47.10 | 45.962 | 0.000 |
| | | | | | | D | 24.365 | 13.182 | | 47.10 | 136.294 | 0.000 |
| T13 80.00-60.00 | 70.00 | 1.174 | 7 | 1.2927 | 267.545 | A | 15.507 | 53.036 | 36.999 | 53.98 | 135.780 | 0.000 |
| | | | | | | B | 15.507 | 53.036 | | 53.98 | 0.000 | 0.000 |
| | | | | | | C | 15.507 | 53.036 | | 53.98 | 91.814 | 0.000 |
| | | | | | | D | 15.507 | 53.036 | | 53.98 | 280.509 | 0.000 |
| T14 60.00-50.00 | 55.00 | 1.116 | 7 | 1.2918 | 144.598 | A | 9.050 | 28.396 | 18.496 | 49.39 | 67.876 | 0.000 |
| | | | | | | B | 9.050 | 28.396 | | 49.39 | 0.000 | 0.000 |
| | | | | | | C | 9.050 | 28.396 | | 49.39 | 45.898 | 0.000 |
| | | | | | | D | 9.050 | 28.396 | | 49.39 | 142.897 | 0.000 |
| T15 50.00-40.00 | 45.00 | 1.07 | 7 | 1.2944 | 151.773 | A | 11.192 | 28.904 | 18.505 | 46.15 | 67.915 | 0.000 |
| | | | | | | B | 11.192 | 28.904 | | 46.15 | 0.000 | 0.000 |
| | | | | | | C | 11.192 | 28.904 | | 46.15 | 45.923 | 0.000 |
| | | | | | | D | 11.192 | 28.904 | | 46.15 | 146.516 | 0.000 |
| T16 40.00-30.00 | 35.00 | 1.015 | 8 | 1.2993 | 158.363 | A | 27.374 | 18.268 | 17.687 | 38.75 | 67.988 | 0.000 |
| | | | | | | B | 27.374 | 18.268 | | 38.75 | 0.000 | 0.000 |
| | | | | | | C | 27.374 | 18.268 | | 38.75 | 45.972 | 0.000 |
| | | | | | | D | 27.374 | 18.268 | | 38.75 | 147.735 | 0.000 |
| T17 30.00-20.00 | 25.00 | 0.945 | 8 | 1.3044 | 165.542 | A | 25.467 | 15.670 | 17.704 | 43.04 | 68.064 | 0.000 |
| | | | | | | B | 25.467 | 15.670 | | 43.04 | 0.000 | 0.000 |
| | | | | | | C | 25.467 | 15.670 | | 43.04 | 46.023 | 0.000 |
| | | | | | | D | 25.467 | 15.670 | | 43.04 | 148.011 | 0.000 |
| T18 20.00-10.00 | 15.00 | 0.85 | 8 | 1.3004 | 172.708 | A | 28.533 | 19.427 | 17.691 | 36.89 | 68.005 | 0.000 |
| | | | | | | B | 28.533 | 19.427 | | 36.89 | 0.000 | 0.000 |
| | | | | | | C | 28.533 | 19.427 | | 36.89 | 45.983 | 0.000 |
| | | | | | | D | 28.533 | 19.427 | | 36.89 | 147.795 | 0.000 |
| T19 10.00-0.00 | 5.00 | 0.85 | 10 | 1.2377 | 179.779 | A | 28.435 | 18.702 | 17.482 | 37.09 | 26.829 | 0.000 |
| | | | | | | B | 28.435 | 18.702 | | 37.09 | 0.000 | 0.000 |
| | | | | | | C | 28.435 | 18.702 | | 37.09 | 18.144 | 0.000 |
| | | | | | | D | 28.435 | 18.702 | | 37.09 | 57.756 | 0.000 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 42 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

Tower Pressure - Service

$G_H = 0.850$

| Section Elevation | z | K _Z | q _z | A _G | F a c e | A _F | A _R | A _{Ieg} | Leg % | C _A A _A In Face ft ² | C _A A _A Out Face ft ² |
|----------------------|--------|----------------|----------------|-----------------|------------------|-----------------|-----------------|------------------|----------|--|---|
| ft | ft | | psf | ft ² | | ft ² | ft ² | ft ² | | | |
| T1 180.00-170.00 | 175.00 | 1.424 | 11 | 61.674 | A | 12.491 | 0.000 | 5.833 | 46.70 | 0.000 | 0.000 |
| | | | | | B | 12.491 | 0.000 | | 46.70 | 0.000 | 0.000 |
| | | | | | C | 12.491 | 0.000 | | 46.70 | 0.000 | 0.000 |
| | | | | | D | 12.491 | 0.000 | | 46.70 | 18.723 | 0.000 |
| T2 170.00-163.57 | 166.79 | 1.41 | 11 | 40.022 | A | 9.811 | 0.000 | 5.356 | 54.59 | 0.000 | 0.000 |
| | | | | | B | 9.811 | 0.000 | | 54.59 | 0.000 | 0.000 |
| | | | | | C | 9.811 | 0.000 | | 54.59 | 0.000 | 0.000 |
| | | | | | D | 9.811 | 0.000 | | 54.59 | 20.790 | 0.000 |
| T3 163.57-159.05 | 161.31 | 1.4 | 11 | 28.908 | A | 7.122 | 0.000 | 3.775 | 53.00 | 0.000 | 0.000 |
| | | | | | B | 7.122 | 0.000 | | 53.00 | 0.000 | 0.000 |
| | | | | | C | 7.122 | 0.000 | | 53.00 | 6.275 | 0.000 |
| | | | | | D | 7.122 | 0.000 | | 53.00 | 15.129 | 0.000 |
| T4 159.05-154.52 | 156.79 | 1.391 | 11 | 30.376 | A | 6.903 | 0.000 | 3.775 | 54.69 | 0.000 | 0.000 |
| | | | | | B | 6.903 | 0.000 | | 54.69 | 0.000 | 0.000 |
| | | | | | C | 6.903 | 0.000 | | 54.69 | 7.185 | 0.000 |
| | | | | | D | 6.903 | 0.000 | | 54.69 | 15.400 | 0.000 |
| T5 154.52-150.00 | 152.26 | 1.383 | 11 | 31.844 | A | 7.011 | 0.000 | 3.775 | 53.84 | 0.000 | 0.000 |
| | | | | | B | 7.011 | 0.000 | | 53.84 | 0.000 | 0.000 |
| | | | | | C | 7.011 | 0.000 | | 53.84 | 7.185 | 0.000 |
| | | | | | D | 7.011 | 0.000 | | 53.84 | 15.400 | 0.000 |
| T6 150.00-140.00 | 145.00 | 1.369 | 11 | 75.634 | A | 16.767 | 0.000 | 8.344 | 49.76 | 0.000 | 0.000 |
| | | | | | B | 16.767 | 0.000 | | 49.76 | 0.000 | 0.000 |
| | | | | | C | 16.767 | 0.000 | | 49.76 | 15.880 | 0.000 |
| | | | | | D | 16.767 | 0.000 | | 49.76 | 36.456 | 0.000 |
| T7 140.00-130.00 | 135.00 | 1.348 | 11 | 83.296 | A | 19.034 | 0.000 | 10.013 | 52.61 | 0.000 | 0.000 |
| | | | | | B | 19.034 | 0.000 | | 52.61 | 0.000 | 0.000 |
| | | | | | C | 19.034 | 0.000 | | 52.61 | 15.880 | 0.000 |
| | | | | | D | 19.034 | 0.000 | | 52.61 | 39.342 | 0.000 |
| T8 130.00-120.00 | 125.00 | 1.326 | 11 | 90.466 | A | 17.878 | 0.000 | 10.013 | 56.01 | 10.086 | 0.000 |
| | | | | | B | 17.878 | 0.000 | | 56.01 | 0.000 | 0.000 |
| | | | | | C | 17.878 | 0.000 | | 56.01 | 15.880 | 0.000 |
| | | | | | D | 17.878 | 0.000 | | 56.01 | 40.661 | 0.000 |
| T9 120.00-110.00 | 115.00 | 1.303 | 11 | 97.774 | A | 20.028 | 0.000 | 10.013 | 49.99 | 16.810 | 0.000 |
| | | | | | B | 20.028 | 0.000 | | 49.99 | 0.000 | 0.000 |
| | | | | | C | 20.028 | 0.000 | | 49.99 | 15.880 | 0.000 |
| | | | | | D | 20.028 | 0.000 | | 49.99 | 43.313 | 0.000 |
| T10 110.00-100.00 | 105.00 | 1.279 | 10 | 104.945 | A | 19.757 | 0.000 | 10.013 | 50.68 | 20.799 | 0.000 |
| | | | | | B | 19.757 | 0.000 | | 50.68 | 0.000 | 0.000 |
| | | | | | C | 19.757 | 0.000 | | 50.68 | 15.880 | 0.000 |
| | | | | | D | 19.757 | 0.000 | | 50.68 | 46.919 | 0.000 |
| T11 100.00-90.00 | 95.00 | 1.252 | 10 | 112.984 | A | 23.837 | 0.000 | 13.350 | 56.01 | 23.458 | 0.000 |
| | | | | | B | 23.837 | 0.000 | | 56.01 | 0.000 | 0.000 |
| | | | | | C | 23.837 | 0.000 | | 56.01 | 15.880 | 0.000 |
| | | | | | D | 23.837 | 0.000 | | 56.01 | 48.401 | 0.000 |
| T12 90.00-80.00 | 85.00 | 1.223 | 10 | 120.155 | A | 24.365 | 0.000 | 13.350 | 54.79 | 23.458 | 0.000 |
| | | | | | B | 24.365 | 0.000 | | 54.79 | 0.000 | 0.000 |
| | | | | | C | 24.365 | 0.000 | | 54.79 | 15.880 | 0.000 |
| | | | | | D | 24.365 | 0.000 | | 54.79 | 48.956 | 0.000 |
| T13 80.00-60.00 | 70.00 | 1.174 | 10 | 263.233 | A | 15.507 | 28.370 | 28.370 | 64.66 | 46.916 | 0.000 |
| | | | | | B | 15.507 | 28.370 | | 64.66 | 0.000 | 0.000 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 43 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation ft | z ft | K _Z | q _z psf | A _G ft ² | F a c e | A _F ft ² | A _R ft ² | A _{leg} ft ² | Leg % | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | |
|-------------------------|---------|----------------|-----------------------|-----------------------------------|--------------------|-----------------------------------|-----------------------------------|-------------------------------------|----------|--|---|--------|
| T14 60.00-50.00 | 55.00 | 1.116 | 11 | 142.444 | C | 15.507 | 28.370 | 14.185 | 64.66 | 31.760 | 0.000 | |
| | | | | | D | 15.507 | 28.370 | | | 99.892 | 0.000 | |
| | | | | | A | 9.050 | 14.185 | | | 61.05 | 23.458 | 0.000 |
| | | | | | B | 9.050 | 14.185 | | | 61.05 | 0.000 | 0.000 |
| | | | | | C | 9.050 | 14.185 | | | 61.05 | 15.880 | 0.000 |
| T15 50.00-40.00 | 45.00 | 1.07 | 11 | 149.614 | D | 9.050 | 14.185 | 14.185 | 55.90 | 50.439 | 0.000 | |
| | | | | | A | 11.192 | 14.185 | | | 23.458 | 0.000 | |
| | | | | | B | 11.192 | 14.185 | | | 55.90 | 0.000 | 0.000 |
| | | | | | C | 11.192 | 14.185 | | | 55.90 | 15.880 | 0.000 |
| | | | | | D | 11.192 | 14.185 | | | 55.90 | 51.077 | 0.000 |
| T16 40.00-30.00 | 35.00 | 1.015 | 11 | 156.196 | A | 27.374 | 0.000 | 13.350 | 48.77 | 23.458 | 0.000 | |
| | | | | | B | 27.374 | 0.000 | | | 48.77 | 0.000 | 0.000 |
| | | | | | C | 27.374 | 0.000 | | | 48.77 | 15.880 | 0.000 |
| | | | | | D | 27.374 | 0.000 | | | 48.77 | 51.251 | 0.000 |
| | | | | | T17 30.00-20.00 | 25.00 | 0.945 | | | 11 | 163.366 | A |
| B | 25.467 | 0.000 | 52.42 | 0.000 | 0.000 | | | | | | | |
| C | 25.467 | 0.000 | 52.42 | 15.880 | 0.000 | | | | | | | |
| D | 25.467 | 0.000 | 52.42 | 51.251 | 0.000 | | | | | | | |
| T18 20.00-10.00 | 15.00 | 0.85 | 12 | 170.539 | A | | | 28.533 | 0.000 | | | 13.350 |
| B | | | | | 28.533 | 0.000 | 46.79 | 0.000 | 0.000 | | | |
| C | | | | | 28.533 | 0.000 | 46.79 | 15.880 | 0.000 | | | |
| D | | | | | 28.533 | 0.000 | 46.79 | 51.251 | 0.000 | | | |
| T19 10.00-0.00 | | | | | 5.00 | 0.85 | 14 | 177.715 | A | 28.435 | 0.000 | |
| B | 28.435 | 0.000 | 46.95 | 0.000 | | | | | 0.000 | | | |
| C | 28.435 | 0.000 | 46.95 | 6.352 | | | | | 0.000 | | | |
| D | 28.435 | 0.000 | 46.95 | 20.500 | | | | | 0.000 | | | |

Tower Forces - No Ice - Wind Normal To Face

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|------------------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|--------|----------|---------------|
| T1 180.00-170.00 | 0.09 | 0.75 | A | 0.203 | 2.969 | 53 | 1 | 1 | 12.491 | 2.17 | 217.16 | D |
| | | | B | 0.203 | 2.969 | 1 | 1 | 12.491 | | | | |
| | | | C | 0.203 | 2.969 | 1 | 1 | 12.491 | | | | |
| | | | D | 0.203 | 2.969 | 1 | 1 | 12.491 | | | | |
| T2 170.00-163.57 | 0.09 | 0.54 | A | 0.245 | 2.794 | 52 | 1 | 1 | 9.811 | 1.77 | 276.18 | D |
| | | | B | 0.245 | 2.794 | 1 | 1 | 9.811 | | | | |
| | | | C | 0.245 | 2.794 | 1 | 1 | 9.811 | | | | |
| | | | D | 0.245 | 2.794 | 1 | 1 | 9.811 | | | | |
| T3 163.57-159.05 | 0.11 | 0.39 | A | 0.246 | 2.789 | 52 | 1 | 1 | 7.122 | 1.45 | 319.87 | D |
| | | | B | 0.246 | 2.789 | 1 | 1 | 7.122 | | | | |
| | | | C | 0.246 | 2.789 | 1 | 1 | 7.122 | | | | |
| | | | D | 0.246 | 2.789 | 1 | 1 | 7.122 | | | | |
| T4 159.05-154.52 | 0.11 | 0.36 | A | 0.227 | 2.866 | 52 | 1 | 1 | 6.903 | 1.47 | 325.17 | D |
| | | | B | 0.227 | 2.866 | 1 | 1 | 6.903 | | | | |
| | | | C | 0.227 | 2.866 | 1 | 1 | 6.903 | | | | |
| | | | D | 0.227 | 2.866 | 1 | 1 | 6.903 | | | | |
| T5 154.52-150.00 | 0.11 | 0.37 | A | 0.22 | 2.895 | 51 | 1 | 1 | 7.011 | 1.49 | 328.55 | D |
| | | | B | 0.22 | 2.895 | 1 | 1 | 7.011 | | | | |
| | | | C | 0.22 | 2.895 | 1 | 1 | 7.011 | | | | |
| | | | D | 0.22 | 2.895 | 1 | 1 | 7.011 | | | | |
| T6 150.00-140.00 | 0.26 | 0.97 | A | 0.222 | 2.889 | 51 | 1 | 1 | 16.767 | 3.48 | 347.74 | D |
| | | | B | 0.222 | 2.889 | 1 | 1 | 16.767 | | | | |
| | | | C | 0.222 | 2.889 | 1 | 1 | 16.767 | | | | |
| | | | D | 0.222 | 2.889 | 1 | 1 | 16.767 | | | | |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 44 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|--------|----------|------------|
| T7 140.00-130.00 | 0.27 | 1.53 | A | 0.229 | 2.861 | 50 | 1 | 1 | 19.034 | 3.77 | 377.24 | D |
| | | | B | 0.229 | 2.861 | | 1 | 1 | 19.034 | | | |
| | | | C | 0.229 | 2.861 | | 1 | 1 | 19.034 | | | |
| | | | D | 0.229 | 2.861 | | 1 | 1 | 19.034 | | | |
| T8 130.00-120.00 | 0.34 | 1.43 | A | 0.198 | 2.99 | 50 | 1 | 1 | 17.878 | 3.98 | 398.21 | D |
| | | | B | 0.198 | 2.99 | | 1 | 1 | 17.878 | | | |
| | | | C | 0.198 | 2.99 | | 1 | 1 | 17.878 | | | |
| | | | D | 0.198 | 2.99 | | 1 | 1 | 17.878 | | | |
| T9 120.00-110.00 | 0.39 | 2.05 | A | 0.205 | 2.959 | 49 | 1 | 1 | 20.028 | 4.42 | 442.48 | D |
| | | | B | 0.205 | 2.959 | | 1 | 1 | 20.028 | | | |
| | | | C | 0.205 | 2.959 | | 1 | 1 | 20.028 | | | |
| | | | D | 0.205 | 2.959 | | 1 | 1 | 20.028 | | | |
| T10 110.00-100.00 | 0.44 | 1.91 | A | 0.188 | 3.031 | 49 | 1 | 1 | 19.757 | 4.60 | 460.39 | D |
| | | | B | 0.188 | 3.031 | | 1 | 1 | 19.757 | | | |
| | | | C | 0.188 | 3.031 | | 1 | 1 | 19.757 | | | |
| | | | D | 0.188 | 3.031 | | 1 | 1 | 19.757 | | | |
| T11 100.00-90.00 | 0.47 | 2.50 | A | 0.211 | 2.933 | 49 | 1 | 1 | 23.837 | 5.09 | 509.32 | D |
| | | | B | 0.211 | 2.933 | | 1 | 1 | 23.837 | | | |
| | | | C | 0.211 | 2.933 | | 1 | 1 | 23.837 | | | |
| | | | D | 0.211 | 2.933 | | 1 | 1 | 23.837 | | | |
| T12 90.00-80.00 | 0.47 | 2.43 | A | 0.203 | 2.968 | 49 | 1 | 1 | 24.365 | 5.19 | 518.78 | D |
| | | | B | 0.203 | 2.968 | | 1 | 1 | 24.365 | | | |
| | | | C | 0.203 | 2.968 | | 1 | 1 | 24.365 | | | |
| | | | D | 0.203 | 2.968 | | 1 | 1 | 24.365 | | | |
| T13 80.00-60.00 | 0.96 | 7.96 | A | 0.167 | 3.128 | 49 | 1 | 1 | 27.632 | 8.04 | 402.13 | D |
| | | | B | 0.167 | 3.128 | | 1 | 1 | 27.632 | | | |
| | | | C | 0.167 | 3.128 | | 1 | 1 | 27.632 | | | |
| | | | D | 0.167 | 3.128 | | 1 | 1 | 27.632 | | | |
| T14 60.00-50.00 | 0.48 | 4.57 | A | 0.163 | 3.144 | 49 | 1 | 1 | 15.085 | 4.28 | 427.61 | D |
| | | | B | 0.163 | 3.144 | | 1 | 1 | 15.085 | | | |
| | | | C | 0.163 | 3.144 | | 1 | 1 | 15.085 | | | |
| | | | D | 0.163 | 3.144 | | 1 | 1 | 15.085 | | | |
| T15 50.00-40.00 | 0.48 | 5.12 | A | 0.17 | 3.114 | 50 | 1 | 1 | 17.276 | 4.66 | 465.59 | D |
| | | | B | 0.17 | 3.114 | | 1 | 1 | 17.276 | | | |
| | | | C | 0.17 | 3.114 | | 1 | 1 | 17.276 | | | |
| | | | D | 0.17 | 3.114 | | 1 | 1 | 17.276 | | | |
| T16 40.00-30.00 | 0.48 | 4.78 | A | 0.175 | 3.089 | 52 | 1 | 1 | 27.374 | 6.16 | 616.06 | D |
| | | | B | 0.175 | 3.089 | | 1 | 1 | 27.374 | | | |
| | | | C | 0.175 | 3.089 | | 1 | 1 | 27.374 | | | |
| | | | D | 0.175 | 3.089 | | 1 | 1 | 27.374 | | | |
| T17 30.00-20.00 | 0.48 | 4.27 | A | 0.156 | 3.177 | 54 | 1 | 1 | 25.467 | 6.22 | 622.25 | D |
| | | | B | 0.156 | 3.177 | | 1 | 1 | 25.467 | | | |
| | | | C | 0.156 | 3.177 | | 1 | 1 | 25.467 | | | |
| | | | D | 0.156 | 3.177 | | 1 | 1 | 25.467 | | | |
| T18 20.00-10.00 | 0.48 | 5.02 | A | 0.167 | 3.125 | 56 | 1 | 1 | 28.533 | 6.81 | 680.83 | D |
| | | | B | 0.167 | 3.125 | | 1 | 1 | 28.533 | | | |
| | | | C | 0.167 | 3.125 | | 1 | 1 | 28.533 | | | |
| | | | D | 0.167 | 3.125 | | 1 | 1 | 28.533 | | | |
| T19 10.00-0.00 | 0.19 | 4.90 | A | 0.16 | 3.158 | 66 | 1 | 1 | 28.435 | 6.28 | 627.99 | D |
| | | | B | 0.16 | 3.158 | | 1 | 1 | 28.435 | | | |
| | | | C | 0.16 | 3.158 | | 1 | 1 | 28.435 | | | |
| | | | D | 0.16 | 3.158 | | 1 | 1 | 28.435 | | | |
| Sum Weight: | 6.70 | 51.85 | | | | | | OTM | 6307.22 kip-ft | 81.34 | | |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 45 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

Tower Forces - No Ice - Wind 45 To Face

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|--------|----------|------------|
| T1 180.00-170.00 | 0.09 | 0.75 | A | 0.203 | 2.969 | 53 | 1.152 | 1.152 | 14.389 | 2.42 | 242.35 | D |
| | | | B | 0.203 | 2.969 | | 1.152 | 1.152 | 14.389 | | | |
| | | | C | 0.203 | 2.969 | | 1.152 | 1.152 | 14.389 | | | |
| | | | D | 0.203 | 2.969 | | 1.152 | 1.152 | 14.389 | | | |
| T2 170.00-163.57 | 0.09 | 0.54 | A | 0.245 | 2.794 | 52 | 1.184 | 1.184 | 11.615 | 2.00 | 310.95 | D |
| | | | B | 0.245 | 2.794 | | 1.184 | 1.184 | 11.615 | | | |
| | | | C | 0.245 | 2.794 | | 1.184 | 1.184 | 11.615 | | | |
| | | | D | 0.245 | 2.794 | | 1.184 | 1.184 | 11.615 | | | |
| T3 163.57-159.05 | 0.11 | 0.39 | A | 0.246 | 2.789 | 52 | 1.185 | 1.185 | 8.438 | 1.61 | 355.63 | D |
| | | | B | 0.246 | 2.789 | | 1.185 | 1.185 | 8.438 | | | |
| | | | C | 0.246 | 2.789 | | 1.185 | 1.185 | 8.438 | | | |
| | | | D | 0.246 | 2.789 | | 1.185 | 1.185 | 8.438 | | | |
| T4 159.05-154.52 | 0.11 | 0.36 | A | 0.227 | 2.866 | 52 | 1.17 | 1.17 | 8.079 | 1.62 | 357.85 | D |
| | | | B | 0.227 | 2.866 | | 1.17 | 1.17 | 8.079 | | | |
| | | | C | 0.227 | 2.866 | | 1.17 | 1.17 | 8.079 | | | |
| | | | D | 0.227 | 2.866 | | 1.17 | 1.17 | 8.079 | | | |
| T5 154.52-150.00 | 0.11 | 0.37 | A | 0.22 | 2.895 | 51 | 1.165 | 1.165 | 8.169 | 1.63 | 360.89 | D |
| | | | B | 0.22 | 2.895 | | 1.165 | 1.165 | 8.169 | | | |
| | | | C | 0.22 | 2.895 | | 1.165 | 1.165 | 8.169 | | | |
| | | | D | 0.22 | 2.895 | | 1.165 | 1.165 | 8.169 | | | |
| T6 150.00-140.00 | 0.26 | 0.97 | A | 0.222 | 2.889 | 51 | 1.166 | 1.166 | 19.555 | 3.83 | 382.61 | D |
| | | | B | 0.222 | 2.889 | | 1.166 | 1.166 | 19.555 | | | |
| | | | C | 0.222 | 2.889 | | 1.166 | 1.166 | 19.555 | | | |
| | | | D | 0.222 | 2.889 | | 1.166 | 1.166 | 19.555 | | | |
| T7 140.00-130.00 | 0.27 | 1.53 | A | 0.229 | 2.861 | 50 | 1.171 | 1.171 | 22.296 | 4.17 | 417.22 | D |
| | | | B | 0.229 | 2.861 | | 1.171 | 1.171 | 22.296 | | | |
| | | | C | 0.229 | 2.861 | | 1.171 | 1.171 | 22.296 | | | |
| | | | D | 0.229 | 2.861 | | 1.171 | 1.171 | 22.296 | | | |
| T8 130.00-120.00 | 0.34 | 1.43 | A | 0.198 | 2.99 | 50 | 1.148 | 1.148 | 20.527 | 4.32 | 431.81 | D |
| | | | B | 0.198 | 2.99 | | 1.148 | 1.148 | 20.527 | | | |
| | | | C | 0.198 | 2.99 | | 1.148 | 1.148 | 20.527 | | | |
| | | | D | 0.198 | 2.99 | | 1.148 | 1.148 | 20.527 | | | |
| T9 120.00-110.00 | 0.39 | 2.05 | A | 0.205 | 2.959 | 49 | 1.154 | 1.154 | 23.105 | 4.81 | 480.73 | D |
| | | | B | 0.205 | 2.959 | | 1.154 | 1.154 | 23.105 | | | |
| | | | C | 0.205 | 2.959 | | 1.154 | 1.154 | 23.105 | | | |
| | | | D | 0.205 | 2.959 | | 1.154 | 1.154 | 23.105 | | | |
| T10 110.00-100.00 | 0.44 | 1.91 | A | 0.188 | 3.031 | 49 | 1.141 | 1.141 | 22.546 | 4.96 | 495.61 | D |
| | | | B | 0.188 | 3.031 | | 1.141 | 1.141 | 22.546 | | | |
| | | | C | 0.188 | 3.031 | | 1.141 | 1.141 | 22.546 | | | |
| | | | D | 0.188 | 3.031 | | 1.141 | 1.141 | 22.546 | | | |
| T11 100.00-90.00 | 0.47 | 2.50 | A | 0.211 | 2.933 | 49 | 1.158 | 1.158 | 27.609 | 5.55 | 555.12 | D |
| | | | B | 0.211 | 2.933 | | 1.158 | 1.158 | 27.609 | | | |
| | | | C | 0.211 | 2.933 | | 1.158 | 1.158 | 27.609 | | | |
| | | | D | 0.211 | 2.933 | | 1.158 | 1.158 | 27.609 | | | |
| T12 90.00-80.00 | 0.47 | 2.43 | A | 0.203 | 2.968 | 49 | 1.152 | 1.152 | 28.071 | 5.64 | 564.15 | D |
| | | | B | 0.203 | 2.968 | | 1.152 | 1.152 | 28.071 | | | |
| | | | C | 0.203 | 2.968 | | 1.152 | 1.152 | 28.071 | | | |
| | | | D | 0.203 | 2.968 | | 1.152 | 1.152 | 28.071 | | | |
| T13 80.00-60.00 | 0.96 | 7.96 | A | 0.167 | 3.128 | 49 | 1.125 | 1.125 | 31.086 | 8.49 | 424.47 | D |
| | | | B | 0.167 | 3.128 | | 1.125 | 1.125 | 31.086 | | | |
| | | | C | 0.167 | 3.128 | | 1.125 | 1.125 | 31.086 | | | |
| | | | D | 0.167 | 3.128 | | 1.125 | 1.125 | 31.086 | | | |
| T14 60.00-50.00 | 0.48 | 4.57 | A | 0.163 | 3.144 | 49 | 1.122 | 1.122 | 16.931 | 4.52 | 451.99 | D |
| | | | B | 0.163 | 3.144 | | 1.122 | 1.122 | 16.931 | | | |
| | | | C | 0.163 | 3.144 | | 1.122 | 1.122 | 16.931 | | | |
| | | | D | 0.163 | 3.144 | | 1.122 | 1.122 | 16.931 | | | |
| T15 | 0.48 | 5.12 | A | 0.17 | 3.114 | 50 | 1.127 | 1.127 | 19.474 | 4.95 | 494.95 | D |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 46 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|--------|----------|------------|
| 50.00-40.00 | | | B | 0.17 | 3.114 | | 1.127 | 1.127 | 19.474 | | | |
| | | | C | 0.17 | 3.114 | | 1.127 | 1.127 | 19.474 | | | |
| | | | D | 0.17 | 3.114 | | 1.127 | 1.127 | 19.474 | | | |
| T16 40.00-30.00 | 0.48 | 4.78 | A | 0.175 | 3.089 | 52 | 1.131 | 1.131 | 30.972 | 6.65 | 665.18 | D |
| | | | B | 0.175 | 3.089 | | 1.131 | 1.131 | 30.972 | | | |
| | | | C | 0.175 | 3.089 | | 1.131 | 1.131 | 30.972 | | | |
| | | | D | 0.175 | 3.089 | | 1.131 | 1.131 | 30.972 | | | |
| T17 30.00-20.00 | 0.48 | 4.27 | A | 0.156 | 3.177 | 54 | 1.117 | 1.117 | 28.444 | 6.66 | 665.62 | D |
| | | | B | 0.156 | 3.177 | | 1.117 | 1.117 | 28.444 | | | |
| | | | C | 0.156 | 3.177 | | 1.117 | 1.117 | 28.444 | | | |
| | | | D | 0.156 | 3.177 | | 1.117 | 1.117 | 28.444 | | | |
| T18 20.00-10.00 | 0.48 | 5.02 | A | 0.167 | 3.125 | 56 | 1.125 | 1.125 | 32.114 | 7.34 | 733.73 | D |
| | | | B | 0.167 | 3.125 | | 1.125 | 1.125 | 32.114 | | | |
| | | | C | 0.167 | 3.125 | | 1.125 | 1.125 | 32.114 | | | |
| | | | D | 0.167 | 3.125 | | 1.125 | 1.125 | 32.114 | | | |
| T19 10.00-0.00 | 0.19 | 4.90 | A | 0.16 | 3.158 | 66 | 1.12 | 1.12 | 31.847 | 6.89 | 688.57 | D |
| | | | B | 0.16 | 3.158 | | 1.12 | 1.12 | 31.847 | | | |
| | | | C | 0.16 | 3.158 | | 1.12 | 1.12 | 31.847 | | | |
| | | | D | 0.16 | 3.158 | | 1.12 | 1.12 | 31.847 | | | |
| Sum Weight: | 6.70 | 51.85 | | | | | | OTM | 6866.63 kip-ft | 88.05 | | |

Tower Forces - With Ice - Wind Normal To Face

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|--------|----------|------------|
| T1 180.00-170.00 | 0.63 | 2.25 | A | 0.388 | 2.314 | 8 | 1 | 1 | 20.256 | 0.51 | 51.16 | D |
| | | | B | 0.388 | 2.314 | | 1 | 1 | 20.256 | | | |
| | | | C | 0.388 | 2.314 | | 1 | 1 | 20.256 | | | |
| | | | D | 0.388 | 2.314 | | 1 | 1 | 20.256 | | | |
| T2 170.00-163.57 | 0.66 | 1.61 | A | 0.429 | 2.205 | 8 | 1 | 1 | 14.996 | 0.42 | 65.34 | D |
| | | | B | 0.429 | 2.205 | | 1 | 1 | 14.996 | | | |
| | | | C | 0.429 | 2.205 | | 1 | 1 | 14.996 | | | |
| | | | D | 0.429 | 2.205 | | 1 | 1 | 14.996 | | | |
| T3 163.57-159.05 | 0.71 | 1.21 | A | 0.457 | 2.138 | 8 | 1 | 1 | 11.473 | 0.37 | 81.29 | D |
| | | | B | 0.457 | 2.138 | | 1 | 1 | 11.473 | | | |
| | | | C | 0.457 | 2.138 | | 1 | 1 | 11.473 | | | |
| | | | D | 0.457 | 2.138 | | 1 | 1 | 11.473 | | | |
| T4 159.05-154.52 | 0.76 | 1.06 | A | 0.392 | 2.301 | 8 | 1 | 1 | 10.325 | 0.40 | 88.45 | D |
| | | | B | 0.392 | 2.301 | | 1 | 1 | 10.325 | | | |
| | | | C | 0.392 | 2.301 | | 1 | 1 | 10.325 | | | |
| | | | D | 0.392 | 2.301 | | 1 | 1 | 10.325 | | | |
| T5 154.52-150.00 | 0.76 | 1.08 | A | 0.381 | 2.332 | 8 | 1 | 1 | 10.474 | 0.40 | 88.92 | D |
| | | | B | 0.381 | 2.332 | | 1 | 1 | 10.474 | | | |
| | | | C | 0.381 | 2.332 | | 1 | 1 | 10.474 | | | |
| | | | D | 0.381 | 2.332 | | 1 | 1 | 10.474 | | | |
| T6 150.00-140.00 | 1.77 | 2.75 | A | 0.389 | 2.311 | 8 | 1 | 1 | 25.287 | 0.94 | 94.39 | D |
| | | | B | 0.389 | 2.311 | | 1 | 1 | 25.287 | | | |
| | | | C | 0.389 | 2.311 | | 1 | 1 | 25.287 | | | |
| | | | D | 0.389 | 2.311 | | 1 | 1 | 25.287 | | | |
| T7 140.00-130.00 | 1.86 | 3.68 | A | 0.378 | 2.342 | 7 | 1 | 1 | 27.357 | 1.01 | 101.06 | D |
| | | | B | 0.378 | 2.342 | | 1 | 1 | 27.357 | | | |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 47 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|----------------------------|--------------------|---------------------|------------------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|--------|----------|---------------|
| T8 130.00-120.00 | 2.24 | 3.24 | C | 0.378 | 2.342 | 7 | 1 | 1 | 27.357 | 1.11 | 110.76 | D |
| | | | D | 0.378 | 2.342 | | | | 27.357 | | | |
| | | | A | 0.322 | 2.515 | | | | 25.132 | | | |
| | | | B | 0.322 | 2.515 | | | | 25.132 | | | |
| T9 120.00-110.00 | 2.53 | 4.44 | C | 0.322 | 2.515 | 7 | 1 | 1 | 25.132 | 1.24 | 123.83 | D |
| | | | D | 0.322 | 2.515 | | | | 25.132 | | | |
| | | | A | 0.342 | 2.45 | | | | 28.709 | | | |
| | | | B | 0.342 | 2.45 | | | | 28.709 | | | |
| T10 110.00-100.00 | 2.79 | 3.86 | C | 0.342 | 2.45 | 7 | 1 | 1 | 28.709 | 1.32 | 132.11 | D |
| | | | D | 0.342 | 2.45 | | | | 28.709 | | | |
| | | | A | 0.302 | 2.584 | | | | 27.294 | | | |
| | | | B | 0.302 | 2.584 | | | | 27.294 | | | |
| T11 100.00-90.00 | 2.93 | 5.01 | C | 0.302 | 2.584 | 7 | 1 | 1 | 27.294 | 1.42 | 141.84 | D |
| | | | D | 0.302 | 2.584 | | | | 27.294 | | | |
| | | | A | 0.318 | 2.528 | | | | 31.564 | | | |
| | | | B | 0.318 | 2.528 | | | | 31.564 | | | |
| T12 90.00-80.00 | 2.94 | 4.71 | C | 0.318 | 2.528 | 7 | 1 | 1 | 31.564 | 1.44 | 143.73 | D |
| | | | D | 0.318 | 2.528 | | | | 31.564 | | | |
| | | | A | 0.307 | 2.566 | | | | 32.289 | | | |
| | | | B | 0.307 | 2.566 | | | | 32.289 | | | |
| T13 80.00-60.00 | 5.95 | 12.59 | C | 0.307 | 2.566 | 7 | 1 | 1 | 32.289 | 2.68 | 134.02 | D |
| | | | D | 0.307 | 2.566 | | | | 32.289 | | | |
| | | | A | 0.256 | 2.751 | | | | 46.615 | | | |
| | | | B | 0.256 | 2.751 | | | | 46.615 | | | |
| T14 60.00-50.00 | 3.00 | 7.45 | C | 0.256 | 2.751 | 7 | 1 | 1 | 46.615 | 1.41 | 141.13 | D |
| | | | D | 0.256 | 2.751 | | | | 46.615 | | | |
| | | | A | 0.259 | 2.74 | | | | 25.725 | | | |
| | | | B | 0.259 | 2.74 | | | | 25.725 | | | |
| T15 50.00-40.00 | 3.04 | 7.74 | C | 0.259 | 2.74 | 7 | 1 | 1 | 25.725 | 1.49 | 149.46 | D |
| | | | D | 0.259 | 2.74 | | | | 25.725 | | | |
| | | | A | 0.264 | 2.72 | | | | 28.205 | | | |
| | | | B | 0.264 | 2.72 | | | | 28.205 | | | |
| T16 40.00-30.00 | 3.06 | 8.59 | C | 0.264 | 2.72 | 8 | 1 | 1 | 28.205 | 1.70 | 170.16 | D |
| | | | D | 0.264 | 2.72 | | | | 28.205 | | | |
| | | | A | 0.288 | 2.632 | | | | 38.250 | | | |
| | | | B | 0.288 | 2.632 | | | | 38.250 | | | |
| T17 30.00-20.00 | 3.07 | 7.19 | C | 0.288 | 2.632 | 8 | 1 | 1 | 38.250 | 1.74 | 173.67 | D |
| | | | D | 0.288 | 2.632 | | | | 38.250 | | | |
| | | | A | 0.248 | 2.781 | | | | 34.628 | | | |
| | | | B | 0.248 | 2.781 | | | | 34.628 | | | |
| T18 20.00-10.00 | 3.06 | 9.08 | C | 0.248 | 2.781 | 8 | 1 | 1 | 34.628 | 1.86 | 186.44 | D |
| | | | D | 0.248 | 2.781 | | | | 34.628 | | | |
| | | | A | 0.278 | 2.67 | | | | 40.040 | | | |
| | | | B | 0.278 | 2.67 | | | | 40.040 | | | |
| T19 10.00-0.00 | 1.17 | 8.91 | C | 0.278 | 2.67 | 10 | 1 | 1 | 40.040 | 1.41 | 141.50 | D |
| | | | D | 0.278 | 2.67 | | | | 40.040 | | | |
| | | | A | 0.262 | 2.728 | | | | 39.433 | | | |
| | | | B | 0.262 | 2.728 | | | | 39.433 | | | |
| Sum Weight: | 42.93 | 96.46 | | | | | | | | | | |
| | | | | | | | | OTM | 1763.19 kip-ft | 22.88 | | |

Tower Forces - With Ice - Wind 45 To Face

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 48 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation | Add Weight | Self Weight | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|----------------------|---------------|----------------|------------------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|--------|----------|---------------|
| T1 180.00-170.00 | 0.63 | 2.25 | A | 0.388 | 2.314 | 8 | 1.2 | 1.2 | 24.307 | 0.57 | 57.37 | D |
| | | | B | 0.388 | 2.314 | | 1.2 | 1.2 | 24.307 | | | |
| | | | C | 0.388 | 2.314 | | 1.2 | 1.2 | 24.307 | | | |
| | | | D | 0.388 | 2.314 | | 1.2 | 1.2 | 24.307 | | | |
| T2 170.00-163.57 | 0.66 | 1.61 | A | 0.429 | 2.205 | 8 | 1.2 | 1.2 | 17.996 | 0.46 | 72.09 | D |
| | | | B | 0.429 | 2.205 | | 1.2 | 1.2 | 17.996 | | | |
| | | | C | 0.429 | 2.205 | | 1.2 | 1.2 | 17.996 | | | |
| | | | D | 0.429 | 2.205 | | 1.2 | 1.2 | 17.996 | | | |
| T3 163.57-159.05 | 0.71 | 1.21 | A | 0.457 | 2.138 | 8 | 1.2 | 1.2 | 13.767 | 0.40 | 88.36 | D |
| | | | B | 0.457 | 2.138 | | 1.2 | 1.2 | 13.767 | | | |
| | | | C | 0.457 | 2.138 | | 1.2 | 1.2 | 13.767 | | | |
| | | | D | 0.457 | 2.138 | | 1.2 | 1.2 | 13.767 | | | |
| T4 159.05-154.52 | 0.76 | 1.06 | A | 0.392 | 2.301 | 8 | 1.2 | 1.2 | 12.390 | 0.43* | 94.54 | D |
| | | | B | 0.392 | 2.301 | | 1.2 | 1.2 | 12.390 | | | |
| | | | C | 0.392 | 2.301 | | 1.2 | 1.2 | 12.390 | | | |
| | | | D | 0.392 | 2.301 | | 1.2 | 1.2 | 12.390 | | | |
| T5 154.52-150.00 | 0.76 | 1.08 | A | 0.381 | 2.332 | 8 | 1.2 | 1.2 | 12.569 | 0.43 | 95.89 | D |
| | | | B | 0.381 | 2.332 | | 1.2 | 1.2 | 12.569 | | | |
| | | | C | 0.381 | 2.332 | | 1.2 | 1.2 | 12.569 | | | |
| | | | D | 0.381 | 2.332 | | 1.2 | 1.2 | 12.569 | | | |
| T6 150.00-140.00 | 1.77 | 2.75 | A | 0.389 | 2.311 | 8 | 1.2 | 1.2 | 30.344 | 1.02 | 101.88 | D |
| | | | B | 0.389 | 2.311 | | 1.2 | 1.2 | 30.344 | | | |
| | | | C | 0.389 | 2.311 | | 1.2 | 1.2 | 30.344 | | | |
| | | | D | 0.389 | 2.311 | | 1.2 | 1.2 | 30.344 | | | |
| T7 140.00-130.00 | 1.86 | 3.68 | A | 0.378 | 2.342 | 7 | 1.2 | 1.2 | 32.828 | 1.09 | 109.18 | D |
| | | | B | 0.378 | 2.342 | | 1.2 | 1.2 | 32.828 | | | |
| | | | C | 0.378 | 2.342 | | 1.2 | 1.2 | 32.828 | | | |
| | | | D | 0.378 | 2.342 | | 1.2 | 1.2 | 32.828 | | | |
| T8 130.00-120.00 | 2.24 | 3.24 | A | 0.322 | 2.515 | 7 | 1.2 | 1.2 | 30.159 | 1.19 | 118.69 | D |
| | | | B | 0.322 | 2.515 | | 1.2 | 1.2 | 30.159 | | | |
| | | | C | 0.322 | 2.515 | | 1.2 | 1.2 | 30.159 | | | |
| | | | D | 0.322 | 2.515 | | 1.2 | 1.2 | 30.159 | | | |
| T9 120.00-110.00 | 2.53 | 4.44 | A | 0.342 | 2.45 | 7 | 1.2 | 1.2 | 34.451 | 1.30* | 130.46 | D |
| | | | B | 0.342 | 2.45 | | 1.2 | 1.2 | 34.451 | | | |
| | | | C | 0.342 | 2.45 | | 1.2 | 1.2 | 34.451 | | | |
| | | | D | 0.342 | 2.45 | | 1.2 | 1.2 | 34.451 | | | |
| T10 110.00-100.00 | 2.79 | 3.86 | A | 0.302 | 2.584 | 7 | 1.2 | 1.2 | 32.753 | 1.39* | 138.65 | D |
| | | | B | 0.302 | 2.584 | | 1.2 | 1.2 | 32.753 | | | |
| | | | C | 0.302 | 2.584 | | 1.2 | 1.2 | 32.753 | | | |
| | | | D | 0.302 | 2.584 | | 1.2 | 1.2 | 32.753 | | | |
| T11 100.00-90.00 | 2.93 | 5.01 | A | 0.318 | 2.528 | 7 | 1.2 | 1.2 | 37.876 | 1.48* | 148.10 | D |
| | | | B | 0.318 | 2.528 | | 1.2 | 1.2 | 37.876 | | | |
| | | | C | 0.318 | 2.528 | | 1.2 | 1.2 | 37.876 | | | |
| | | | D | 0.318 | 2.528 | | 1.2 | 1.2 | 37.876 | | | |
| T12 90.00-80.00 | 2.94 | 4.71 | A | 0.307 | 2.566 | 7 | 1.2 | 1.2 | 38.747 | 1.54 | 153.84 | D |
| | | | B | 0.307 | 2.566 | | 1.2 | 1.2 | 38.747 | | | |
| | | | C | 0.307 | 2.566 | | 1.2 | 1.2 | 38.747 | | | |
| | | | D | 0.307 | 2.566 | | 1.2 | 1.2 | 38.747 | | | |
| T13 80.00-60.00 | 5.95 | 12.59 | A | 0.256 | 2.751 | 7 | 1.192 | 1.192 | 55.572 | 2.83 | 141.55 | D |
| | | | B | 0.256 | 2.751 | | 1.192 | 1.192 | 55.572 | | | |
| | | | C | 0.256 | 2.751 | | 1.192 | 1.192 | 55.572 | | | |
| | | | D | 0.256 | 2.751 | | 1.192 | 1.192 | 55.572 | | | |
| T14 60.00-50.00 | 3.00 | 7.45 | A | 0.259 | 2.74 | 7 | 1.194 | 1.194 | 30.722 | 1.50 | 149.64 | D |
| | | | B | 0.259 | 2.74 | | 1.194 | 1.194 | 30.722 | | | |
| | | | C | 0.259 | 2.74 | | 1.194 | 1.194 | 30.722 | | | |
| | | | D | 0.259 | 2.74 | | 1.194 | 1.194 | 30.722 | | | |
| T15 50.00-40.00 | 3.04 | 7.74 | A | 0.264 | 2.72 | 7 | 1.198 | 1.198 | 33.793 | 1.59 | 159.10 | D |
| | | | B | 0.264 | 2.72 | | 1.198 | 1.198 | 33.793 | | | |
| | | | C | 0.264 | 2.72 | | 1.198 | 1.198 | 33.793 | | | |
| | | | D | 0.264 | 2.72 | | 1.198 | 1.198 | 33.793 | | | |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 49 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|---------|-------|-----------------------------|-----------------------|----------------|----------------|-----------------------------------|--------|----------|------------|
| T16 40.00-30.00 | 3.06 | 8.59 | A | 0.288 | 2.632 | 8 | 1.2 | 1.2 | 45.900 | 1.83 | 183.32 | D |
| | | | B | 0.288 | 2.632 | | 1.2 | 1.2 | 45.900 | | | |
| | | | C | 0.288 | 2.632 | | 1.2 | 1.2 | 45.900 | | | |
| | | | D | 0.288 | 2.632 | | 1.2 | 1.2 | 45.900 | | | |
| T17 30.00-20.00 | 3.07 | 7.19 | A | 0.248 | 2.781 | 8 | 1.186 | 1.186 | 41.081 | 1.86 | 185.85 | D |
| | | | B | 0.248 | 2.781 | | 1.186 | 1.186 | 41.081 | | | |
| | | | C | 0.248 | 2.781 | | 1.186 | 1.186 | 41.081 | | | |
| | | | D | 0.248 | 2.781 | | 1.186 | 1.186 | 41.081 | | | |
| T18 20.00-10.00 | 3.06 | 9.08 | A | 0.278 | 2.67 | 8 | 1.2 | 1.2 | 48.048 | 2.01 | 201.39 | D |
| | | | B | 0.278 | 2.67 | | 1.2 | 1.2 | 48.048 | | | |
| | | | C | 0.278 | 2.67 | | 1.2 | 1.2 | 48.048 | | | |
| | | | D | 0.278 | 2.67 | | 1.2 | 1.2 | 48.048 | | | |
| T19 10.00-0.00 | 1.17 | 8.91 | A | 0.262 | 2.728 | 10 | 1.197 | 1.197 | 47.187 | 1.59 | 159.09 | D |
| | | | B | 0.262 | 2.728 | | 1.197 | 1.197 | 47.187 | | | |
| | | | C | 0.262 | 2.728 | | 1.197 | 1.197 | 47.187 | | | |
| | | | D | 0.262 | 2.728 | | 1.197 | 1.197 | 47.187 | | | |
| Sum Weight: | 42.93 | 96.46 | | | *2.1A _g limit | | | OTM | 1886.67 kip-ft | 24.52 | | |

Tower Forces - Service - Wind Normal To Face

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|--------|----------|------------|
| T1 180.00-170.00 | 0.09 | 0.75 | A | 0.203 | 2.969 | 11 | 1 | 1 | 12.491 | 0.46 | 46.26 | D |
| | | | B | 0.203 | 2.969 | | 1 | 1 | 12.491 | | | |
| | | | C | 0.203 | 2.969 | | 1 | 1 | 12.491 | | | |
| | | | D | 0.203 | 2.969 | | 1 | 1 | 12.491 | | | |
| T2 170.00-163.57 | 0.09 | 0.54 | A | 0.245 | 2.794 | 11 | 1 | 1 | 9.811 | 0.38 | 58.83 | D |
| | | | B | 0.245 | 2.794 | | 1 | 1 | 9.811 | | | |
| | | | C | 0.245 | 2.794 | | 1 | 1 | 9.811 | | | |
| | | | D | 0.245 | 2.794 | | 1 | 1 | 9.811 | | | |
| T3 163.57-159.05 | 0.11 | 0.39 | A | 0.246 | 2.789 | 11 | 1 | 1 | 7.122 | 0.31 | 68.14 | D |
| | | | B | 0.246 | 2.789 | | 1 | 1 | 7.122 | | | |
| | | | C | 0.246 | 2.789 | | 1 | 1 | 7.122 | | | |
| | | | D | 0.246 | 2.789 | | 1 | 1 | 7.122 | | | |
| T4 159.05-154.52 | 0.11 | 0.36 | A | 0.227 | 2.866 | 11 | 1 | 1 | 6.903 | 0.31 | 69.27 | D |
| | | | B | 0.227 | 2.866 | | 1 | 1 | 6.903 | | | |
| | | | C | 0.227 | 2.866 | | 1 | 1 | 6.903 | | | |
| | | | D | 0.227 | 2.866 | | 1 | 1 | 6.903 | | | |
| T5 154.52-150.00 | 0.11 | 0.37 | A | 0.22 | 2.895 | 11 | 1 | 1 | 7.011 | 0.32 | 69.99 | D |
| | | | B | 0.22 | 2.895 | | 1 | 1 | 7.011 | | | |
| | | | C | 0.22 | 2.895 | | 1 | 1 | 7.011 | | | |
| | | | D | 0.22 | 2.895 | | 1 | 1 | 7.011 | | | |
| T6 150.00-140.00 | 0.26 | 0.97 | A | 0.222 | 2.889 | 11 | 1 | 1 | 16.767 | 0.74 | 74.07 | D |
| | | | B | 0.222 | 2.889 | | 1 | 1 | 16.767 | | | |
| | | | C | 0.222 | 2.889 | | 1 | 1 | 16.767 | | | |
| | | | D | 0.222 | 2.889 | | 1 | 1 | 16.767 | | | |
| T7 140.00-130.00 | 0.27 | 1.53 | A | 0.229 | 2.861 | 11 | 1 | 1 | 19.034 | 0.80 | 80.36 | D |
| | | | B | 0.229 | 2.861 | | 1 | 1 | 19.034 | | | |
| | | | C | 0.229 | 2.861 | | 1 | 1 | 19.034 | | | |
| | | | D | 0.229 | 2.861 | | 1 | 1 | 19.034 | | | |
| T8 | 0.34 | 1.43 | A | 0.198 | 2.99 | 11 | 1 | 1 | 17.878 | 0.85 | 84.83 | D |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 50 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|--------|----------|------------|
| 130.00-120.00 | | | B | 0.198 | 2.99 | | 1 | 1 | 17.878 | | | |
| | | | C | 0.198 | 2.99 | | 1 | 1 | 17.878 | | | |
| | | | D | 0.198 | 2.99 | | 1 | 1 | 17.878 | | | |
| T9 120.00-110.00 | 0.39 | 2.05 | A | 0.205 | 2.959 | 11 | 1 | 1 | 20.028 | 0.94 | 94.26 | D |
| | | | B | 0.205 | 2.959 | | 1 | 1 | 20.028 | | | |
| | | | C | 0.205 | 2.959 | | 1 | 1 | 20.028 | | | |
| | | | D | 0.205 | 2.959 | | 1 | 1 | 20.028 | | | |
| T10 110.00-100.00 | 0.44 | 1.91 | A | 0.188 | 3.031 | 10 | 1 | 1 | 19.757 | 0.98 | 98.07 | D |
| | | | B | 0.188 | 3.031 | | 1 | 1 | 19.757 | | | |
| | | | C | 0.188 | 3.031 | | 1 | 1 | 19.757 | | | |
| | | | D | 0.188 | 3.031 | | 1 | 1 | 19.757 | | | |
| T11 100.00-90.00 | 0.47 | 2.50 | A | 0.211 | 2.933 | 10 | 1 | 1 | 23.837 | 1.08 | 108.49 | D |
| | | | B | 0.211 | 2.933 | | 1 | 1 | 23.837 | | | |
| | | | C | 0.211 | 2.933 | | 1 | 1 | 23.837 | | | |
| | | | D | 0.211 | 2.933 | | 1 | 1 | 23.837 | | | |
| T12 90.00-80.00 | 0.47 | 2.43 | A | 0.203 | 2.968 | 10 | 1 | 1 | 24.365 | 1.11 | 110.51 | D |
| | | | B | 0.203 | 2.968 | | 1 | 1 | 24.365 | | | |
| | | | C | 0.203 | 2.968 | | 1 | 1 | 24.365 | | | |
| | | | D | 0.203 | 2.968 | | 1 | 1 | 24.365 | | | |
| T13 80.00-60.00 | 0.96 | 7.96 | A | 0.167 | 3.128 | 10 | 1 | 1 | 30.641 | 1.80 | 89.81 | D |
| | | | B | 0.167 | 3.128 | | 1 | 1 | 30.641 | | | |
| | | | C | 0.167 | 3.128 | | 1 | 1 | 30.641 | | | |
| | | | D | 0.167 | 3.128 | | 1 | 1 | 30.641 | | | |
| T14 60.00-50.00 | 0.48 | 4.57 | A | 0.163 | 3.144 | 11 | 1 | 1 | 16.585 | 0.95 | 95.31 | D |
| | | | B | 0.163 | 3.144 | | 1 | 1 | 16.585 | | | |
| | | | C | 0.163 | 3.144 | | 1 | 1 | 16.585 | | | |
| | | | D | 0.163 | 3.144 | | 1 | 1 | 16.585 | | | |
| T15 50.00-40.00 | 0.48 | 5.12 | A | 0.17 | 3.114 | 11 | 1 | 1 | 18.721 | 1.03 | 103.29 | D |
| | | | B | 0.17 | 3.114 | | 1 | 1 | 18.721 | | | |
| | | | C | 0.17 | 3.114 | | 1 | 1 | 18.721 | | | |
| | | | D | 0.17 | 3.114 | | 1 | 1 | 18.721 | | | |
| T16 40.00-30.00 | 0.48 | 4.78 | A | 0.175 | 3.089 | 11 | 1 | 1 | 27.374 | 1.31 | 131.23 | D |
| | | | B | 0.175 | 3.089 | | 1 | 1 | 27.374 | | | |
| | | | C | 0.175 | 3.089 | | 1 | 1 | 27.374 | | | |
| | | | D | 0.175 | 3.089 | | 1 | 1 | 27.374 | | | |
| T17 30.00-20.00 | 0.48 | 4.27 | A | 0.156 | 3.177 | 11 | 1 | 1 | 25.467 | 1.33 | 132.55 | D |
| | | | B | 0.156 | 3.177 | | 1 | 1 | 25.467 | | | |
| | | | C | 0.156 | 3.177 | | 1 | 1 | 25.467 | | | |
| | | | D | 0.156 | 3.177 | | 1 | 1 | 25.467 | | | |
| T18 20.00-10.00 | 0.48 | 5.02 | A | 0.167 | 3.125 | 12 | 1 | 1 | 28.533 | 1.45 | 145.03 | D |
| | | | B | 0.167 | 3.125 | | 1 | 1 | 28.533 | | | |
| | | | C | 0.167 | 3.125 | | 1 | 1 | 28.533 | | | |
| | | | D | 0.167 | 3.125 | | 1 | 1 | 28.533 | | | |
| T19 10.00-0.00 | 0.19 | 4.90 | A | 0.16 | 3.158 | 14 | 1 | 1 | 28.435 | 1.34 | 133.77 | D |
| | | | B | 0.16 | 3.158 | | 1 | 1 | 28.435 | | | |
| | | | C | 0.16 | 3.158 | | 1 | 1 | 28.435 | | | |
| | | | D | 0.16 | 3.158 | | 1 | 1 | 28.435 | | | |
| Sum Weight: | 6.70 | 51.85 | | | | | | OTM | 1353.53 kip-ft | 17.49 | | |

Tower Forces - Service - Wind 45 To Face

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 51 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|--------------------------------|------------------------|-------------------------|------------------|-------|----------------|---------------------------|----------------|----------------|---------------------------------------|------------|--------------|---------------|
| T1 180.00-170.00 | 0.09 | 0.75 | A | 0.203 | 2.969 | 11 | 1.152 | 1.152 | 14.389 | 0.52 | 51.63 | D |
| | | | B | 0.203 | 2.969 | | 1.152 | 1.152 | 14.389 | | | |
| | | | C | 0.203 | 2.969 | | 1.152 | 1.152 | 14.389 | | | |
| | | | D | 0.203 | 2.969 | | 1.152 | 1.152 | 14.389 | | | |
| T2 170.00-163.57 | 0.09 | 0.54 | A | 0.245 | 2.794 | 11 | 1.184 | 1.184 | 11.615 | 0.43 | 66.24 | D |
| | | | B | 0.245 | 2.794 | | 1.184 | 1.184 | 11.615 | | | |
| | | | C | 0.245 | 2.794 | | 1.184 | 1.184 | 11.615 | | | |
| | | | D | 0.245 | 2.794 | | 1.184 | 1.184 | 11.615 | | | |
| T3 163.57-159.05 | 0.11 | 0.39 | A | 0.246 | 2.789 | 11 | 1.185 | 1.185 | 8.438 | 0.34 | 75.76 | D |
| | | | B | 0.246 | 2.789 | | 1.185 | 1.185 | 8.438 | | | |
| | | | C | 0.246 | 2.789 | | 1.185 | 1.185 | 8.438 | | | |
| | | | D | 0.246 | 2.789 | | 1.185 | 1.185 | 8.438 | | | |
| T4 159.05-154.52 | 0.11 | 0.36 | A | 0.227 | 2.866 | 11 | 1.17 | 1.17 | 8.079 | 0.34 | 76.23 | D |
| | | | B | 0.227 | 2.866 | | 1.17 | 1.17 | 8.079 | | | |
| | | | C | 0.227 | 2.866 | | 1.17 | 1.17 | 8.079 | | | |
| | | | D | 0.227 | 2.866 | | 1.17 | 1.17 | 8.079 | | | |
| T5 154.52-150.00 | 0.11 | 0.37 | A | 0.22 | 2.895 | 11 | 1.165 | 1.165 | 8.169 | 0.35 | 76.88 | D |
| | | | B | 0.22 | 2.895 | | 1.165 | 1.165 | 8.169 | | | |
| | | | C | 0.22 | 2.895 | | 1.165 | 1.165 | 8.169 | | | |
| | | | D | 0.22 | 2.895 | | 1.165 | 1.165 | 8.169 | | | |
| T6 150.00-140.00 | 0.26 | 0.97 | A | 0.222 | 2.889 | 11 | 1.166 | 1.166 | 19.555 | 0.82 | 81.50 | D |
| | | | B | 0.222 | 2.889 | | 1.166 | 1.166 | 19.555 | | | |
| | | | C | 0.222 | 2.889 | | 1.166 | 1.166 | 19.555 | | | |
| | | | D | 0.222 | 2.889 | | 1.166 | 1.166 | 19.555 | | | |
| T7 140.00-130.00 | 0.27 | 1.53 | A | 0.229 | 2.861 | 11 | 1.171 | 1.171 | 22.296 | 0.89 | 88.87 | D |
| | | | B | 0.229 | 2.861 | | 1.171 | 1.171 | 22.296 | | | |
| | | | C | 0.229 | 2.861 | | 1.171 | 1.171 | 22.296 | | | |
| | | | D | 0.229 | 2.861 | | 1.171 | 1.171 | 22.296 | | | |
| T8 130.00-120.00 | 0.34 | 1.43 | A | 0.198 | 2.99 | 11 | 1.148 | 1.148 | 20.527 | 0.92 | 91.98 | D |
| | | | B | 0.198 | 2.99 | | 1.148 | 1.148 | 20.527 | | | |
| | | | C | 0.198 | 2.99 | | 1.148 | 1.148 | 20.527 | | | |
| | | | D | 0.198 | 2.99 | | 1.148 | 1.148 | 20.527 | | | |
| T9 120.00-110.00 | 0.39 | 2.05 | A | 0.205 | 2.959 | 11 | 1.154 | 1.154 | 23.105 | 1.02 | 102.40 | D |
| | | | B | 0.205 | 2.959 | | 1.154 | 1.154 | 23.105 | | | |
| | | | C | 0.205 | 2.959 | | 1.154 | 1.154 | 23.105 | | | |
| | | | D | 0.205 | 2.959 | | 1.154 | 1.154 | 23.105 | | | |
| T10 110.00-100.00 | 0.44 | 1.91 | A | 0.188 | 3.031 | 10 | 1.141 | 1.141 | 22.546 | 1.06 | 105.57 | D |
| | | | B | 0.188 | 3.031 | | 1.141 | 1.141 | 22.546 | | | |
| | | | C | 0.188 | 3.031 | | 1.141 | 1.141 | 22.546 | | | |
| | | | D | 0.188 | 3.031 | | 1.141 | 1.141 | 22.546 | | | |
| T11 100.00-90.00 | 0.47 | 2.50 | A | 0.211 | 2.933 | 10 | 1.158 | 1.158 | 27.609 | 1.18 | 118.25 | D |
| | | | B | 0.211 | 2.933 | | 1.158 | 1.158 | 27.609 | | | |
| | | | C | 0.211 | 2.933 | | 1.158 | 1.158 | 27.609 | | | |
| | | | D | 0.211 | 2.933 | | 1.158 | 1.158 | 27.609 | | | |
| T12 90.00-80.00 | 0.47 | 2.43 | A | 0.203 | 2.968 | 10 | 1.152 | 1.152 | 28.071 | 1.20 | 120.17 | D |
| | | | B | 0.203 | 2.968 | | 1.152 | 1.152 | 28.071 | | | |
| | | | C | 0.203 | 2.968 | | 1.152 | 1.152 | 28.071 | | | |
| | | | D | 0.203 | 2.968 | | 1.152 | 1.152 | 28.071 | | | |
| T13 80.00-60.00 | 0.96 | 7.96 | A | 0.167 | 3.128 | 10 | 1.125 | 1.125 | 34.472 | 1.90 | 95.08 | D |
| | | | B | 0.167 | 3.128 | | 1.125 | 1.125 | 34.472 | | | |
| | | | C | 0.167 | 3.128 | | 1.125 | 1.125 | 34.472 | | | |
| | | | D | 0.167 | 3.128 | | 1.125 | 1.125 | 34.472 | | | |
| T14 60.00-50.00 | 0.48 | 4.57 | A | 0.163 | 3.144 | 11 | 1.122 | 1.122 | 18.613 | 1.01 | 101.02 | D |
| | | | B | 0.163 | 3.144 | | 1.122 | 1.122 | 18.613 | | | |
| | | | C | 0.163 | 3.144 | | 1.122 | 1.122 | 18.613 | | | |
| | | | D | 0.163 | 3.144 | | 1.122 | 1.122 | 18.613 | | | |
| T15 50.00-40.00 | 0.48 | 5.12 | A | 0.17 | 3.114 | 11 | 1.127 | 1.127 | 21.103 | 1.10 | 110.07 | D |
| | | | B | 0.17 | 3.114 | | 1.127 | 1.127 | 21.103 | | | |
| | | | C | 0.17 | 3.114 | | 1.127 | 1.127 | 21.103 | | | |
| | | | D | 0.17 | 3.114 | | 1.127 | 1.127 | 21.103 | | | |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 52 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|--------|----------|------------|
| T16 40.00-30.00 | 0.48 | 4.78 | A | 0.175 | 3.089 | 11 | 1.131 | 1.131 | 30.972 | 1.42 | 141.70 | D |
| | | | B | 0.175 | 3.089 | | 1.131 | 1.131 | 30.972 | | | |
| | | | C | 0.175 | 3.089 | | 1.131 | 1.131 | 30.972 | | | |
| | | | D | 0.175 | 3.089 | | 1.131 | 1.131 | 30.972 | | | |
| T17 30.00-20.00 | 0.48 | 4.27 | A | 0.156 | 3.177 | 11 | 1.117 | 1.117 | 28.444 | 1.42 | 141.79 | D |
| | | | B | 0.156 | 3.177 | | 1.117 | 1.117 | 28.444 | | | |
| | | | C | 0.156 | 3.177 | | 1.117 | 1.117 | 28.444 | | | |
| | | | D | 0.156 | 3.177 | | 1.117 | 1.117 | 28.444 | | | |
| T18 20.00-10.00 | 0.48 | 5.02 | A | 0.167 | 3.125 | 12 | 1.125 | 1.125 | 32.114 | 1.56 | 156.30 | D |
| | | | B | 0.167 | 3.125 | | 1.125 | 1.125 | 32.114 | | | |
| | | | C | 0.167 | 3.125 | | 1.125 | 1.125 | 32.114 | | | |
| | | | D | 0.167 | 3.125 | | 1.125 | 1.125 | 32.114 | | | |
| T19 10.00-0.00 | 0.19 | 4.90 | A | 0.16 | 3.158 | 14 | 1.12 | 1.12 | 31.847 | 1.47 | 146.68 | D |
| | | | B | 0.16 | 3.158 | | 1.12 | 1.12 | 31.847 | | | |
| | | | C | 0.16 | 3.158 | | 1.12 | 1.12 | 31.847 | | | |
| | | | D | 0.16 | 3.158 | | 1.12 | 1.12 | 31.847 | | | |
| Sum Weight: | 6.70 | 51.85 | | | | | | OTM | 1473.94 kip-ft | 18.94 | | |

Force Totals

| Load Case | Vertical Forces K | Sum of Forces X K | Sum of Forces Z K | Sum of Overturning Moments, M _x kip-ft | Sum of Overturning Moments, M _z kip-ft | Sum of Torques kip-ft |
|--------------------------|----------------------|-------------------------|-------------------------|--|--|--------------------------|
| Leg Weight | 30.80 | | | | | |
| Bracing Weight | 21.04 | | | | | |
| Total Member Self-Weight | 51.85 | | | | | |
| Total Weight | 75.49 | | | -21.94 | 17.22 | |
| Wind 0 deg - No Ice | | | -0.70 | -11204.58 | 127.43 | -101.12 |
| Wind 30 deg - No Ice | | | 60.59 | -10135.75 | -5758.36 | -83.01 |
| Wind 45 deg - No Ice | | | 86.05 | -8246.89 | -8207.74 | -65.06 |
| Wind 60 deg - No Ice | | | 105.64 | -5797.52 | -10096.60 | -42.67 |
| Wind 90 deg - No Ice | | | 115.68 | 0.70 | -11165.43 | 9.11 |
| Wind 120 deg - No Ice | | | 106.34 | 61.80 | -10206.81 | 58.45 |
| Wind 135 deg - No Ice | | | 87.04 | 87.04 | -8363.61 | 77.95 |
| Wind 150 deg - No Ice | | | 61.80 | 10202.09 | -5949.26 | 92.13 |
| Wind 180 deg - No Ice | | | 0.70 | 11160.71 | -93.00 | 101.12 |
| Wind 210 deg - No Ice | | | -60.59 | 10091.88 | 5792.80 | 83.01 |
| Wind 225 deg - No Ice | | | -86.05 | 8203.02 | 8242.18 | 65.06 |
| Wind 240 deg - No Ice | | | -105.64 | 5753.65 | 10131.04 | 42.67 |
| Wind 270 deg - No Ice | | | -115.68 | -0.70 | 11199.87 | -9.11 |
| Wind 300 deg - No Ice | | | -106.34 | -61.80 | 10241.25 | -58.45 |
| Wind 315 deg - No Ice | | | -87.04 | -87.04 | 8398.04 | -77.95 |
| Wind 330 deg - No Ice | | | -61.80 | -10245.97 | 5983.70 | -92.13 |
| Member Ice | 44.61 | | | | | |
| Total Weight Ice | 176.20 | | | -0.34 | 120.56 | |
| Wind 0 deg - Ice | | | -0.10 | -2859.10 | 136.10 | -42.49 |
| Wind 30 deg - Ice | | | 16.08 | -2575.26 | -1357.10 | -30.82 |
| Wind 45 deg - Ice | | | 22.79 | -2098.11 | -1977.21 | -21.68 |
| Wind 60 deg - Ice | | | 27.94 | -1478.00 | -2454.36 | -11.07 |
| Wind 90 deg - Ice | | | 30.68 | 0.10 | -2738.21 | 11.71 |
| Wind 120 deg - Ice | | | 28.04 | 1504.24 | -2469.91 | 31.23 |
| Wind 135 deg - Ice | | | 22.92 | 2119.41 | -1999.20 | 38.14 |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Load Case | Vertical Forces K | Sum of Forces X K | Sum of Forces Z K | Sum of Overturning Moments, M_x kip-ft | Sum of Overturning Moments, M_z kip-ft | Sum of Torques kip-ft |
|------------------------|----------------------|-------------------------|-------------------------|---|---|--------------------------|
| Wind 150 deg - Ice | | 16.25 | 28.04 | 2590.12 | -1384.03 | 42.46 |
| Wind 180 deg - Ice | | 0.10 | 30.68 | 2858.42 | 105.01 | 42.49 |
| Wind 210 deg - Ice | | -16.08 | 27.94 | 2574.58 | 1598.21 | 30.82 |
| Wind 225 deg - Ice | | -22.79 | 22.79 | 2097.42 | 2218.32 | 21.68 |
| Wind 240 deg - Ice | | -27.94 | 16.08 | 1477.31 | 2695.47 | 11.07 |
| Wind 270 deg - Ice | | -30.68 | -0.10 | -15.89 | 2979.32 | -11.71 |
| Wind 300 deg - Ice | | -28.04 | -16.25 | -1504.92 | 2711.02 | -31.23 |
| Wind 315 deg - Ice | | -22.92 | -22.92 | -2120.09 | 2240.31 | -38.14 |
| Wind 330 deg - Ice | | -16.25 | -28.04 | -2590.81 | 1625.14 | -42.46 |
| Total Weight | 75.49 | | | -21.94 | 17.22 | |
| Wind 0 deg - Service | | -0.15 | -24.87 | -2426.04 | 23.54 | -21.65 |
| Wind 30 deg - Service | | 13.03 | -22.72 | -2196.79 | -1240.72 | -17.83 |
| Wind 45 deg - Service | | 18.51 | -18.51 | -1791.10 | -1766.81 | -14.01 |
| Wind 60 deg - Service | | 22.72 | -13.03 | -1265.00 | -2172.50 | -9.24 |
| Wind 90 deg - Service | | 24.87 | 0.15 | -0.75 | -2401.75 | 1.83 |
| Wind 120 deg - Service | | 22.87 | 13.29 | 1257.21 | -2195.98 | 12.41 |
| Wind 135 deg - Service | | 18.72 | 18.72 | 1775.85 | -1800.02 | 16.60 |
| Wind 150 deg - Service | | 13.29 | 22.87 | 2171.82 | -1281.38 | 19.67 |
| Wind 180 deg - Service | | 0.15 | 24.87 | 2377.58 | -23.42 | 21.65 |
| Wind 210 deg - Service | | -13.03 | 22.72 | 2148.34 | 1240.84 | 17.83 |
| Wind 225 deg - Service | | -18.51 | 18.51 | 1742.65 | 1766.94 | 14.01 |
| Wind 240 deg - Service | | -22.72 | 13.03 | 1216.55 | 2172.63 | 9.24 |
| Wind 270 deg - Service | | -24.87 | -0.15 | -47.71 | 2401.87 | -1.83 |
| Wind 300 deg - Service | | -22.87 | -13.29 | -1305.67 | 2196.10 | -12.41 |
| Wind 315 deg - Service | | -18.72 | -18.72 | -1824.31 | 1800.14 | -16.60 |
| Wind 330 deg - Service | | -13.29 | -22.87 | -2220.27 | 1281.50 | -19.67 |

Load Combinations

| Comb. No. | Description |
|-----------|------------------------------------|
| 1 | Dead Only |
| 2 | 1.2 Dead+1.0 Wind 0 deg - No Ice |
| 3 | 0.9 Dead+1.0 Wind 0 deg - No Ice |
| 4 | 1.2 Dead+1.0 Wind 30 deg - No Ice |
| 5 | 0.9 Dead+1.0 Wind 30 deg - No Ice |
| 6 | 1.2 Dead+1.0 Wind 45 deg - No Ice |
| 7 | 0.9 Dead+1.0 Wind 45 deg - No Ice |
| 8 | 1.2 Dead+1.0 Wind 60 deg - No Ice |
| 9 | 0.9 Dead+1.0 Wind 60 deg - No Ice |
| 10 | 1.2 Dead+1.0 Wind 90 deg - No Ice |
| 11 | 0.9 Dead+1.0 Wind 90 deg - No Ice |
| 12 | 1.2 Dead+1.0 Wind 120 deg - No Ice |
| 13 | 0.9 Dead+1.0 Wind 120 deg - No Ice |
| 14 | 1.2 Dead+1.0 Wind 135 deg - No Ice |
| 15 | 0.9 Dead+1.0 Wind 135 deg - No Ice |
| 16 | 1.2 Dead+1.0 Wind 150 deg - No Ice |
| 17 | 0.9 Dead+1.0 Wind 150 deg - No Ice |
| 18 | 1.2 Dead+1.0 Wind 180 deg - No Ice |
| 19 | 0.9 Dead+1.0 Wind 180 deg - No Ice |
| 20 | 1.2 Dead+1.0 Wind 210 deg - No Ice |
| 21 | 0.9 Dead+1.0 Wind 210 deg - No Ice |
| 22 | 1.2 Dead+1.0 Wind 225 deg - No Ice |
| 23 | 0.9 Dead+1.0 Wind 225 deg - No Ice |
| 24 | 1.2 Dead+1.0 Wind 240 deg - No Ice |
| 25 | 0.9 Dead+1.0 Wind 240 deg - No Ice |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
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| Comb. No. | Description |
|-----------|--|
| 26 | 1.2 Dead+1.0 Wind 270 deg - No Ice |
| 27 | 0.9 Dead+1.0 Wind 270 deg - No Ice |
| 28 | 1.2 Dead+1.0 Wind 300 deg - No Ice |
| 29 | 0.9 Dead+1.0 Wind 300 deg - No Ice |
| 30 | 1.2 Dead+1.0 Wind 315 deg - No Ice |
| 31 | 0.9 Dead+1.0 Wind 315 deg - No Ice |
| 32 | 1.2 Dead+1.0 Wind 330 deg - No Ice |
| 33 | 0.9 Dead+1.0 Wind 330 deg - No Ice |
| 34 | 1.2 Dead+1.0 Ice+1.0 Temp |
| 35 | 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp |
| 36 | 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp |
| 37 | 1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp |
| 38 | 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp |
| 39 | 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp |
| 40 | 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp |
| 41 | 1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp |
| 42 | 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp |
| 43 | 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp |
| 44 | 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp |
| 45 | 1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp |
| 46 | 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp |
| 47 | 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp |
| 48 | 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp |
| 49 | 1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp |
| 50 | 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp |
| 51 | Dead+Wind 0 deg - Service |
| 52 | Dead+Wind 30 deg - Service |
| 53 | Dead+Wind 45 deg - Service |
| 54 | Dead+Wind 60 deg - Service |
| 55 | Dead+Wind 90 deg - Service |
| 56 | Dead+Wind 120 deg - Service |
| 57 | Dead+Wind 135 deg - Service |
| 58 | Dead+Wind 150 deg - Service |
| 59 | Dead+Wind 180 deg - Service |
| 60 | Dead+Wind 210 deg - Service |
| 61 | Dead+Wind 225 deg - Service |
| 62 | Dead+Wind 240 deg - Service |
| 63 | Dead+Wind 270 deg - Service |
| 64 | Dead+Wind 300 deg - Service |
| 65 | Dead+Wind 315 deg - Service |
| 66 | Dead+Wind 330 deg - Service |

Maximum Member Forces

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|--------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| T1 | 180 - 170 | Leg | Max Tension | 31 | 1.85 | 0.20 | 0.09 |
| | | | Max. Compression | 14 | -2.72 | -0.38 | -0.35 |
| | | | Max. Mx | 8 | -1.19 | -0.69 | 0.48 |
| | | | Max. My | 11 | 0.86 | -0.20 | 0.68 |
| | | | Max. Vy | 18 | -0.71 | 0.39 | -0.15 |
| | | | Max. Vx | 2 | -0.71 | -0.12 | 0.38 |
| | | | Max Tension | 11 | 3.01 | -0.02 | -0.00 |
| | | Diagonal | Max. Compression | 26 | -3.19 | 0.00 | 0.00 |
| | | | Max. Mx | 2 | -3.02 | 0.03 | -0.00 |
| | | | Max. My | 8 | -0.80 | -0.00 | 0.00 |
| | | | Max. Vy | 35 | -0.02 | 0.03 | 0.00 |
| | | | Max. Vx | 8 | -0.00 | 0.00 | 0.00 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 22007.02 - CT2143 | Page | 55 of 83 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft | | |
|-------------|-------------------|----------------------|-------------------|-----------------|------------------|--------------------------|--------------------------|-------|-------|
| T2 | 170 - 163.573 | Secondary Horizontal | Max Tension | 3 | 0.84 | -0.04 | -0.00 | | |
| | | | Max. Compression | 18 | -0.85 | 0.04 | 0.00 | | |
| | | | Max. Mx | 2 | -0.52 | 0.05 | -0.00 | | |
| | | | | | Max. My | 21 | -0.46 | 0.02 | 0.00 |
| | | | | | Max. Vy | 35 | -0.02 | 0.02 | -0.00 |
| | | | | | Max. Vx | 21 | -0.00 | 0.02 | 0.00 |
| | | | | Top Girt | Max Tension | 47 | 0.20 | 0.00 | 0.00 |
| | | | | | Max. Compression | 3 | -0.11 | 0.00 | 0.00 |
| | | | | | Max. Mx | 34 | 0.12 | -0.04 | 0.00 |
| | | | | | Max. My | 8 | -0.04 | 0.00 | 0.00 |
| | | | | | Max. Vy | 34 | 0.03 | 0.00 | 0.00 |
| | | | | | Max. Vx | 8 | -0.00 | 0.00 | 0.00 |
| | | | | Leg | Max Tension | 15 | 8.82 | -0.60 | -0.50 |
| | | | | | Max. Compression | 30 | -10.67 | -0.88 | -0.97 |
| | | | | | Max. Mx | 12 | 7.79 | 1.08 | 0.73 |
| | | | | | Max. My | 32 | -10.35 | -0.72 | -1.07 |
| | | | | | Max. Vy | 2 | 0.50 | -0.80 | 0.10 |
| | | | | | Max. Vx | 4 | -0.51 | -0.48 | 0.79 |
| | | | | Diagonal | Max Tension | 5 | 3.73 | 0.00 | 0.00 |
| | | | | | Max. Compression | 20 | -3.90 | 0.00 | 0.00 |
| | | | | | Max. Mx | 48 | 0.17 | 0.02 | 0.00 |
| | | | Max. My | 8 | -2.42 | 0.00 | 0.00 | | |
| | | | Max. Vy | 48 | -0.02 | 0.02 | 0.00 | | |
| | | | Max. Vx | 8 | -0.00 | 0.00 | 0.00 | | |
| | | Top Girt | Max Tension | 2 | 0.70 | 0.00 | 0.00 | | |
| | | | Max. Compression | 3 | -0.46 | 0.00 | 0.00 | | |
| | | | Max. Mx | 34 | 0.43 | -0.04 | 0.00 | | |
| | | | Max. My | 8 | -0.19 | 0.00 | 0.00 | | |
| | | | Max. Vy | 34 | 0.03 | 0.00 | 0.00 | | |
| | | | Max. Vx | 8 | -0.00 | 0.00 | 0.00 | | |
| T3 | 163.573 - 159.049 | Leg | Max Tension | 31 | 18.04 | -0.22 | -0.29 | | |
| | | | Max. Compression | 6 | -22.50 | -0.84 | -1.01 | | |
| | | | Max. Mx | 10 | 9.78 | -1.91 | -0.14 | | |
| | | | | | Max. My | 26 | 8.29 | -0.21 | -1.95 |
| | | | | | Max. Vy | 10 | 2.23 | -0.63 | 0.31 |
| | | | | | Max. Vx | 26 | 2.27 | 0.33 | -0.65 |
| | | | | Diagonal | Max Tension | 27 | 6.02 | 0.00 | 0.00 |
| | | | | | Max. Compression | 26 | -6.22 | 0.00 | 0.00 |
| | | | | | Max. Mx | 50 | 0.69 | 0.01 | -0.00 |
| | | | | | Max. My | 10 | -6.14 | 0.00 | 0.01 |
| | | | | | Max. Vy | 36 | 0.02 | 0.01 | 0.00 |
| | | | | | Max. Vx | 10 | -0.00 | 0.00 | 0.00 |
| | | | | Top Girt | Max Tension | 26 | 0.60 | 0.00 | 0.00 |
| | | | | | Max. Compression | 27 | -0.53 | 0.00 | 0.00 |
| | | | | | Max. Mx | 43 | 0.13 | -0.04 | 0.00 |
| | | | | | Max. My | 35 | 0.23 | 0.00 | 0.00 |
| | | | | | Max. Vy | 43 | -0.03 | 0.00 | 0.00 |
| | | | | | Max. Vx | 35 | -0.00 | 0.00 | 0.00 |
| | | T4 | 159.049 - 154.524 | Leg | Max Tension | 31 | 28.13 | -0.38 | -0.41 |
| | | | | | Max. Compression | 30 | -33.80 | -0.61 | -0.51 |
| | | | | | Max. Mx | 33 | -10.74 | -1.20 | 0.91 |
| | | | | | Max. My | 28 | 2.98 | -0.94 | 1.22 |
| | | | | | Max. Vy | 26 | 0.42 | -1.13 | 0.37 |
| | | | | | Max. Vx | 10 | 0.42 | 0.43 | -1.15 |
| | | | | Diagonal | Max Tension | 26 | 6.76 | 0.00 | 0.00 |
| | | | | | Max. Compression | 27 | -6.62 | 0.00 | 0.00 |
| | | | | | Max. Mx | 32 | 2.44 | 0.03 | -0.00 |
| | | | | | Max. My | 10 | -6.57 | -0.00 | 0.01 |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft | |
|---------------|------------------|----------------|----------------------|------------------|---------|--------------------------|--------------------------|------|
| T5 | 154.524 - 150 | Leg | Max. Vy | 38 | -0.02 | 0.02 | -0.00 | |
| | | | Max. Vx | 10 | -0.00 | 0.00 | 0.00 | |
| | | | Max Tension | 31 | 37.87 | -0.55 | -0.74 | |
| | | | Max. Compression | 30 | -43.54 | -0.96 | -0.83 | |
| | | | Max. Mx | 28 | -42.18 | -1.06 | -0.67 | |
| | | | Max. My | 16 | -41.32 | -0.69 | -1.04 | |
| | | Diagonal | Max. Vy | 28 | 0.47 | -1.06 | -0.67 | |
| | | | Max. Vx | 16 | 0.47 | -0.69 | -1.04 | |
| | | | Max Tension | 27 | 6.52 | 0.00 | 0.00 | |
| | | | Max. Compression | 26 | -6.70 | 0.00 | 0.00 | |
| | | | Max. Mx | 32 | 3.06 | 0.04 | 0.00 | |
| | | | Max. My | 11 | -5.33 | -0.01 | 0.01 | |
| | | | Max. Vy | 36 | -0.03 | 0.03 | -0.00 | |
| | | | Max. Vx | 11 | -0.00 | -0.01 | 0.01 | |
| T6 | 150 - 140 | Leg | Max Tension | 31 | 60.02 | -0.64 | -0.79 | |
| | | | Max. Compression | 30 | -66.37 | -1.13 | -0.97 | |
| | | | Max. Mx | 33 | -16.07 | -1.49 | 1.17 | |
| | | Diagonal | Max. My | 28 | 8.01 | -1.17 | 1.51 | |
| | | | Max. Vy | 18 | -0.66 | 1.45 | -0.09 | |
| | | | Max. Vx | 18 | 0.65 | 0.02 | -1.44 | |
| | | | Max Tension | 26 | 6.99 | 0.00 | 0.00 | |
| | | | Max. Compression | 26 | -7.05 | 0.00 | 0.00 | |
| | | | Max. Mx | 32 | 3.68 | 0.05 | 0.00 | |
| | | | Max. My | 10 | -6.84 | -0.01 | 0.01 | |
| | | | Max. Vy | 36 | -0.03 | 0.04 | -0.00 | |
| | | Top Girt | Max. Vx | 10 | -0.00 | 0.00 | 0.00 | |
| | | | Max Tension | 2 | 0.69 | 0.00 | 0.00 | |
| | | | Max. Compression | 3 | -0.61 | 0.00 | 0.00 | |
| Max. Mx | 34 | | 0.17 | -0.07 | 0.00 | | | |
| Max. My | 35 | | 0.22 | 0.00 | 0.00 | | | |
| Max. Vy | 34 | | 0.04 | 0.00 | 0.00 | | | |
| Max. Vx | 35 | | -0.00 | 0.00 | 0.00 | | | |
| T7 | 140 - 130 | Leg | Max Tension | 31 | 76.59 | -0.96 | -1.15 | |
| | | | Max. Compression | 30 | -84.04 | -0.48 | -0.36 | |
| | | | Max. Mx | 14 | -5.53 | 4.41 | -4.22 | |
| | | | Max. My | 30 | -5.49 | -4.25 | 4.43 | |
| | | | Max. Vy | 30 | -1.10 | 4.25 | -4.12 | |
| | | | Max. Vx | 30 | -1.10 | -4.25 | 4.43 | |
| | | Diagonal | Max Tension | 11 | 10.43 | 0.03 | 0.02 | |
| | | | Max. Compression | 26 | -10.63 | 0.00 | 0.00 | |
| | | | Max. Mx | 32 | 5.63 | 0.10 | 0.02 | |
| | | | Max. My | 28 | -10.13 | -0.05 | -0.05 | |
| | | | Max. Vy | 36 | 0.03 | 0.05 | 0.00 | |
| | | | Max. Vx | 28 | -0.01 | 0.00 | 0.00 | |
| | | | Secondary Horizontal | Max Tension | 26 | 0.86 | 0.00 | 0.00 |
| | | | | Max. Compression | 13 | -0.89 | 0.04 | 0.02 |
| | | Max. Mx | | 32 | -0.59 | 0.05 | 0.03 | |
| | | Max. My | | 32 | -0.59 | 0.05 | 0.03 | |
| | | Max. Vy | | 48 | -0.03 | 0.03 | 0.01 | |
| | | Max. Vx | | 32 | 0.01 | 0.00 | 0.00 | |
| | | Top Girt | Max Tension | 10 | 0.53 | 0.00 | 0.00 | |
| | | | Max. Compression | 10 | -0.60 | -0.06 | 0.00 | |
| | | | Max. Mx | 35 | -0.06 | -0.26 | 0.01 | |
| | | | Max. My | 35 | -0.06 | -0.26 | 0.01 | |
| | | | Max. Vy | 35 | -0.09 | 0.00 | 0.00 | |
| | | | Max. Vx | 35 | -0.00 | 0.00 | 0.00 | |
| Inner Bracing | Max Tension | | 14 | 0.09 | 0.00 | 0.00 | | |
| | Max. Compression | | 14 | -0.09 | 0.00 | 0.00 | | |
| | Max. Mx | 34 | 0.00 | -0.07 | 0.00 | | | |
| | Max. My | 26 | -0.00 | 0.00 | 0.00 | | | |

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| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|------------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| T8 | 130 - 120 | Leg | Max. Vy | 34 | 0.04 | 0.00 | 0.00 |
| | | | Max. Vx | 26 | -0.00 | 0.00 | 0.00 |
| | | | Max Tension | 31 | 99.41 | -2.23 | -2.37 |
| | | | Max. Compression | 30 | -109.97 | -1.25 | -1.31 |
| | | | Max. Mx | 32 | -104.14 | 2.81 | 2.04 |
| | | | Max. My | 12 | -103.71 | 2.02 | 2.83 |
| | | | Max. Vy | 8 | -1.51 | 2.74 | -1.93 |
| | | | Max. Vx | 20 | -1.55 | -1.95 | 2.76 |
| | | | Max Tension | 11 | 12.28 | 0.05 | -0.01 |
| | | | Max. Compression | 26 | -12.52 | 0.00 | 0.00 |
| | | Diagonal | Max. Mx | 32 | 4.69 | 0.16 | 0.04 |
| | | | Max. My | 27 | -10.13 | -0.05 | -0.06 |
| | | | Max. Vy | 50 | -0.05 | 0.10 | 0.02 |
| | | | Max. Vx | 10 | -0.01 | -0.04 | 0.06 |
| | | | Max Tension | 4 | 1.53 | 0.01 | -0.02 |
| | | | Max. Compression | 7 | -1.66 | 0.02 | 0.02 |
| | | | Max. Mx | 28 | -0.15 | 0.05 | -0.00 |
| | | | Max. My | 17 | 1.05 | -0.01 | -0.03 |
| | | | Max. Vy | 48 | 0.03 | 0.04 | 0.00 |
| | | | Max. Vx | 16 | -0.01 | -0.01 | -0.03 |
| T9 | 120 - 110 | Leg | Max Tension | 31 | 126.77 | -2.00 | -2.17 |
| | | | Max. Compression | 30 | -138.90 | -0.43 | -0.54 |
| | | | Max. Mx | 6 | -8.08 | 5.22 | -4.98 |
| | | | Max. My | 22 | -8.10 | -4.94 | 5.19 |
| | | | Max. Vy | 30 | -1.28 | 5.18 | -4.98 |
| | | | Max. Vx | 14 | -1.27 | -4.96 | 5.15 |
| | | | Max Tension | 18 | 13.19 | 0.05 | -0.01 |
| | | | Max. Compression | 18 | -13.34 | 0.00 | 0.00 |
| | | | Max. Mx | 28 | 7.70 | 0.10 | -0.01 |
| | | | Max. My | 26 | -13.25 | -0.01 | -0.06 |
| | | Diagonal | Max. Vy | 48 | 0.04 | 0.07 | 0.01 |
| | | | Max. Vx | 26 | -0.01 | 0.00 | 0.00 |
| | | | Max Tension | 27 | 0.88 | 0.00 | 0.00 |
| | | | Max. Compression | 3 | -1.07 | -0.11 | 0.00 |
| | | | Max. Mx | 43 | -0.21 | -0.40 | 0.01 |
| | | | Max. My | 35 | -0.21 | -0.40 | 0.01 |
| | | | Max. Vy | 43 | -0.12 | 0.00 | 0.00 |
| | | | Max. Vx | 35 | -0.00 | 0.00 | 0.00 |
| | | | Max Tension | 26 | 1.23 | 0.00 | 0.00 |
| | | | Max. Compression | 33 | -1.22 | 0.03 | 0.02 |
| Horizontal | Max. Mx | 4 | -0.71 | 0.03 | 0.02 | | |
| | Max. My | 32 | -0.69 | 0.03 | 0.02 | | |
| | Max. Vy | 48 | -0.03 | 0.03 | 0.01 | | |
| | Max. Vx | 32 | 0.00 | 0.00 | 0.00 | | |
| | Max Tension | 14 | 0.10 | 0.00 | 0.00 | | |
| | Max. Compression | 14 | -0.10 | 0.00 | 0.00 | | |
| | Max. Mx | 34 | 0.00 | -0.11 | 0.00 | | |
| | Max. My | 26 | -0.00 | 0.00 | 0.00 | | |
| | Max. Vy | 34 | 0.05 | 0.00 | 0.00 | | |
| | Max. Vx | 26 | -0.00 | 0.00 | 0.00 | | |
| T10 | 110 - 100 | Leg | Max Tension | 31 | 154.04 | -2.73 | -2.70 |
| | | | Max. Compression | 30 | -168.23 | -1.89 | -1.86 |
| | | | Max. Mx | 24 | -154.71 | 3.38 | 2.29 |
| | | | Max. My | 4 | -156.18 | 2.29 | 3.39 |
| | | | Max. Vy | 18 | 1.20 | 0.22 | 1.13 |
| | | Diagonal | Max. Vx | 32 | 1.20 | 1.24 | 0.81 |
| | | | Max Tension | 11 | 15.97 | 0.07 | -0.01 |
| | | | Max. Compression | 26 | -16.23 | 0.00 | 0.00 |
| | | | Max. Mx | 32 | 5.44 | 0.20 | 0.03 |
| | | | Inner Bracing | Max. Vy | 34 | 0.05 | 0.00 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 58 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJJ |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|----------------------|------------------|----------------------|------------------|-----------------|---------|--------------------------|--------------------------|
| T11 | 100 - 90 | Secondary Horizontal | Max. My | 3 | -12.52 | -0.06 | 0.05 |
| | | | Max. Vy | 50 | -0.06 | 0.13 | 0.02 |
| | | | Max. Vx | 2 | -0.01 | -0.05 | 0.05 |
| | | | Max Tension | 28 | 1.92 | 0.00 | -0.02 |
| | | | Max. Compression | 33 | -2.16 | 0.02 | 0.01 |
| | | | Max. Mx | 48 | -0.24 | 0.05 | 0.01 |
| | | | Max. My | 5 | 1.68 | -0.00 | -0.02 |
| | | | Max. Vy | 48 | 0.04 | 0.05 | 0.01 |
| | | | Max. Vx | 16 | -0.00 | 0.00 | -0.02 |
| | | | Max Tension | 31 | 185.37 | -2.19 | -2.19 |
| | | | Max. Compression | 30 | -201.77 | -1.24 | -1.50 |
| | | | Max. Mx | 32 | 39.66 | 7.16 | -6.14 |
| | | Leg | Max. My | 20 | 38.79 | -6.01 | 7.07 |
| | | | Max. Vy | 32 | -1.48 | 7.16 | -6.14 |
| | | | Max. Vx | 20 | -1.47 | -6.01 | 7.07 |
| | | | Max Tension | 18 | 15.35 | 0.00 | 0.00 |
| | | | Max. Compression | 18 | -15.45 | 0.00 | 0.00 |
| | | | Max. Mx | 28 | 8.61 | 0.14 | 0.00 |
| | | | Max. My | 2 | -15.33 | -0.03 | 0.06 |
| | | | Max. Vy | 48 | 0.05 | 0.09 | 0.01 |
| | | | Max. Vx | 2 | -0.01 | 0.00 | 0.00 |
| | | | Max Tension | 2 | 1.69 | 0.00 | 0.00 |
| | | | Max. Compression | 3 | -1.83 | -0.16 | 0.01 |
| | | | Max. Mx | 35 | -0.24 | -0.54 | 0.02 |
| Diagonal | Max. My | 35 | -0.24 | -0.54 | 0.02 | | |
| | Max. Vy | 35 | -0.14 | 0.00 | 0.00 | | |
| | Max. Vx | 35 | -0.00 | 0.00 | 0.00 | | |
| | Max Tension | 30 | 0.12 | 0.00 | 0.00 | | |
| | Max. Compression | 30 | -0.12 | 0.00 | 0.00 | | |
| | Max. Mx | 34 | 0.00 | -0.15 | 0.00 | | |
| | Max. My | 26 | -0.00 | 0.00 | 0.00 | | |
| | Max. Vy | 34 | 0.06 | 0.00 | 0.00 | | |
| | Max. Vx | 26 | -0.00 | 0.00 | 0.00 | | |
| | Max Tension | 31 | 215.55 | -2.14 | -2.26 | | |
| | Max. Compression | 30 | -233.51 | -1.12 | -1.22 | | |
| | Max. Mx | 26 | -154.82 | 3.74 | -0.34 | | |
| Horizontal | Max. My | 10 | -158.96 | -0.23 | 3.70 | | |
| | Max. Vy | 24 | 1.20 | -2.18 | -1.96 | | |
| | Max. Vx | 4 | 1.22 | -2.02 | -2.17 | | |
| | Max Tension | 19 | 17.15 | 0.07 | 0.00 | | |
| | Max. Compression | 18 | -17.43 | 0.00 | 0.00 | | |
| | Max. Mx | 32 | 7.10 | 0.18 | 0.03 | | |
| | Max. My | 3 | -15.30 | -0.05 | 0.04 | | |
| | Max. Vy | 50 | -0.06 | 0.14 | 0.02 | | |
| | Max. Vx | 2 | -0.01 | -0.04 | 0.04 | | |
| | Max Tension | 2 | 1.43 | 0.05 | -0.01 | | |
| | Max. Compression | 32 | -1.66 | 0.02 | 0.02 | | |
| | Max. Mx | 38 | 0.10 | 0.07 | 0.01 | | |
| Inner Bracing | Max. My | 17 | 0.85 | 0.00 | -0.03 | | |
| | Max. Vy | 38 | -0.05 | 0.07 | 0.01 | | |
| | Max. Vx | 17 | -0.01 | 0.00 | -0.03 | | |
| | Max Tension | 31 | 276.88 | 1.93 | 0.14 | | |
| | Max. Compression | 30 | -298.94 | 7.09 | 0.07 | | |
| | Max. Mx | 30 | -298.94 | 7.09 | 0.07 | | |
| | Max. My | 15 | -8.23 | -0.47 | -6.93 | | |
| | Max. Vy | 14 | -1.17 | 7.07 | -0.36 | | |
| | Max. Vx | 14 | 1.30 | -0.72 | -6.92 | | |
| | Max Tension | 19 | 17.08 | 0.00 | 0.00 | | |
| | Max. Compression | 18 | -17.53 | 0.00 | 0.00 | | |
| | T12 | 90 - 80 | Leg | Max. My | 3 | -15.33 | -0.03 |
| Max. Vy | | | | 48 | 0.05 | 0.09 | 0.01 |
| Max. Vx | | | | 2 | -0.01 | 0.00 | 0.00 |
| Max Tension | | | | 2 | 1.69 | 0.00 | 0.00 |
| Max. Compression | | | | 3 | -1.83 | -0.16 | 0.01 |
| Max. Mx | | | | 35 | -0.24 | -0.54 | 0.02 |
| Diagonal | | | Max. My | 35 | -0.24 | -0.54 | 0.02 |
| | | | Max. Vy | 35 | -0.14 | 0.00 | 0.00 |
| | | | Max. Vx | 35 | -0.00 | 0.00 | 0.00 |
| | | | Max Tension | 30 | 0.12 | 0.00 | 0.00 |
| | | | Max. Compression | 30 | -0.12 | 0.00 | 0.00 |
| | | | Max. Mx | 34 | 0.00 | -0.15 | 0.00 |
| Secondary Horizontal | Max. My | 26 | -0.00 | 0.00 | 0.00 | | |
| | Max. Vy | 34 | 0.06 | 0.00 | 0.00 | | |
| | Max. Vx | 26 | -0.00 | 0.00 | 0.00 | | |
| | Max Tension | 31 | 215.55 | -2.14 | -2.26 | | |
| | Max. Compression | 30 | -233.51 | -1.12 | -1.22 | | |
| | Max. Mx | 26 | -154.82 | 3.74 | -0.34 | | |
| T13 | 80 - 60 | Leg | Max. My | 10 | -158.96 | -0.23 | 3.70 |
| | | | Max. Vy | 24 | 1.20 | -2.18 | -1.96 |
| | | | Max. Vx | 4 | 1.22 | -2.02 | -2.17 |
| | | | Max Tension | 19 | 17.15 | 0.07 | 0.00 |
| | | | Max. Compression | 18 | -17.43 | 0.00 | 0.00 |
| | | | Max. Mx | 32 | 7.10 | 0.18 | 0.03 |
| | | Diagonal | Max. My | 3 | -15.30 | -0.05 | 0.04 |
| | | | Max. Vy | 50 | -0.06 | 0.14 | 0.02 |
| | | | Max. Vx | 2 | -0.01 | -0.04 | 0.04 |
| | | | Max Tension | 2 | 1.43 | 0.05 | -0.01 |
| | | | Max. Compression | 32 | -1.66 | 0.02 | 0.02 |
| | | | Max. Mx | 38 | 0.10 | 0.07 | 0.01 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 59 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft | |
|---------------|------------------|----------------------|------------------|------------------|---------|--------------------------|--------------------------|-------|
| T14 | 60 - 50 | Top Girt | Max. Mx | 48 | 2.87 | -0.13 | 0.02 | |
| | | | Max. My | 2 | -16.54 | -0.02 | -0.04 | |
| | | | Max. Vy | 48 | -0.07 | -0.13 | 0.02 | |
| | | | Max. Vx | 2 | 0.01 | 0.00 | 0.00 | |
| | | | Max Tension | 32 | 1.09 | 0.00 | 0.00 | |
| | | | Max. Compression | 27 | -1.07 | -0.20 | 0.01 | |
| | | | Max. Mx | 35 | 0.44 | -0.81 | 0.03 | |
| | | | Max. My | 35 | 0.44 | -0.81 | 0.03 | |
| | | | Max. Vy | 35 | -0.17 | 0.00 | 0.00 | |
| | | | Max. Vx | 35 | -0.01 | 0.00 | 0.00 | |
| | | Inner Bracing | Max Tension | 30 | 0.16 | 0.00 | 0.00 | |
| | | | Max. Compression | 30 | -0.16 | 0.00 | 0.00 | |
| | | | Max. Mx | 34 | 0.00 | 0.26 | 0.00 | |
| | | | Max. My | 26 | -0.00 | 0.00 | -0.00 | |
| | | | Max. Vy | 34 | -0.09 | 0.00 | 0.00 | |
| | | | Max. Vx | 26 | 0.00 | 0.00 | 0.00 | |
| | | | Leg | Max Tension | 31 | 304.02 | -0.45 | -0.18 |
| | | | | Max. Compression | 30 | -329.35 | 0.52 | 0.55 |
| | | | | Max. Mx | 41 | 41.49 | -5.31 | 0.50 |
| | | | | Max. My | 15 | -10.43 | -0.92 | -9.51 |
| | | Max. Vy | | 37 | 0.95 | -5.29 | -0.55 | |
| | | Max. Vx | | 15 | 1.65 | -0.92 | -9.51 | |
| | | Diagonal | | Max Tension | 18 | 17.07 | 0.00 | 0.00 |
| | | | | Max. Compression | 18 | -17.18 | 0.00 | 0.00 |
| | | | | Max. Mx | 48 | 1.89 | -0.12 | -0.02 |
| | | | | Max. My | 2 | -17.10 | -0.03 | -0.03 |
| | | | Max. Vy | 49 | -0.07 | -0.12 | -0.02 | |
| | | Horizontal | Max. Vx | 35 | -0.01 | 0.00 | 0.00 | |
| | | | Max Tension | 35 | 2.51 | 0.00 | 0.00 | |
| | | | Max. Compression | 27 | -1.83 | 0.33 | -0.02 | |
| Max. Mx | 35 | | 1.79 | 0.87 | -0.05 | | | |
| Max. My | 35 | | 1.79 | 0.87 | -0.05 | | | |
| Max. Vy | 35 | | -0.18 | 0.00 | 0.00 | | | |
| Max. Vx | 35 | | -0.01 | 0.00 | 0.00 | | | |
| Inner Bracing | Max Tension | | 30 | 0.18 | 0.00 | 0.00 | | |
| | Max. Compression | | 31 | -0.18 | 0.00 | 0.00 | | |
| | Max. Mx | | 34 | 0.00 | 0.32 | 0.00 | | |
| | Max. My | 26 | 0.00 | 0.00 | -0.00 | | | |
| | Max. Vy | 34 | 0.10 | 0.00 | 0.00 | | | |
| T15 | 50 - 40 | Leg | Max. Vx | 49 | -0.00 | 0.00 | 0.00 | |
| | | | Max Tension | 31 | 331.71 | 2.18 | 0.29 | |
| | | | Max. Compression | 30 | -358.62 | 2.06 | -0.01 | |
| | | | Max. Mx | 30 | -358.08 | 6.91 | -0.01 | |
| | | | Max. My | 32 | 71.65 | 0.61 | 5.20 | |
| | | Diagonal | Max. Vy | 30 | -2.40 | 6.91 | -0.01 | |
| | | | Max. Vx | 32 | -1.35 | 0.61 | 5.20 | |
| | | | Max Tension | 19 | 17.89 | -0.09 | -0.00 | |
| | | | Max. Compression | 18 | -19.11 | 0.00 | 0.00 | |
| | | | Max. Mx | 50 | 1.23 | -0.21 | 0.02 | |
| | | Secondary Horizontal | Max. My | 49 | 1.14 | -0.21 | -0.03 | |
| | | | Max. Vy | 50 | -0.11 | -0.21 | 0.02 | |
| | | | Max. Vx | 49 | 0.01 | 0.00 | 0.00 | |
| | | | Max Tension | 28 | 2.54 | 0.06 | 0.00 | |
| | | | Max. Compression | 33 | -2.61 | 0.04 | 0.03 | |
| T16 | 40 - 30 | Leg | Max. Mx | 40 | 0.56 | 0.16 | 0.03 | |
| | | | Max. My | 36 | -0.23 | 0.15 | 0.04 | |
| | | | Max. Vy | 40 | 0.08 | 0.16 | 0.03 | |
| | | | Max. Vx | 42 | -0.01 | 0.00 | 0.00 | |
| | | | Max Tension | 31 | 357.03 | -2.91 | -2.29 | |
| | | Max. Compression | 30 | -388.12 | 1.87 | 1.19 | | |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 60 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft | |
|----------------------|------------------|------------------|------------------|------------------|---------|--------------------------|--------------------------|-------|
| T17 | 30 - 20 | Diagonal | Max. Mx | 4 | -114.39 | 7.99 | -6.32 | |
| | | | Max. My | 16 | -110.58 | -6.47 | 8.08 | |
| | | | Max. Vy | 4 | -1.86 | 7.99 | -6.32 | |
| | | | Max. Vx | 16 | -1.89 | -6.47 | 8.08 | |
| | | | Max Tension | 17 | 18.39 | -0.13 | 0.01 | |
| | | | Max. Compression | 18 | -18.74 | 0.00 | 0.00 | |
| | | | Max. Mx | 48 | 1.63 | -0.18 | -0.02 | |
| | | | Max. My | 32 | -18.58 | -0.04 | -0.05 | |
| | | | Max. Vy | 48 | -0.11 | -0.18 | -0.02 | |
| | | | Max. Vx | 40 | 0.01 | 0.00 | 0.00 | |
| | | | Max Tension | 28 | 2.10 | 0.01 | 0.00 | |
| | | | Max. Compression | 32 | -2.36 | 0.06 | 0.05 | |
| | | Max. Mx | 41 | -0.37 | 0.10 | 0.04 | | |
| | | Max. My | 16 | -1.77 | 0.07 | 0.05 | | |
| | | Max. Vy | 41 | 0.08 | 0.10 | 0.04 | | |
| | | Max. Vx | 49 | -0.01 | 0.00 | 0.00 | | |
| | | Top Girt | Max Tension | 35 | 3.48 | 0.00 | 0.00 | |
| | | | Max. Compression | 27 | -1.88 | 0.45 | -0.03 | |
| | | | Max. Mx | 35 | 2.76 | 0.89 | -0.04 | |
| | | | Max. My | 35 | 2.76 | 0.89 | -0.05 | |
| | | | Max. Vy | 35 | -0.17 | 0.00 | 0.00 | |
| | | | Max. Vx | 35 | -0.01 | 0.00 | 0.00 | |
| | | | Inner Bracing | Max Tension | 31 | 0.24 | 0.00 | 0.00 |
| | | | | Max. Compression | 31 | -0.23 | 0.00 | 0.00 |
| | | | | Max. Mx | 34 | 0.00 | 0.40 | 0.00 |
| | | | | Max. My | 49 | 0.02 | 0.00 | 0.00 |
| | | | | Max. Vy | 34 | 0.11 | 0.00 | 0.00 |
| | | | | Max. Vx | 49 | 0.00 | 0.00 | 0.00 |
| | | Leg | | Max Tension | 31 | 387.02 | -3.96 | -4.27 |
| | | | | Max. Compression | 30 | -420.27 | 0.29 | 0.18 |
| | | | | Max. Mx | 18 | -286.76 | 6.66 | 0.97 |
| | | | | Max. My | 2 | -282.58 | 0.80 | 6.75 |
| | | | | Max. Vy | 16 | 2.20 | -3.72 | -3.41 |
| | | | | Max. Vx | 4 | 2.17 | -3.33 | -3.68 |
| | | | Diagonal | Max Tension | 19 | 19.37 | -0.12 | -0.00 |
| | | | | Max. Compression | 18 | -19.99 | 0.00 | 0.00 |
| Max. Mx | 49 | | | 3.14 | -0.25 | -0.03 | | |
| Max. My | 32 | | | 7.45 | -0.20 | -0.03 | | |
| Max. Vy | 49 | | | -0.12 | -0.25 | 0.02 | | |
| Max. Vx | 49 | | | 0.01 | 0.00 | 0.00 | | |
| Secondary Horizontal | Max Tension | 26 | | 3.01 | 0.09 | 0.00 | | |
| | Max. Compression | 33 | | -3.22 | 0.05 | 0.04 | | |
| | Max. Mx | 40 | | 0.73 | 0.18 | 0.03 | | |
| | Max. My | 32 | | -3.18 | 0.07 | 0.05 | | |
| | Max. Vy | 40 | | 0.09 | 0.18 | 0.03 | | |
| | Max. Vx | 50 | | -0.01 | 0.00 | 0.00 | | |
| | Leg | Max Tension | 31 | 412.33 | -4.20 | -3.48 | | |
| | | Max. Compression | 30 | -445.33 | 1.20 | 0.87 | | |
| | | Max. Mx | 32 | 394.17 | -4.75 | -3.10 | | |
| | | Max. My | 20 | 384.44 | -3.03 | -4.71 | | |
| | | Max. Vy | 30 | -1.69 | 3.11 | 2.91 | | |
| | | Max. Vx | 22 | -1.65 | 2.83 | 3.06 | | |
| Diagonal | | Max Tension | 17 | 21.16 | -0.14 | -0.00 | | |
| | | Max. Compression | 32 | -23.70 | 0.00 | 0.00 | | |
| | | Max. Mx | 49 | -0.33 | -0.23 | -0.03 | | |
| | | Max. My | 50 | -4.39 | -0.21 | -0.04 | | |
| | | Max. Vy | 49 | -0.12 | -0.23 | -0.03 | | |
| | | Max. Vx | 50 | 0.01 | 0.00 | 0.00 | | |
| | Horizontal | Max Tension | 35 | 5.73 | 0.00 | 0.00 | | |

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|--|----------------|---------------------------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 22007.02 - CT2143 | Page | 61 of 83 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft | |
|----------------------|-------------------------|-----------------------|-----------------------|------------------|---------|--------------------------|--------------------------|-------|
| T19 | 10 - 0 | Secondary Horizontal | Max. Compression | 27 | -1.83 | 0.64 | -0.04 | |
| | | | Max. Mx | 35 | 4.55 | 0.82 | -0.04 | |
| | | | Max. My | 18 | -0.30 | 0.79 | -0.05 | |
| | | | Max. Vy | 35 | -0.16 | 0.00 | 0.00 | |
| | | | Max. Vx | 35 | -0.01 | 0.00 | 0.00 | |
| | | | Max Tension | 29 | 2.03 | 0.03 | 0.01 | |
| | | | Inner Bracing | Max. Compression | 32 | -2.91 | 0.05 | 0.04 |
| | | | | Max. Mx | 50 | -0.26 | 0.14 | 0.05 |
| | | | | Max. My | 48 | -1.19 | 0.13 | 0.06 |
| | | | | Max. Vy | 50 | -0.09 | 0.14 | 0.05 |
| | | | | Max. Vx | 48 | -0.01 | 0.00 | 0.00 |
| | | | | Max Tension | 16 | 0.07 | 0.00 | 0.00 |
| | | Leg | | Max. Compression | 33 | -0.05 | 0.00 | 0.00 |
| | | | | Max. Mx | 34 | 0.00 | 0.50 | 0.00 |
| | | | | Max. My | 49 | 0.01 | 0.00 | 0.00 |
| | | | | Max. Vy | 34 | -0.12 | 0.00 | 0.00 |
| | | | | Max. Vx | 49 | 0.00 | 0.00 | 0.00 |
| | | | | Max Tension | 31 | 418.95 | -2.83 | -2.92 |
| | | | Diagonal | Max. Compression | 30 | -456.37 | 0.00 | -0.00 |
| | | | | Max. Mx | 18 | -311.82 | 4.66 | 0.53 |
| | | | | Max. My | 2 | -307.42 | 0.42 | 4.71 |
| | | | | Max. Vy | 32 | 1.60 | -3.35 | -2.87 |
| | | | | Max. Vx | 20 | 1.58 | -2.81 | -3.25 |
| | | | | Max Tension | 17 | 30.82 | -0.06 | 0.05 |
| | | Horizontal | | Max. Compression | 32 | -31.74 | 0.00 | 0.00 |
| | | | | Max. Mx | 16 | 11.64 | -0.09 | -0.05 |
| | | | | Max. My | 32 | -25.69 | -0.01 | -0.06 |
| | | | | Max. Vy | 48 | -0.06 | -0.06 | -0.03 |
| | | | | Max. Vx | 50 | -0.01 | 0.00 | 0.00 |
| | | | | Max Tension | 32 | 22.72 | -0.13 | -0.02 |
| | | | Redund Horz 1 Bracing | Max. Compression | 17 | -20.51 | -0.04 | 0.02 |
| | | | | Max. Mx | 47 | 4.21 | -0.18 | -0.01 |
| | | | | Max. My | 10 | 10.04 | -0.15 | -0.04 |
| | | | | Max. Vy | 47 | 0.10 | -0.18 | -0.01 |
| | | | | Max. Vx | 10 | -0.01 | 0.00 | 0.00 |
| | | | | Max Tension | 32 | 1.95 | 0.00 | 0.00 |
| | | Redund Diag 1 Bracing | | Max. Compression | 31 | -2.26 | 0.00 | 0.00 |
| | | | | Max. Mx | 50 | 0.90 | -0.02 | 0.00 |
| | | | | Max. My | 42 | 0.19 | 0.00 | 0.00 |
| | | | | Max. Vy | 50 | -0.02 | 0.00 | 0.00 |
| | | | | Max. Vx | 42 | 0.00 | 0.00 | 0.00 |
| | | | | Max Tension | 3 | 8.51 | 0.00 | 0.00 |
| Redund Hip 1 Bracing | Max. Compression | | 2 | -8.99 | 0.00 | 0.00 | | |
| | Max. Mx | | 50 | 1.30 | -0.04 | 0.00 | | |
| | Max. My | | 42 | 4.92 | 0.00 | 0.00 | | |
| | Max. Vy | | 50 | 0.02 | 0.00 | 0.00 | | |
| | Max. Vx | | 42 | -0.00 | 0.00 | 0.00 | | |
| | Max Tension | | 48 | 0.01 | 0.00 | 0.00 | | |
| | Redund Sub Horz Bracing | Max. Compression | 30 | -0.04 | 0.00 | 0.00 | | |
| | | Max. Mx | 34 | 0.00 | -0.05 | 0.00 | | |
| | | Max. Vy | 34 | 0.03 | 0.00 | 0.00 | | |
| | | Max Tension | 3 | 9.59 | 0.00 | 0.00 | | |
| | | Redund Hip 1 Bracing | Max. Compression | 26 | -10.46 | 0.00 | 0.00 | |
| | | | Max. Mx | 34 | 4.03 | -0.15 | 0.00 | |
| Max. My | | | 34 | 4.03 | 0.00 | 0.01 | | |
| Max. Vy | | | 34 | 0.07 | 0.00 | 0.00 | | |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 62 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJJ |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|--------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| | | Inner Bracing | Max. Vx | 34 | -0.00 | 0.00 | 0.00 |
| | | | Max Tension | 30 | 0.21 | 0.00 | 0.00 |
| | | | Max. Compression | 30 | -0.22 | 0.00 | 0.00 |
| | | | Max. Mx | 34 | -0.00 | 0.53 | 0.00 |
| | | | Max. My | 26 | 0.00 | 0.00 | -0.00 |
| | | | Max. Vy | 34 | -0.12 | 0.00 | 0.00 |
| | | | Max. Vx | 26 | 0.00 | 0.00 | 0.00 |

Maximum Reactions

| Location | Condition | Gov. Load Comb. | Vertical K | Horizontal, X K | Horizontal, Z K |
|----------|---------------------|-----------------|------------|-----------------|-----------------|
| Leg D | Max. Vert | 22 | 486.39 | 33.76 | -35.65 |
| | Max. H _x | 24 | 470.63 | 35.30 | -31.87 |
| | Max. H _z | 5 | -431.63 | -28.38 | 35.56 |
| | Min. Vert | 7 | -447.50 | -32.26 | 34.04 |
| | Min. H _x | 9 | -431.64 | -33.83 | 30.09 |
| | Min. H _z | 20 | 470.64 | 30.03 | -37.13 |
| Leg C | Max. Vert | 14 | 494.03 | -36.23 | -34.07 |
| | Max. H _x | 29 | -441.05 | 35.76 | 29.19 |
| | Max. H _z | 33 | -441.04 | 31.35 | 33.58 |
| | Min. Vert | 31 | -457.21 | 34.80 | 32.54 |
| | Min. H _x | 12 | 477.97 | -37.16 | -30.85 |
| Leg B | Min. H _z | 16 | 477.97 | -32.94 | -35.09 |
| | Max. Vert | 6 | 486.72 | -35.66 | 33.77 |
| | Max. H _x | 25 | -431.39 | 35.00 | -28.92 |
| | Max. H _z | 4 | 470.96 | -32.44 | 34.76 |
| | Min. Vert | 23 | -447.26 | 34.06 | -32.23 |
| Leg A | Min. H _x | 8 | 470.96 | -36.57 | 30.61 |
| | Min. H _z | 21 | -431.39 | 30.68 | -33.23 |
| | Max. Vert | 30 | 496.68 | 34.14 | 36.30 |
| | Max. H _x | 28 | 480.63 | 35.63 | 32.55 |
| | Max. H _z | 32 | 480.62 | 30.46 | 37.71 |
| | Min. Vert | 15 | -455.21 | -32.51 | -34.72 |
| | Min. H _x | 13 | -439.05 | -34.03 | -30.80 |
| | Min. H _z | 17 | -439.04 | -28.67 | -36.17 |

Tower Mast Reaction Summary

| Load Combination | Vertical K | Shear _x K | Shear _z K | Overturning Moment, M _x kip-ft | Overturning Moment, M _z kip-ft | Torque kip-ft |
|-----------------------------------|------------|----------------------|----------------------|---|---|---------------|
| Dead Only | 75.49 | 0.00 | 0.00 | -21.97 | 17.22 | 0.00 |
| 1.2 Dead+1.0 Wind 0 deg - No Ice | 90.58 | -0.70 | -115.68 | -11219.69 | 131.50 | -101.17 |
| 0.9 Dead+1.0 Wind 0 deg - No Ice | 67.94 | -0.70 | -115.68 | -11205.45 | 126.23 | -101.16 |
| 1.2 Dead+1.0 Wind 30 deg - No Ice | 90.58 | 60.59 | -105.64 | -10149.22 | -5759.55 | -83.17 |
| 0.9 Dead+1.0 Wind 30 deg - No Ice | 67.94 | 60.59 | -105.64 | -10135.74 | -5760.83 | -83.13 |
| 1.2 Dead+1.0 Wind 45 deg - No Ice | 90.58 | 86.05 | -86.05 | -8258.67 | -8211.20 | -65.26 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 63 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJJ |

| Load Combination | Vertical K | Shear _x K | Shear _z K | Overturning Moment, M _x kip-ft | Overturning Moment, M _z kip-ft | Torque kip-ft |
|---|---------------|-------------------------|-------------------------|---|---|------------------|
| Ice | | | | | | |
| 0.9 Dead+1.0 Wind 45 deg - No Ice | 67.94 | 86.05 | -86.05 | -8246.47 | -8210.81 | -65.21 |
| 1.2 Dead+1.0 Wind 60 deg - No Ice | 90.58 | 105.64 | -60.59 | -5807.09 | -10101.83 | -42.90 |
| 0.9 Dead+1.0 Wind 60 deg - No Ice | 67.94 | 105.64 | -60.59 | -5796.55 | -10100.17 | -42.84 |
| 1.2 Dead+1.0 Wind 90 deg - No Ice | 90.58 | 115.68 | 0.70 | 84.06 | -11172.55 | 8.89 |
| 0.9 Dead+1.0 Wind 90 deg - No Ice | 67.94 | 115.68 | 0.70 | 90.60 | -11170.13 | 8.95 |
| 1.2 Dead+1.0 Wind 120 deg - No Ice | 90.58 | 106.34 | 61.80 | 5945.60 | -10212.48 | 58.29 |
| 0.9 Dead+1.0 Wind 120 deg - No Ice | 67.94 | 106.34 | 61.80 | 5948.18 | -10210.72 | 58.33 |
| 1.2 Dead+1.0 Wind 135 deg - No Ice | 90.58 | 87.04 | 87.04 | 8362.06 | -8367.64 | 77.82 |
| 0.9 Dead+1.0 Wind 135 deg - No Ice | 67.94 | 87.04 | 87.04 | 8363.01 | -8367.13 | 77.85 |
| 1.2 Dead+1.0 Wind 150 deg - No Ice | 90.58 | 61.80 | 106.34 | 10206.85 | -5951.13 | 92.05 |
| 0.9 Dead+1.0 Wind 150 deg - No Ice | 67.94 | 61.80 | 106.34 | 10206.55 | -5952.25 | 92.07 |
| 1.2 Dead+1.0 Wind 180 deg - No Ice | 90.58 | 0.70 | 115.68 | 11166.79 | -89.64 | 101.16 |
| 0.9 Dead+1.0 Wind 180 deg - No Ice | 67.94 | 0.70 | 115.68 | 11165.83 | -94.73 | 101.15 |
| 1.2 Dead+1.0 Wind 210 deg - No Ice | 90.58 | -60.59 | 105.64 | 10096.06 | 5801.40 | 83.19 |
| 0.9 Dead+1.0 Wind 210 deg - No Ice | 67.94 | -60.58 | 105.64 | 10095.86 | 5792.33 | 83.12 |
| 1.2 Dead+1.0 Wind 225 deg - No Ice | 90.58 | -86.05 | 86.05 | 8205.44 | 8252.92 | 65.26 |
| 0.9 Dead+1.0 Wind 225 deg - No Ice | 67.94 | -86.05 | 86.05 | 8206.51 | 8242.18 | 65.21 |
| 1.2 Dead+1.0 Wind 240 deg - No Ice | 90.58 | -105.64 | 60.59 | 5753.83 | 10143.44 | 42.89 |
| 0.9 Dead+1.0 Wind 240 deg - No Ice | 67.94 | -105.64 | 60.59 | 5756.57 | 10131.41 | 42.84 |
| 1.2 Dead+1.0 Wind 270 deg - No Ice | 90.58 | -115.68 | -0.70 | -137.12 | 11213.94 | -8.88 |
| 0.9 Dead+1.0 Wind 270 deg - No Ice | 67.94 | -115.68 | -0.70 | -130.39 | 11201.16 | -8.94 |
| 1.2 Dead+1.0 Wind 300 deg - No Ice | 90.58 | -106.34 | -61.80 | -5998.40 | 10253.92 | -58.26 |
| 0.9 Dead+1.0 Wind 300 deg - No Ice | 67.94 | -106.34 | -61.80 | -5987.70 | 10241.81 | -58.31 |
| 1.2 Dead+1.0 Wind 315 deg - No Ice | 90.58 | -87.04 | -87.04 | -8414.79 | 8409.20 | -77.81 |
| 0.9 Dead+1.0 Wind 315 deg - No Ice | 67.94 | -87.04 | -87.04 | -8402.46 | 8398.33 | -77.85 |
| 1.2 Dead+1.0 Wind 330 deg - No Ice | 90.58 | -61.81 | -106.34 | -10259.55 | 5992.85 | -92.08 |
| 0.9 Dead+1.0 Wind 330 deg - No Ice | 67.94 | -61.80 | -106.34 | -10246.00 | 5983.61 | -92.04 |
| 1.2 Dead+1.0 Ice+1.0 Temp | 191.29 | 0.00 | 0.00 | -5.01 | 124.57 | 0.01 |
| 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp | 191.29 | -0.10 | -30.68 | -2874.80 | 140.25 | -42.58 |
| 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp | 191.29 | 16.08 | -27.94 | -2589.52 | -1358.53 | -30.93 |
| 1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp | 191.29 | 22.79 | -22.79 | -2110.58 | -1980.97 | -21.80 |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Load Combination | Vertical K | Shear _x K | Shear _z K | Overturning Moment, M _x kip-ft | Overturning Moment, M _z kip-ft | Torque kip-ft |
|--|---------------|-------------------------|-------------------------|--|--|------------------|
| Ice+1.0 Temp | | | | | | |
| 1.2 Dead+1.0 Wind 60 deg+1.0 | 191.29 | 27.94 | -16.08 | -1488.14 | -2459.91 | -11.17 |
| Ice+1.0 Temp | | | | | | |
| 1.2 Dead+1.0 Wind 90 deg+1.0 | 191.29 | 30.68 | 0.10 | 10.64 | -2745.19 | 11.66 |
| Ice+1.0 Temp | | | | | | |
| 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp | 191.29 | 28.04 | 16.25 | 1505.23 | -2475.56 | 31.24 |
| 1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp | 191.29 | 22.92 | 22.92 | 2122.69 | -2003.10 | 38.18 |
| 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp | 191.29 | 16.25 | 28.04 | 2595.14 | -1385.64 | 42.52 |
| 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp | 191.29 | 0.10 | 30.68 | 2864.75 | 108.93 | 42.59 |
| 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp | 191.29 | -16.08 | 27.94 | 2579.46 | 1607.70 | 30.94 |
| 1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp | 191.29 | -22.79 | 22.79 | 2100.52 | 2230.13 | 21.80 |
| 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp | 191.29 | -27.94 | 16.08 | 1478.09 | 2709.06 | 11.18 |
| 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp | 191.29 | -30.68 | -0.10 | -20.69 | 2994.34 | -11.65 |
| 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp | 191.29 | -28.04 | -16.25 | -1515.26 | 2724.72 | -31.23 |
| 1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp | 191.29 | -22.92 | -22.92 | -2132.72 | 2252.27 | -38.17 |
| 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp | 191.29 | -16.25 | -28.04 | -2605.18 | 1634.82 | -42.51 |
| Dead+Wind 0 deg - Service | 75.49 | -0.15 | -24.87 | -2425.08 | 40.78 | -21.66 |
| Dead+Wind 30 deg - Service | 75.49 | 13.03 | -22.72 | -2195.54 | -1224.03 | -17.86 |
| Dead+Wind 45 deg - Service | 75.49 | 18.51 | -18.51 | -1789.69 | -1750.39 | -14.05 |
| Dead+Wind 60 deg - Service | 75.49 | 22.72 | -13.03 | -1263.34 | -2156.27 | -9.28 |
| Dead+Wind 90 deg - Service | 75.49 | 24.87 | 0.15 | 1.52 | -2385.82 | 1.79 |
| Dead+Wind 120 deg - Service | 75.49 | 22.87 | 13.29 | 1260.07 | -2179.82 | 12.38 |
| Dead+Wind 135 deg - Service | 75.49 | 18.72 | 18.72 | 1778.90 | -1783.66 | 16.58 |
| Dead+Wind 150 deg - Service | 75.49 | 13.29 | 22.87 | 2175.03 | -1264.81 | 19.65 |
| Dead+Wind 180 deg - Service | 75.49 | 0.15 | 24.87 | 2381.00 | -6.30 | 21.66 |
| Dead+Wind 210 deg - Service | 75.49 | -13.03 | 22.72 | 2151.49 | 1258.57 | 17.87 |
| Dead+Wind 225 deg - Service | 75.49 | -18.51 | 18.51 | 1745.60 | 1784.91 | 14.05 |
| Dead+Wind 240 deg - Service | 75.49 | -22.72 | 13.03 | 1219.25 | 2190.75 | 9.28 |
| Dead+Wind 270 deg - Service | 75.49 | -24.87 | -0.15 | -45.57 | 2420.30 | -1.79 |
| Dead+Wind 300 deg - Service | 75.49 | -22.87 | -13.29 | -1304.09 | 2214.29 | -12.38 |
| Dead+Wind 315 deg - Service | 75.49 | -18.72 | -18.72 | -1822.95 | 1818.20 | -16.58 |
| Dead+Wind 330 deg - Service | 75.49 | -13.29 | -22.87 | -2219.08 | 1299.34 | -19.65 |

Solution Summary

| Load Comb. | Sum of Applied Forces | | | Sum of Reactions | | | % Error |
|------------|-----------------------|---------|---------|------------------|---------|---------|---------|
| | PX K | PY K | PZ K | PX K | PY K | PZ K | |
| 1 | 0.00 | -75.49 | 0.00 | -0.00 | 75.49 | -0.00 | 0.000% |
| 2 | -0.70 | -90.58 | -115.68 | 0.70 | 90.58 | 115.68 | 0.000% |
| 3 | -0.70 | -67.94 | -115.68 | 0.70 | 67.94 | 115.68 | 0.000% |
| 4 | 60.59 | -90.58 | -105.64 | -60.59 | 90.58 | 105.64 | 0.000% |
| 5 | 60.59 | -67.94 | -105.64 | -60.59 | 67.94 | 105.64 | 0.000% |
| 6 | 86.05 | -90.58 | -86.05 | -86.05 | 90.58 | 86.05 | 0.001% |
| 7 | 86.05 | -67.94 | -86.05 | -86.05 | 67.94 | 86.05 | 0.001% |
| 8 | 105.64 | -90.58 | -60.59 | -105.64 | 90.58 | 60.59 | 0.000% |
| 9 | 105.64 | -67.94 | -60.59 | -105.64 | 67.94 | 60.59 | 0.000% |

| | | | | |
|---|----------------|---------------------------------|--------------------|-------------------|
| <p style="text-align: center;">tnxTower</p> <p style="text-align: center;">Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587</p> | Job | 22007.02 - CT2143 | Page | 65 of 83 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 09:32:21 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| Load Comb. | Sum of Applied Forces | | | Sum of Reactions | | | % Error |
|------------|-----------------------|---------|---------|------------------|---------|---------|---------|
| | PX K | PY K | PZ K | PX K | PY K | PZ K | |
| 10 | 115.68 | -90.58 | 0.70 | -115.68 | 90.58 | -0.70 | 0.000% |
| 11 | 115.68 | -67.94 | 0.70 | -115.68 | 67.94 | -0.70 | 0.000% |
| 12 | 106.34 | -90.58 | 61.80 | -106.34 | 90.58 | -61.80 | 0.000% |
| 13 | 106.34 | -67.94 | 61.80 | -106.34 | 67.94 | -61.80 | 0.000% |
| 14 | 87.04 | -90.58 | 87.04 | -87.04 | 90.58 | -87.04 | 0.001% |
| 15 | 87.04 | -67.94 | 87.04 | -87.04 | 67.94 | -87.04 | 0.001% |
| 16 | 61.80 | -90.58 | 106.34 | -61.80 | 90.58 | -106.34 | 0.000% |
| 17 | 61.80 | -67.94 | 106.34 | -61.80 | 67.94 | -106.34 | 0.000% |
| 18 | 0.70 | -90.58 | 115.68 | -0.70 | 90.58 | -115.68 | 0.000% |
| 19 | 0.70 | -67.94 | 115.68 | -0.70 | 67.94 | -115.68 | 0.000% |
| 20 | -60.59 | -90.58 | 105.64 | 60.59 | 90.58 | -105.64 | 0.000% |
| 21 | -60.59 | -67.94 | 105.64 | 60.59 | 67.94 | -105.64 | 0.003% |
| 22 | -86.05 | -90.58 | 86.05 | 86.05 | 90.58 | -86.05 | 0.001% |
| 23 | -86.05 | -67.94 | 86.05 | 86.05 | 67.94 | -86.05 | 0.001% |
| 24 | -105.64 | -90.58 | 60.59 | 105.64 | 90.58 | -60.59 | 0.000% |
| 25 | -105.64 | -67.94 | 60.59 | 105.64 | 67.94 | -60.59 | 0.000% |
| 26 | -115.68 | -90.58 | -0.70 | 115.68 | 90.58 | 0.70 | 0.000% |
| 27 | -115.68 | -67.94 | -0.70 | 115.68 | 67.94 | 0.70 | 0.000% |
| 28 | -106.34 | -90.58 | -61.80 | 106.34 | 90.58 | 61.80 | 0.000% |
| 29 | -106.34 | -67.94 | -61.80 | 106.34 | 67.94 | 61.80 | 0.000% |
| 30 | -87.04 | -90.58 | -87.04 | 87.04 | 90.58 | 87.04 | 0.001% |
| 31 | -87.04 | -67.94 | -87.04 | 87.04 | 67.94 | 87.04 | 0.001% |
| 32 | -61.80 | -90.58 | -106.34 | 61.80 | 90.58 | 106.34 | 0.002% |
| 33 | -61.80 | -67.94 | -106.34 | 61.80 | 67.94 | 106.34 | 0.003% |
| 34 | 0.00 | -191.29 | 0.00 | -0.00 | 191.29 | 0.00 | 0.000% |
| 35 | -0.10 | -191.29 | -30.68 | 0.10 | 191.29 | 30.68 | 0.000% |
| 36 | 16.08 | -191.29 | -27.94 | -16.08 | 191.29 | 27.94 | 0.000% |
| 37 | 22.79 | -191.29 | -22.79 | -22.79 | 191.29 | 22.79 | 0.000% |
| 38 | 27.94 | -191.29 | -16.08 | -27.94 | 191.29 | 16.08 | 0.000% |
| 39 | 30.68 | -191.29 | 0.10 | -30.68 | 191.29 | -0.10 | 0.000% |
| 40 | 28.04 | -191.29 | 16.25 | -28.04 | 191.29 | -16.25 | 0.000% |
| 41 | 22.92 | -191.29 | 22.92 | -22.92 | 191.29 | -22.92 | 0.000% |
| 42 | 16.25 | -191.29 | 28.04 | -16.25 | 191.29 | -28.04 | 0.000% |
| 43 | 0.10 | -191.29 | 30.68 | -0.10 | 191.29 | -30.68 | 0.000% |
| 44 | -16.08 | -191.29 | 27.94 | 16.08 | 191.29 | -27.94 | 0.000% |
| 45 | -22.79 | -191.29 | 22.79 | 22.79 | 191.29 | -22.79 | 0.000% |
| 46 | -27.94 | -191.29 | 16.08 | 27.94 | 191.29 | -16.08 | 0.000% |
| 47 | -30.68 | -191.29 | -0.10 | 30.68 | 191.29 | 0.10 | 0.000% |
| 48 | -28.04 | -191.29 | -16.25 | 28.04 | 191.29 | 16.25 | 0.000% |
| 49 | -22.92 | -191.29 | 22.92 | 22.92 | 191.29 | 22.92 | 0.000% |
| 50 | -16.25 | -191.29 | -28.04 | 16.25 | 191.29 | 28.04 | 0.000% |
| 51 | -0.15 | -75.49 | -24.87 | 0.15 | 75.49 | 24.87 | 0.000% |
| 52 | 13.03 | -75.49 | -22.72 | -13.03 | 75.49 | 22.72 | 0.000% |
| 53 | 18.51 | -75.49 | -18.51 | -18.51 | 75.49 | 18.51 | 0.000% |
| 54 | 22.72 | -75.49 | -13.03 | -22.72 | 75.49 | 13.03 | 0.000% |
| 55 | 24.87 | -75.49 | 0.15 | -24.87 | 75.49 | -0.15 | 0.000% |
| 56 | 22.87 | -75.49 | 13.29 | -22.87 | 75.49 | -13.29 | 0.000% |
| 57 | 18.72 | -75.49 | 18.72 | -18.72 | 75.49 | -18.72 | 0.000% |
| 58 | 13.29 | -75.49 | 22.87 | -13.29 | 75.49 | -22.87 | 0.000% |
| 59 | 0.15 | -75.49 | 24.87 | -0.15 | 75.49 | -24.87 | 0.000% |
| 60 | -13.03 | -75.49 | 22.72 | 13.03 | 75.49 | -22.72 | 0.000% |
| 61 | -18.51 | -75.49 | 18.51 | 18.51 | 75.49 | -18.51 | 0.000% |
| 62 | -22.72 | -75.49 | 13.03 | 22.72 | 75.49 | -13.03 | 0.000% |
| 63 | -24.87 | -75.49 | -0.15 | 24.87 | 75.49 | 0.15 | 0.000% |
| 64 | -22.87 | -75.49 | -13.29 | 22.87 | 75.49 | 13.29 | 0.000% |
| 65 | -18.72 | -75.49 | -18.72 | 18.72 | 75.49 | 18.72 | 0.000% |
| 66 | -13.29 | -75.49 | -22.87 | 13.29 | 75.49 | 22.87 | 0.000% |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

Non-Linear Convergence Results

| Load Combination | Converged? | Number of Cycles | Displacement Tolerance | Force Tolerance |
|------------------|------------|------------------|------------------------|-----------------|
| 1 | Yes | 4 | 0.00000001 | 0.00072714 |
| 2 | Yes | 11 | 0.00084172 | 0.00024037 |
| 3 | Yes | 14 | 0.00094178 | 0.00020083 |
| 4 | Yes | 7 | 0.00098378 | 0.00032431 |
| 5 | Yes | 9 | 0.00084716 | 0.00020869 |
| 6 | Yes | 6 | 0.00075423 | 0.00028683 |
| 7 | Yes | 6 | 0.00085821 | 0.00026007 |
| 8 | Yes | 9 | 0.00079136 | 0.00019115 |
| 9 | Yes | 9 | 0.00098045 | 0.00017724 |
| 10 | Yes | 14 | 0.00086109 | 0.00017869 |
| 11 | Yes | 17 | 0.00093942 | 0.00014241 |
| 12 | Yes | 9 | 0.00084697 | 0.00020202 |
| 13 | Yes | 10 | 0.00084583 | 0.00015176 |
| 14 | Yes | 6 | 0.00080064 | 0.00029835 |
| 15 | Yes | 6 | 0.00091338 | 0.00027147 |
| 16 | Yes | 7 | 0.00099895 | 0.00032798 |
| 17 | Yes | 9 | 0.00087546 | 0.00021428 |
| 18 | Yes | 10 | 0.00098477 | 0.00028742 |
| 19 | Yes | 14 | 0.00090589 | 0.00019390 |
| 20 | Yes | 7 | 0.00095786 | 0.00031754 |
| 21 | Yes | 9 | 0.00082407 | 0.00020372 |
| 22 | Yes | 6 | 0.00076096 | 0.00028665 |
| 23 | Yes | 6 | 0.00085973 | 0.00025891 |
| 24 | Yes | 9 | 0.00082096 | 0.00019671 |
| 25 | Yes | 10 | 0.00080752 | 0.00014571 |
| 26 | Yes | 14 | 0.00089819 | 0.00018525 |
| 27 | Yes | 17 | 0.00097647 | 0.00014732 |
| 28 | Yes | 9 | 0.00086697 | 0.00020577 |
| 29 | Yes | 10 | 0.00086323 | 0.00015434 |
| 30 | Yes | 6 | 0.00081520 | 0.00030249 |
| 31 | Yes | 6 | 0.00092763 | 0.00027478 |
| 32 | Yes | 8 | 0.00075737 | 0.00025118 |
| 33 | Yes | 9 | 0.00089966 | 0.00021893 |
| 34 | Yes | 6 | 0.00000001 | 0.00049896 |
| 35 | Yes | 5 | 0.00072275 | 0.00092951 |
| 36 | Yes | 5 | 0.00067211 | 0.00089329 |
| 37 | Yes | 5 | 0.00061637 | 0.00085895 |
| 38 | Yes | 5 | 0.00055741 | 0.00082165 |
| 39 | Yes | 5 | 0.00051355 | 0.00080583 |
| 40 | Yes | 5 | 0.00056219 | 0.00082329 |
| 41 | Yes | 5 | 0.00062487 | 0.00086288 |
| 42 | Yes | 5 | 0.00068538 | 0.00090072 |
| 43 | Yes | 5 | 0.00074631 | 0.00094604 |
| 44 | Yes | 5 | 0.00066972 | 0.00087838 |
| 45 | Yes | 5 | 0.00060372 | 0.00083145 |
| 46 | Yes | 5 | 0.00053696 | 0.00078451 |
| 47 | Yes | 5 | 0.00048328 | 0.00075620 |
| 48 | Yes | 5 | 0.00052657 | 0.00077384 |
| 49 | Yes | 5 | 0.00058694 | 0.00081622 |
| 50 | Yes | 5 | 0.00064818 | 0.00086046 |
| 51 | Yes | 4 | 0.00000001 | 0.00040199 |
| 52 | Yes | 4 | 0.00000001 | 0.00036964 |
| 53 | Yes | 4 | 0.00000001 | 0.00033868 |
| 54 | Yes | 4 | 0.00000001 | 0.00031367 |
| 55 | Yes | 4 | 0.00000001 | 0.00029838 |
| 56 | Yes | 4 | 0.00000001 | 0.00031301 |
| 57 | Yes | 4 | 0.00000001 | 0.00033749 |
| 58 | Yes | 4 | 0.00000001 | 0.00036849 |
| 59 | Yes | 4 | 0.00000001 | 0.00040427 |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 67 of 83 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| | | | | |
|----|-----|---|------------|------------|
| 60 | Yes | 4 | 0.00000001 | 0.00036865 |
| 61 | Yes | 4 | 0.00000001 | 0.00033681 |
| 62 | Yes | 4 | 0.00000001 | 0.00031195 |
| 63 | Yes | 4 | 0.00000001 | 0.00029715 |
| 64 | Yes | 4 | 0.00000001 | 0.00031206 |
| 65 | Yes | 4 | 0.00000001 | 0.00033590 |
| 66 | Yes | 4 | 0.00000001 | 0.00036626 |

Maximum Tower Deflections - Service Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-------------------|------------------------|-----------------|-----------|------------|
| T1 | 180 - 170 | 3.163 | 66 | 0.1414 | 0.0124 |
| T2 | 170 - 163.573 | 2.836 | 66 | 0.1405 | 0.0118 |
| T3 | 163.573 - 159.049 | 2.626 | 66 | 0.1383 | 0.0114 |
| T4 | 159.049 - 154.524 | 2.478 | 66 | 0.1361 | 0.0106 |
| T5 | 154.524 - 150 | 2.334 | 66 | 0.1323 | 0.0100 |
| T6 | 150 - 140 | 2.195 | 66 | 0.1276 | 0.0094 |
| T7 | 140 - 130 | 1.906 | 65 | 0.1157 | 0.0090 |
| T8 | 130 - 120 | 1.644 | 65 | 0.1060 | 0.0090 |
| T9 | 120 - 110 | 1.406 | 65 | 0.0949 | 0.0086 |
| T10 | 110 - 100 | 1.191 | 65 | 0.0853 | 0.0077 |
| T11 | 100 - 90 | 0.997 | 65 | 0.0750 | 0.0069 |
| T12 | 90 - 80 | 0.825 | 65 | 0.0661 | 0.0063 |
| T13 | 80 - 60 | 0.671 | 65 | 0.0568 | 0.0056 |
| T14 | 60 - 50 | 0.409 | 65 | 0.0463 | 0.0040 |
| T15 | 50 - 40 | 0.295 | 65 | 0.0409 | 0.0031 |
| T16 | 40 - 30 | 0.202 | 65 | 0.0352 | 0.0026 |
| T17 | 30 - 20 | 0.124 | 65 | 0.0266 | 0.0021 |
| T18 | 20 - 10 | 0.064 | 65 | 0.0178 | 0.0016 |
| T19 | 10 - 0 | 0.023 | 57 | 0.0088 | 0.0010 |

Critical Deflections and Radius of Curvature - Service Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------------|---------------------------------|-----------------|------------------|-----------|------------|---------------------------|
| 185.00 | Lightning Rod 2"x15' | 66 | 3.163 | 0.1414 | 0.0124 | 531102 |
| 183.00 | SC479-HF1LDF (D00-E5764) | 66 | 3.163 | 0.1414 | 0.0124 | 531102 |
| 181.00 | TMA 432-83H-01T - Future Decom. | 66 | 3.163 | 0.1414 | 0.0124 | 531102 |
| 180.00 | SC479-HF1LDF (D00I-E5764) | 66 | 3.163 | 0.1414 | 0.0124 | 531102 |
| 175.00 | 6' PAD w/ Radome | 66 | 2.999 | 0.1412 | 0.0120 | 531102 |
| 174.00 | SC479-HF1LDF (D00I-E5764) | 66 | 2.966 | 0.1411 | 0.0120 | 445565 |
| 173.00 | 6' PAD w/ Radome | 66 | 2.934 | 0.1410 | 0.0119 | 397602 |
| 170.00 | 6' PAD w/ Radome | 66 | 2.836 | 0.1405 | 0.0118 | 523134 |
| 169.00 | BA1010-2 | 66 | 2.803 | 0.1402 | 0.0117 | 982489 |
| 168.00 | SC479-HF1LDF (D00I-E5764) | 66 | 2.771 | 0.1399 | 0.0117 | 622804 |
| 163.00 | SitePro VFA14-10 | 66 | 2.607 | 0.1381 | 0.0113 | 323108 |
| 161.00 | DB408-B | 66 | 2.542 | 0.1372 | 0.0109 | 111077 |
| 152.00 | 12' Omni Antenna | 66 | 2.256 | 0.1298 | 0.0097 | 48550 |
| 150.00 | RFS SC3-100 | 66 | 2.195 | 0.1276 | 0.0094 | 46902 |
| 146.25 | 12' Omni Antenna | 66 | 2.083 | 0.1231 | 0.0091 | 45123 |
| 145.00 | RFS SC3-100 | 66 | 2.047 | 0.1216 | 0.0091 | 44729 |
| 140.50 | 12' Omni Antenna | 65 | 1.919 | 0.1163 | 0.0090 | 43669 |
| 139.00 | Yagi ASP-816 | 65 | 1.878 | 0.1147 | 0.0090 | 43911 |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Elevation | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------|--------------------|-----------------|---------------|--------|---------|------------------------|
| 137.00 | BA1010 | 65 | 1.824 | 0.1127 | 0.0090 | 44765 |
| 136.50 | DB222-A | 65 | 1.811 | 0.1122 | 0.0090 | 45047 |
| 135.00 | ANT220F2 w/clamps | 65 | 1.771 | 0.1108 | 0.0090 | 45987 |
| 134.50 | BA1010 | 65 | 1.758 | 0.1103 | 0.0090 | 46317 |
| 132.00 | BA1010 | 65 | 1.694 | 0.1080 | 0.0090 | 47976 |
| 130.00 | Dish Ice Shield | 65 | 1.644 | 0.1060 | 0.0090 | 49190 |
| 129.50 | BA1010 | 65 | 1.631 | 0.1055 | 0.0089 | 49459 |
| 128.00 | PD128-1 | 65 | 1.594 | 0.1038 | 0.0089 | 50181 |
| 127.00 | 3" Dia 20' Omni | 65 | 1.570 | 0.1027 | 0.0089 | 50608 |
| 125.00 | 6' PAD w/ Radome | 65 | 1.522 | 0.1004 | 0.0089 | 51399 |
| 124.50 | PD128-1 | 65 | 1.510 | 0.0999 | 0.0089 | 51595 |
| 122.00 | 3" Dia 20' Omni | 65 | 1.452 | 0.0970 | 0.0088 | 52567 |
| 121.00 | PD128-1 | 65 | 1.429 | 0.0959 | 0.0087 | 52938 |
| 117.00 | 3" Dia 20' Omni | 65 | 1.339 | 0.0919 | 0.0084 | 54188 |
| 116.00 | 12' Omni Antenna | 65 | 1.317 | 0.0909 | 0.0083 | 54459 |
| 112.00 | 3" Dia 20' Omni | 65 | 1.232 | 0.0872 | 0.0079 | 55454 |
| 111.00 | 12' Omni Antenna | 65 | 1.211 | 0.0863 | 0.0078 | 55618 |
| 107.00 | 3" Dia 20' Omni | 65 | 1.131 | 0.0822 | 0.0074 | 55546 |
| 106.00 | DB264-A | 65 | 1.111 | 0.0812 | 0.0073 | 55397 |
| 105.00 | 12' Wireless Frame | 65 | 1.091 | 0.0801 | 0.0072 | 55230 |
| 101.00 | DB264-A | 65 | 1.016 | 0.0760 | 0.0069 | 55099 |
| 96.00 | DB264-A | 65 | 0.926 | 0.0714 | 0.0066 | 59058 |
| 91.00 | SC479-HF1LDF | 65 | 0.841 | 0.0670 | 0.0063 | 65460 |
| 86.00 | DB264-A | 65 | 0.761 | 0.0623 | 0.0060 | 67891 |
| 85.00 | SC479-HF1LDF | 65 | 0.746 | 0.0613 | 0.0060 | 67944 |
| 79.00 | SC479-HF1LDF | 65 | 0.657 | 0.0561 | 0.0055 | 71197 |
| 75.00 | Dish Ice Shield | 65 | 0.601 | 0.0534 | 0.0052 | 80232 |
| 71.00 | 2'6"x4" Pipe Mount | 65 | 0.547 | 0.0513 | 0.0049 | 93478 |
| 61.00 | GPS | 65 | 0.421 | 0.0468 | 0.0041 | 139821 |
| 50.00 | DB803M-Y | 65 | 0.295 | 0.0409 | 0.0031 | 51461 |

Maximum Tower Deflections - Design Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-------------------|---------------------|-----------------|--------|---------|
| T1 | 180 - 170 | 14.531 | 30 | 0.6422 | 0.0567 |
| T2 | 170 - 163.573 | 13.043 | 30 | 0.6382 | 0.0539 |
| T3 | 163.573 - 159.049 | 12.090 | 30 | 0.6288 | 0.0522 |
| T4 | 159.049 - 154.524 | 11.416 | 30 | 0.6199 | 0.0486 |
| T5 | 154.524 - 150 | 10.757 | 30 | 0.6040 | 0.0458 |
| T6 | 150 - 140 | 10.119 | 30 | 0.5834 | 0.0434 |
| T7 | 140 - 130 | 8.793 | 30 | 0.5304 | 0.0416 |
| T8 | 130 - 120 | 7.588 | 30 | 0.4860 | 0.0415 |
| T9 | 120 - 110 | 6.495 | 30 | 0.4354 | 0.0400 |
| T10 | 110 - 100 | 5.505 | 30 | 0.3921 | 0.0355 |
| T11 | 100 - 90 | 4.612 | 30 | 0.3455 | 0.0318 |
| T12 | 90 - 80 | 3.816 | 30 | 0.3046 | 0.0292 |
| T13 | 80 - 60 | 3.105 | 30 | 0.2621 | 0.0260 |
| T14 | 60 - 50 | 1.892 | 30 | 0.2135 | 0.0185 |
| T15 | 50 - 40 | 1.365 | 30 | 0.1889 | 0.0145 |
| T16 | 40 - 30 | 0.934 | 30 | 0.1627 | 0.0122 |
| T17 | 30 - 20 | 0.574 | 30 | 0.1228 | 0.0098 |
| T18 | 20 - 10 | 0.297 | 30 | 0.0821 | 0.0073 |
| T19 | 10 - 0 | 0.106 | 14 | 0.0405 | 0.0046 |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

Critical Deflections and Radius of Curvature - Design Wind

| <i>Elevation</i> | <i>Appurtenance</i> | <i>Gov. Load Comb.</i> | <i>Deflection in</i> | <i>Tilt °</i> | <i>Twist °</i> | <i>Radius of Curvature ft</i> |
|------------------|---------------------------------|------------------------|----------------------|---------------|----------------|-------------------------------|
| 185.00 | Lightning Rod 2"x15' | 30 | 14.531 | 0.6422 | 0.0567 | 116919 |
| 183.00 | SC479-HF1LDF (D00-E5764) | 30 | 14.531 | 0.6422 | 0.0567 | 116919 |
| 181.00 | TMA 432-83H-01T - Future Decom. | 30 | 14.531 | 0.6422 | 0.0567 | 116919 |
| 180.00 | SC479-HF1LDF (D00I-E5764) | 30 | 14.531 | 0.6422 | 0.0567 | 116919 |
| 175.00 | 6' PAD w/ Radome | 30 | 13.785 | 0.6414 | 0.0551 | 116919 |
| 174.00 | SC479-HF1LDF (D00I-E5764) | 30 | 13.637 | 0.6410 | 0.0548 | 98128 |
| 173.00 | 6' PAD w/ Radome | 30 | 13.488 | 0.6406 | 0.0545 | 87783 |
| 170.00 | 6' PAD w/ Radome | 30 | 13.043 | 0.6382 | 0.0539 | 124890 |
| 169.00 | BA1010-2 | 30 | 12.895 | 0.6370 | 0.0538 | 291059 |
| 168.00 | SC479-HF1LDF (D00I-E5764) | 30 | 12.747 | 0.6357 | 0.0537 | 206302 |
| 163.00 | SitePro VFA14-10 | 30 | 12.005 | 0.6278 | 0.0518 | 136912 |
| 161.00 | DB408-B | 30 | 11.706 | 0.6243 | 0.0500 | 31948 |
| 152.00 | 12' Omni Antenna | 30 | 10.399 | 0.5930 | 0.0444 | 11262 |
| 150.00 | RFS SC3-100 | 30 | 10.119 | 0.5834 | 0.0434 | 10736 |
| 146.25 | 12' Omni Antenna | 30 | 9.608 | 0.5636 | 0.0421 | 10108 |
| 145.00 | RFS SC3-100 | 30 | 9.441 | 0.5567 | 0.0419 | 9963 |
| 140.50 | 12' Omni Antenna | 30 | 8.856 | 0.5328 | 0.0416 | 9619 |
| 139.00 | Yagi ASP-816 | 30 | 8.667 | 0.5256 | 0.0415 | 9652 |
| 137.00 | BA1010 | 30 | 8.419 | 0.5166 | 0.0415 | 9824 |
| 136.50 | DB222-A | 30 | 8.357 | 0.5144 | 0.0415 | 9884 |
| 135.00 | ANT220F2 w/clamps | 30 | 8.175 | 0.5080 | 0.0415 | 10084 |
| 134.50 | BA1010 | 30 | 8.115 | 0.5058 | 0.0415 | 10155 |
| 132.00 | BA1010 | 30 | 7.820 | 0.4951 | 0.0415 | 10512 |
| 130.00 | Dish Ice Shield | 30 | 7.588 | 0.4860 | 0.0415 | 10783 |
| 129.50 | BA1010 | 30 | 7.531 | 0.4836 | 0.0414 | 10846 |
| 128.00 | PD128-1 | 30 | 7.361 | 0.4762 | 0.0414 | 11021 |
| 127.00 | 3" Dia 20' Omni | 30 | 7.249 | 0.4711 | 0.0413 | 11130 |
| 125.00 | 6' PAD w/ Radome | 30 | 7.029 | 0.4607 | 0.0411 | 11340 |
| 124.50 | PD128-1 | 30 | 6.974 | 0.4581 | 0.0411 | 11393 |
| 122.00 | 3" Dia 20' Omni | 30 | 6.706 | 0.4452 | 0.0406 | 11653 |
| 121.00 | PD128-1 | 30 | 6.600 | 0.4402 | 0.0403 | 11747 |
| 117.00 | 3" Dia 20' Omni | 30 | 6.188 | 0.4219 | 0.0389 | 12022 |
| 116.00 | 12' Omni Antenna | 30 | 6.087 | 0.4176 | 0.0384 | 12070 |
| 112.00 | 3" Dia 20' Omni | 30 | 5.695 | 0.4008 | 0.0365 | 12239 |
| 111.00 | 12' Omni Antenna | 30 | 5.599 | 0.3965 | 0.0360 | 12265 |
| 107.00 | 3" Dia 20' Omni | 30 | 5.227 | 0.3783 | 0.0343 | 12227 |
| 106.00 | DB264-A | 30 | 5.136 | 0.3735 | 0.0339 | 12192 |
| 105.00 | 12' Wireless Frame | 30 | 5.046 | 0.3687 | 0.0335 | 12154 |
| 101.00 | DB264-A | 30 | 4.697 | 0.3500 | 0.0321 | 12119 |
| 96.00 | DB264-A | 30 | 4.283 | 0.3289 | 0.0308 | 12973 |
| 91.00 | SC479-HF1LDF | 30 | 3.892 | 0.3088 | 0.0295 | 14349 |
| 86.00 | DB264-A | 30 | 3.522 | 0.2871 | 0.0280 | 14819 |
| 85.00 | SC479-HF1LDF | 30 | 3.450 | 0.2826 | 0.0277 | 14816 |
| 79.00 | SC479-HF1LDF | 30 | 3.038 | 0.2585 | 0.0257 | 15453 |
| 75.00 | Dish Ice Shield | 30 | 2.779 | 0.2462 | 0.0243 | 17398 |
| 71.00 | 2'6"x4" Pipe Mount | 30 | 2.530 | 0.2364 | 0.0228 | 20256 |
| 61.00 | GPS | 30 | 1.948 | 0.2157 | 0.0189 | 30196 |
| 50.00 | DB803M-Y | 30 | 1.365 | 0.1889 | 0.0145 | 11076 |

Bolt Design Data

| | | |
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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Component Type | Bolt Grade | Bolt Size in | Number Of Bolts | Maximum Load per Bolt K | Allowable Load per Bolt K | Ratio Load Allowable | Allowable Ratio | Criteria |
|-------------|--------------|----------------------|------------|--------------|-----------------|-------------------------|---------------------------|----------------------|-----------------|--------------------|
| T1 | 180 | Diagonal | A325X | 0.6250 | 2 | 1.51 | 7.19 | 0.210 ✓ | 1 | Member Block Shear |
| | | Secondary Horizontal | A325X | 0.6250 | 2 | 0.42 | 6.17 | 0.068 ✓ | 1 | Member Block Shear |
| | | Top Girt | A325X | 0.6250 | 2 | 0.10 | 6.17 | 0.016 ✓ | 1 | Member Block Shear |
| T2 | 170 | Leg | A325X | 0.7500 | 10 | 2.13 | 24.03 | 0.089 ✓ | 1 | Bearing |
| | | Diagonal | A325X | 0.6250 | 2 | 1.86 | 7.19 | 0.259 ✓ | 1 | Member Block Shear |
| | | Top Girt | A325X | 0.6250 | 2 | 0.35 | 6.17 | 0.057 ✓ | 1 | Member Block Shear |
| T3 | 163.573 | Diagonal | A325X | 0.6250 | 2 | 3.01 | 6.17 | 0.488 ✓ | 1 | Member Block Shear |
| | | Top Girt | A325X | 0.6250 | 2 | 0.30 | 6.17 | 0.048 ✓ | 1 | Member Block Shear |
| T4 | 159.049 | Diagonal | A325X | 0.6250 | 2 | 3.38 | 7.19 | 0.470 ✓ | 1 | Member Block Shear |
| T5 | 154.524 | Leg | A325X | 0.7500 | 12 | 7.26 | 24.38 | 0.298 ✓ | 1 | Bearing |
| | | Diagonal | A325X | 0.6250 | 2 | 3.26 | 7.19 | 0.454 ✓ | 1 | Member Block Shear |
| T6 | 150 | Leg | A325X | 0.7500 | 12 | 11.06 | 24.85 | 0.445 ✓ | 1 | Bolt SS |
| | | Diagonal | A325X | 0.6250 | 2 | 3.50 | 7.19 | 0.486 ✓ | 1 | Member Block Shear |
| | | Top Girt | A325X | 0.6250 | 2 | 0.50 | 7.19 | 0.069 ✓ | 1 | Member Block Shear |
| T7 | 140 | Diagonal | A325X | 0.6250 | 2 | 5.21 | 10.26 | 0.508 ✓ | 1 | Member Block Shear |
| | | Top Girt | A325X | 0.6250 | 2 | 0.63 | 7.19 | 0.088 ✓ | 1 | Member Block Shear |
| T8 | 130 | Leg | A325X | 0.7500 | 18 | 12.22 | 24.85 | 0.492 ✓ | 1 | Bolt SS |
| | | Diagonal | A325X | 0.6250 | 2 | 6.14 | 10.26 | 0.598 ✓ | 1 | Member Block Shear |
| | | Secondary Horizontal | A325X | 0.6250 | 2 | 0.83 | 8.22 | 0.100 ✓ | 1 | Member Block Shear |
| T9 | 120 | Diagonal | A325X | 0.6250 | 2 | 6.59 | 10.26 | 0.643 ✓ | 1 | Member Block Shear |
| | | Horizontal | A325X | 0.6250 | 2 | 1.04 | 9.58 | 0.109 ✓ | 1 | Member Block Shear |
| | | Secondary Horizontal | A325X | 0.6250 | 2 | 1.04 | 6.17 | 0.169 ✓ | 1 | Member Block Shear |
| T10 | 110 | Leg | A325X | 0.7500 | 24 | 14.02 | 24.85 | 0.564 ✓ | 1 | Bolt SS |
| | | Diagonal | A325X | 0.6250 | 2 | 7.98 | 11.62 | 0.687 ✓ | 1 | Member Block Shear |
| | | Secondary Horizontal | A325X | 0.6250 | 2 | 1.26 | 8.22 | 0.154 ✓ | 1 | Member Block Shear |
| T11 | 100 | Diagonal | A325X | 0.6250 | 2 | 7.67 | 11.62 | 0.660 ✓ | 1 | Member Block Shear |
| | | Horizontal | A325X | 0.6250 | 2 | 1.51 | 9.58 | 0.158 ✓ | 1 | Member Block Shear |
| T12 | 90 | Leg | A325X | 0.7500 | 32 | 14.59 | 24.85 | 0.587 ✓ | 1 | Bolt SS |
| | | Diagonal | A325X | 0.6250 | 2 | 8.57 | 11.62 | 0.738 ✓ | 1 | Member Block Shear |
| | | Secondary Horizontal | A325X | 0.6250 | 2 | 1.75 | 9.58 | 0.183 ✓ | 1 | Member Block Shear |
| T13 | 80 | Leg | A325X | 0.7500 | 32 | 18.68 | 24.85 | 0.752 ✓ | 1 | Bolt SS |
| | | Diagonal | A325X | 0.6250 | 2 | 8.54 | 14.38 | 0.594 ✓ | 1 | Member Block |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Component Type | Bolt Grade | Bolt Size in | Number Of Bolts | Maximum Load per Bolt K | Allowable Load per Bolt K | Ratio Load Allowable | Allowable Ratio | Criteria | |
|-------------|-----------------|----------------------|------------|-----------------|-----------------|----------------------------|------------------------------|-------------------------|-----------------|----------|-----------------------------|
| T14 | 60 | Top Girt | A325X | 0.6250 | 2 | 2.24 | 9.58 | 0.234 | ✓ | 1 | Shear Member Block Shear |
| | | Diagonal | A325X | 0.6250 | 2 | 8.53 | 14.38 | 0.594 | ✓ | 1 | Member Block Shear |
| | | Horizontal | A325X | 0.6250 | 2 | 2.47 | 12.34 | 0.200 | ✓ | 1 | Member Block Shear |
| T15 | 50 | Leg | A325X | 0.8750 | 32 | 22.41 | 33.82 | 0.663 | ✓ | 1 | Bolt SS |
| | | Diagonal | A325X | 0.6250 | 2 | 8.94 | 28.75 | 0.311 | ✓ | 1 | Member Block Shear |
| T16 | 40 | Secondary Horizontal | A325X | 0.6250 | 2 | 2.69 | 11.62 | 0.232 | ✓ | 1 | Member Block Shear |
| | | Diagonal | A325X | 0.6250 | 2 | 9.20 | 28.75 | 0.320 | ✓ | 1 | Member Block Shear |
| T17 | 30 | Secondary Horizontal | A325X | 0.6250 | 2 | 2.91 | 11.62 | 0.251 | ✓ | 1 | Member Block Shear |
| | | Top Girt | A325X | 0.6250 | 2 | 2.91 | 12.34 | 0.236 | ✓ | 1 | Member Block Shear |
| | | Leg | A325X | 0.8750 | 40 | 21.01 | 33.82 | 0.621 | ✓ | 1 | Bolt SS |
| T18 | 20 | Diagonal | A325X | 0.6250 | 2 | 9.69 | 28.75 | 0.337 | ✓ | 1 | Member Block Shear |
| | | Secondary Horizontal | A325X | 0.6250 | 2 | 3.15 | 11.62 | 0.271 | ✓ | 1 | Member Block Shear |
| | | Diagonal | A325X | 0.6250 | 2 | 10.58 | 28.75 | 0.368 | ✓ | 1 | Member Block Shear |
| T19 | 10 | Horizontal | A325X | 0.6250 | 2 | 3.34 | 12.34 | 0.271 | ✓ | 1 | Member Block Shear |
| | | Secondary Horizontal | A325X | 0.6250 | 2 | 3.34 | 11.62 | 0.288 | ✓ | 1 | Member Block Shear |
| | | Leg | A325X | 0.8750 | 40 | 22.82 | 33.82 | 0.675 | ✓ | 1 | Bolt SS |
| | | Diagonal | A325X | 0.6250 | 2 | 15.41 | 23.96 | 0.643 | ✓ | 1 | Member Block Shear |
| | | Horizontal | A325X | 0.6250 | 2 | 11.36 | 19.17 | 0.593 | ✓ | 1 | Member Block Shear |

Compression Checks

Leg Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio P _u / φP _n |
|-------------|-------------------|------------------|---------|----------------------|----------------|----------------------|---------------------|----------------------|--|
| T1 | 180 - 170 | L3 1/2x3 1/2x3/8 | 10.00 | 5.00 | 87.3 K=1.00 | 2.4800 | -2.73 | 67.87 | 0.040 ¹ ✓ |
| T2 | 170 - 163.573 | L5x5x5/16 | 6.43 | 6.43 | 77.6 K=1.00 | 3.0300 | -10.67 | 86.11 | 0.124 ¹ ✓ |
| T3 | 163.573 - 159.049 | L5x5x5/16 | 4.53 | 4.53 | 54.7 K=1.00 | 3.0300 | -22.50 | 95.81 | 0.235 ¹ ✓ |
| T4 | 159.049 - | L5x5x5/16 | 4.53 | 4.53 | 54.7 | 3.0300 | -33.80 | 95.81 | 0.353 ¹ ✓ |

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| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|----------------------------|---------|----------------------|----------------|----------------------|---------------------|----------------------|---------------------------------|
| | 154.524 | | | | K=1.00 | | | | ✓ |
| T5 | 154.524 - 150 | L5x5x5/16 | 4.53 | 4.53 | 54.7 K=1.00 | 3.0300 | -43.54 | 95.81 | 0.454 ¹ ✓ |
| T6 | 150 - 140 | L5x5x3/8 | 10.01 | 5.01 | 60.7 K=1.00 | 3.6100 | -66.37 | 114.91 | 0.578 ¹ ✓ |
| T7 | 140 - 130 | L6x6x1/2 | 10.01 | 5.23 | 53.2 K=1.00 | 5.7500 | -84.04 | 188.59 | 0.446 ¹ ✓ |
| T8 | 130 - 120 | L6x6x1/2 | 10.01 | 5.21 | 53.0 K=1.00 | 5.7500 | -109.97 | 188.72 | 0.583 ¹ ✓ |
| T9 | 120 - 110 | L6x6x3/4 | 10.01 | 5.20 | 53.3 K=1.00 | 8.4400 | -138.91 | 276.71 | 0.502 ¹ ✓ |
| T10 | 110 - 100 | L6x6x3/4 | 10.01 | 5.18 | 53.2 K=1.00 | 8.4400 | -168.23 | 276.85 | 0.608 ¹ ✓ |
| T11 | 100 - 90 | L8x8x3/4 | 10.01 | 10.01 | 76.0 K=1.00 | 11.4000 | -201.77 | 335.77 | 0.601 ¹ ✓ |
| T12 | 90 - 80 | L8x8x3/4 | 10.01 | 5.16 | 39.2 K=1.00 | 11.4000 | -233.51 | 390.57 | 0.598 ¹ ✓ |
| T13 | 80 - 60 | L8x8x1 w/ 1/2x7 Plates | 20.03 | 10.01 | 48.3 K=1.00 | 22.0000 | -298.94 | 630.40 | 0.474 ¹ ✓ |
| T14 | 60 - 50 | L8x8x1-1/8 w/ 1/2x7 Plates | 10.01 | 10.01 | 48.6 K=1.00 | 23.7340 | -329.35 | 679.24 | 0.485 ¹ ✓ |
| T15 | 50 - 40 | L8x8x1-1/8 w/ 1/2x7 Plates | 10.01 | 5.13 | 24.9 K=1.00 | 23.7340 | -358.63 | 744.33 | 0.482 ¹ ✓ |
| T16 | 40 - 30 | L8x8x1 1/8 | 10.01 | 5.12 | 39.4 K=1.00 | 16.7000 | -388.13 | 571.83 | 0.679 ¹ ✓ |
| T17 | 30 - 20 | L8x8x1 1/8 | 10.01 | 5.12 | 39.4 K=1.00 | 16.7000 | -420.27 | 571.89 | 0.735 ¹ ✓ |
| T18 | 20 - 10 | L8x8x1 1/8 | 10.01 | 5.11 | 39.3 K=1.00 | 16.7000 | -445.33 | 571.94 | 0.779 ¹ ✓ |
| T19 | 10 - 0 | L8x8x1 1/8 | 10.01 | 5.01 | 38.5 K=1.00 | 16.7000 | -456.37 | 573.16 | 0.796 ¹ ✓ |

¹ P_u / φP_n controls

Diagonal Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-------------------|-------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 170 | L2 1/2x2 1/2x3/16 | 11.41 | 5.51 | 130.4 K=0.98 | 0.9020 | -3.19 | 15.19 | 0.210 ¹ ✓ |
| T2 | 170 - 163.573 | L2 1/2x2 1/2x3/16 | 8.46 | 4.03 | 103.3 K=1.06 | 0.9020 | -3.90 | 21.58 | 0.181 ¹ ✓ |
| T3 | 163.573 - 159.049 | L2x2x3/16 | 7.25 | 3.52 | 110.5 K=1.03 | 0.7150 | -6.22 | 15.86 | 0.392 ¹ ✓ |
| T4 | 159.049 - 154.524 | L2 1/2x2x3/16 | 7.51 | 3.65 | 106.9 K=1.04 | 0.8090 | -6.62 | 18.66 | 0.355 ¹ ✓ |
| T5 | 154.524 - 150 | L2 1/2x2x3/16 | 7.77 | 3.78 | 109.6 K=1.03 | 0.8090 | -6.70 | 18.12 | 0.370 ¹ ✓ |

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| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T6 | 150 - 140 | L2 1/2x2x3/16 | 8.61 | 4.21 | 118.8 K=1.00 | 0.8090 | -7.05 | 16.21 | 0.435 ¹ ✓ |
| T7 | 140 - 130 | L3x2 1/2x1/4 | 12.53 | 6.35 | 138.5 K=0.96 | 1.3100 | -10.63 | 19.53 | 0.544 ¹ ✓ |
| T8 | 130 - 120 | L3x3x1/4 | 12.98 | 6.56 | 129.9 K=0.98 | 1.4400 | -12.52 | 24.43 | 0.513 ¹ ✓ |
| T9 | 120 - 110 | L3x3x1/4 | 13.45 | 6.78 | 133.3 K=0.97 | 1.4400 | -13.34 | 23.19 | 0.575 ¹ ✓ |
| T10 | 110 - 100 | L3 1/2x3x1/4 | 13.94 | 7.02 | 130.3 K=0.98 | 1.5600 | -16.23 | 26.32 | 0.617 ¹ ✓ |
| T11 | 100 - 90 | L3 1/2x3x1/4 | 14.44 | 7.26 | 133.8 K=0.97 | 1.5600 | -15.45 | 24.93 | 0.620 ¹ ✓ |
| T12 | 90 - 80 | L3 1/2x3x1/4 | 14.97 | 7.52 | 137.5 K=0.96 | 1.5600 | -17.43 | 23.60 | 0.739 ¹ ✓ |
| T13 | 80 - 60 | 2L2 1/2x2x3/16 | 16.07 | 8.06 | 122.4 K=1.00 | 1.6200 | -17.53 | 30.87 | 0.568 ¹ ✓ |
| T14 | 60 - 50 | 2L2 1/2x2x3/16 | 16.63 | 8.33 | 126.6 K=1.00 | 1.6200 | -17.18 | 28.93 | 0.594 ¹ ✓ |
| T15 | 50 - 40 | 2L2 1/2x2x3/8 | 17.21 | 8.62 | 131.2 K=0.97 | 3.0900 | -19.11 | 51.35 | 0.372 ¹ ✓ |
| T16 | 40 - 30 | 2L2 1/2x2x3/8 | 17.80 | 8.91 | 134.7 K=0.97 | 3.0900 | -18.74 | 48.75 | 0.385 ¹ ✓ |
| T17 | 30 - 20 | 2L2 1/2x2x3/8 | 18.40 | 9.21 | 138.2 K=0.96 | 3.0900 | -19.99 | 46.29 | 0.432 ¹ ✓ |
| T18 | 20 - 10 | 2L2 1/2x2x3/8 | 19.00 | 9.51 | 141.8 K=0.95 | 3.0900 | -23.70 | 43.98 | 0.539 ¹ ✓ |
| T19 | 10 - 0 | 2L2 1/2x2 1/2x5/16 | 13.37 | 12.47 | 141.2 K=1.00 | 2.9300 | -31.74 | 42.08 | 0.754 ¹ ✓ |

¹ P_u / φP_n controls

Horizontal Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T9 | 120 - 110 | L2 1/2x2 1/2x1/4 | 9.12 | 4.11 | 110.3 K=1.10 | 1.1900 | -2.08 | 26.46 | 0.079 ¹ ✓ |
| T11 | 100 - 90 | L2 1/2x2 1/2x1/4 | 10.56 | 4.75 | 118.0 K=1.02 | 1.1900 | -3.03 | 24.08 | 0.126 ¹ ✓ |
| T14 | 60 - 50 | 2L2x2x3/16 | 13.43 | 6.16 | 119.8 K=1.00 | 1.4300 | -4.94 | 28.24 | 0.175 ¹ ✓ |
| T18 | 20 - 10 | 2L2x2x3/16 | 16.29 | 7.62 | 141.5 K=0.96 | 1.4300 | -6.68 | 20.45 | 0.327 ¹ ✓ |
| T19 | 10 - 0 | 2L2 1/2x2 1/2x1/4 | 17.01 | 7.97 | 123.4 K=0.99 | 2.3800 | -20.51 | 44.64 | 0.460 ¹ ✓ |

¹ P_u / φP_n controls

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Secondary Horizontal Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 170 | L2x2x3/16 | 6.00 | 5.31 | 111.7 K=1.08 | 0.7150 | -0.85 | 15.65 | 0.054 ¹ ✓ |
| T7 | 140 - 130 | L2x2x1/4 | 8.03 | 7.53 | 148.4 K=1.00 | 0.9380 | -1.26 | 12.19 | 0.104 ¹ ✓ |
| T8 | 130 - 120 | L2x2x1/4 | 8.75 | 7.86 | 154.8 K=1.00 | 0.9380 | -1.66 | 11.21 | 0.148 ¹ ✓ |
| T9 | 120 - 110 | L2x2x3/16 | 9.47 | 8.57 | 166.7 K=1.00 | 0.7150 | -2.08 | 7.36 | 0.283 ¹ ✓ |
| T10 | 110 - 100 | L2x2x1/4 | 10.19 | 9.29 | 183.1 K=1.00 | 0.9380 | -2.53 | 8.01 | 0.315 ¹ ✓ |
| T12 | 90 - 80 | L2 1/2x2 1/2x1/4 | 11.62 | 10.56 | 164.8 K=1.00 | 1.1900 | -3.50 | 12.54 | 0.279 ¹ ✓ |
| T15 | 50 - 40 | L3 1/2x3 1/2x1/4 | 14.49 | 13.39 | 147.4 K=1.00 | 1.6900 | -5.38 | 22.26 | 0.242 ¹ ✓ |
| T16 | 40 - 30 | L3 1/2x3 1/2x1/4 | 15.21 | 14.15 | 155.8 K=1.00 | 1.6900 | -5.83 | 19.94 | 0.292 ¹ ✓ |
| T17 | 30 - 20 | L3 1/2x3 1/2x1/4 | 15.93 | 14.87 | 163.7 K=1.00 | 1.6900 | -6.31 | 18.06 | 0.349 ¹ ✓ |
| T18 | 20 - 10 | L3 1/2x3 1/2x1/4 | 16.65 | 15.58 | 171.6 K=1.00 | 1.6900 | -6.68 | 16.43 | 0.407 ¹ ✓ |

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-------------------|-------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 170 | L2x2x3/16 | 6.00 | 5.31 | 145.7 K=0.90 | 0.7150 | -0.11 | 9.64 | 0.011 ¹ ✓ |
| T2 | 170 - 163.573 | L2x2x3/16 | 6.00 | 5.19 | 143.4 K=0.91 | 0.7150 | -0.46 | 9.96 | 0.046 ¹ ✓ |
| T3 | 163.573 - 159.049 | L2x2x3/16 | 6.00 | 5.19 | 143.4 K=0.91 | 0.7150 | -0.53 | 9.96 | 0.053 ¹ ✓ |
| T6 | 150 - 140 | L2 1/2x2 1/2x3/16 | 6.97 | 6.16 | 138.1 K=0.92 | 0.9020 | -1.00 | 13.55 | 0.074 ¹ ✓ |
| T7 | 140 - 130 | L2 1/2x2 1/2x3/16 | 7.69 | 3.40 | 101.2 K=1.23 | 0.9020 | -1.26 | 22.02 | 0.057 ¹ ✓ |
| T13 | 80 - 60 | L2 1/2x2 1/2x1/4 | 11.99 | 5.44 | 130.0 K=0.98 | 1.1900 | -4.49 | 20.16 | 0.223 ¹ ✓ |
| T16 | 40 - 30 | 2L2x2x3/16 | 14.86 | 6.90 | 130.8 K=0.98 | 1.4300 | -5.83 | 23.91 | 0.244 ¹ ✓ |

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¹ $P_u / \phi P_n$ controls

Redundant Horizontal (1) Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L_u ft | Kl/r | A in^2 | P_u K | ϕP_n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|-------------|-----------------|-------------|------------|-----------------|---------------------------------|
| T19 | 10 - 0 | L2 1/2x2 1/2x3/16 | 4.25 | 3.92 | 107.5 K=1.13 | 0.9020 | -6.85 | 20.67 | 0.331 ¹ ✓ |

¹ $P_u / \phi P_n$ controls

Redundant Diagonal (1) Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L_u ft | Kl/r | A in^2 | P_u K | ϕP_n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|-------------|-----------------|-------------|------------|-----------------|---------------------------------|
| T19 | 10 - 0 | L2 1/2x2 1/2x3/16 | 6.45 | 5.92 | 143.6 K=1.00 | 0.9020 | -8.99 | 12.52 | 0.718 ¹ ✓ |

¹ $P_u / \phi P_n$ controls

Redundant Hip (1) Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L_u ft | Kl/r | A in^2 | P_u K | ϕP_n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|-------------|-----------------|-------------|------------|-----------------|---------------------------------|
| T19 | 10 - 0 | L2 1/2x2 1/2x3/16 | 6.01 | 6.01 | 145.8 K=1.00 | 0.9020 | -0.04 | 12.14 | 0.004 ¹ ✓ |

¹ $P_u / \phi P_n$ controls

Redundant Sub-Horizontal Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L_u ft | Kl/r | A in^2 | P_u K | ϕP_n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|-------------|-----------------|-------------|------------|-----------------|---------------------------------|
| T19 | 10 - 0 | L3x3x5/16 | 8.86 | 8.86 | 180.6 K=1.00 | 1.7800 | -10.46 | 15.62 | 0.669 ¹ ✓ |

¹ $P_u / \phi P_n$ controls

| | | |
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Inner Bracing Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|----------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T7 | 140 - 130 | L2x2x3/16 | 5.44 | 5.44 | 165.6 K=1.00 | 0.7150 | -0.09 | 7.46 | 0.012 ¹ ✓ |
| T9 | 120 - 110 | L2 1/2x2x3/16 | 6.45 | 6.45 | 181.3 K=1.00 | 0.8090 | -0.10 | 7.04 | 0.015 ¹ ✓ |
| T11 | 100 - 90 | L2 1/2x2x3/16 | 7.47 | 7.47 | 209.8 K=1.00 | 0.8090 | -0.12 | 5.26 | 0.023 ¹ ✓ |
| T13 | 80 - 60 | 2L2x2x3/16 | 8.48 | 8.48 | 164.9 K=1.00 | 1.4300 | -0.16 | 15.05 | 0.010 ¹ ✓ |
| T14 | 60 - 50 | 2L2x2x3/16 | 9.49 | 9.49 | 184.6 K=1.00 | 1.4300 | -0.18 | 12.00 | 0.015 ¹ ✓ |
| T16 | 40 - 30 | 2L2x2x3/16 | 10.51 | 10.51 | 204.4 K=1.00 | 1.4300 | -0.23 | 9.80 | 0.024 ¹ ✓ |
| T18 | 20 - 10 | 2L2x2 1/2x3/16 | 11.52 | 11.52 | 230.4 K=1.00 | 1.6200 | -0.05 | 8.73 | 0.006 ¹ ✓ |
| T19 | 10 - 0 | 2L2x2 1/2x3/16 | 12.03 | 12.03 | 240.6 K=1.00 | 1.6200 | -0.22 | 8.01 | 0.027 ¹ ✓ |

¹ P_u / φP_n controls

Tension Checks

Leg Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-------------------|------------------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 170 | L3 1/2x3 1/2x3/8 | 10.00 | 5.00 | 56.1 | 2.4800 | 1.84 | 80.35 | 0.023 ¹ ✓ |
| T2 | 170 - 163.573 | L5x5x5/16 | 6.43 | 6.43 | 49.1 | 1.8623 | 8.82 | 81.01 | 0.109 ¹ ✓ |
| T3 | 163.573 - 159.049 | L5x5x5/16 | 4.53 | 4.53 | 34.6 | 3.0300 | 18.04 | 98.17 | 0.184 ¹ ✓ |
| T4 | 159.049 - 154.524 | L5x5x5/16 | 4.53 | 4.53 | 34.6 | 3.0300 | 28.13 | 98.17 | 0.287 ¹ ✓ |
| T5 | 154.524 - 150 | L5x5x5/16 | 4.53 | 4.53 | 34.6 | 1.8623 | 37.87 | 81.01 | 0.467 ¹ ✓ |
| T6 | 150 - 140 | L5x5x3/8 | 10.01 | 5.01 | 38.5 | 2.2153 | 59.99 | 96.37 | 0.623 ¹ ✓ |
| T7 | 140 - 130 | L6x6x1/2 | 10.01 | 5.23 | 33.7 | 5.7500 | 76.59 | 186.30 | 0.411 ¹ ✓ |
| T8 | 130 - 120 | L6x6x1/2 | 10.01 | 5.21 | 33.6 | 3.6563 | 99.41 | 159.05 | 0.625 ¹ ✓ |
| T9 | 120 - 110 | L6x6x3/4 | 10.01 | 5.20 | 34.1 | 8.4400 | 126.77 | 273.46 | 0.464 ¹ ✓ |
| T10 | 110 - 100 | L6x6x3/4 | 10.01 | 5.18 | 34.0 | 5.3456 | 154.04 | 232.54 | 0.662 ¹ ✓ |

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| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|----------------------------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| T11 | 100 - 90 | L8x8x3/4 | 10.01 | 10.01 | 48.6 | 11.4000 | 185.37 | 369.36 | 0.502 ¹ |
| T12 | 90 - 80 | L8x8x3/4 | 10.01 | 5.16 | 25.1 | 7.5656 | 215.54 | 329.11 | 0.655 ¹ |
| T13 | 80 - 60 | L8x8x1 w/ 1/2x7 Plates | 20.03 | 10.01 | 48.3 | 22.0000 | 276.88 | 712.80 | 0.388 ¹ |
| T14 | 60 - 50 | L8x8x1-1/8 w/ 1/2x7 Plates | 10.01 | 10.01 | 48.6 | 23.7340 | 304.02 | 768.98 | 0.395 ¹ |
| T15 | 50 - 40 | L8x8x1-1/8 w/ 1/2x7 Plates | 10.01 | 5.13 | 24.9 | 23.7340 | 331.71 | 768.98 | 0.431 ¹ |
| T16 | 40 - 30 | L8x8x1 1/8 | 10.01 | 5.12 | 25.4 | 16.7000 | 357.03 | 541.08 | 0.660 ¹ |
| T17 | 30 - 20 | L8x8x1 1/8 | 10.01 | 5.12 | 25.4 | 10.8375 | 387.02 | 471.43 | 0.821 ¹ |
| T18 | 20 - 10 | L8x8x1 1/8 | 10.01 | 5.11 | 25.4 | 16.7000 | 412.33 | 541.08 | 0.762 ¹ |
| T19 | 10 - 0 | L8x8x1 1/8 | 10.01 | 5.01 | 24.8 | 10.8375 | 418.95 | 471.43 | 0.889 ¹ |

¹ P_u / φP_n controls

Diagonal Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-------------------|-------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 170 | L2 1/2x2 1/2x3/16 | 11.41 | 5.51 | 88.0 | 0.5710 | 3.01 | 24.84 | 0.121 ¹ |
| T2 | 170 - 163.573 | L2 1/2x2 1/2x3/16 | 8.46 | 4.03 | 65.2 | 0.5710 | 3.73 | 24.84 | 0.150 ¹ |
| T3 | 163.573 - 159.049 | L2x2x3/16 | 7.25 | 3.52 | 72.4 | 0.4308 | 6.02 | 18.74 | 0.321 ¹ |
| T4 | 159.049 - 154.524 | L2 1/2x2x3/16 | 7.51 | 3.65 | 77.0 | 0.5013 | 6.76 | 21.81 | 0.310 ¹ |
| T5 | 154.524 - 150 | L2 1/2x2x3/16 | 7.77 | 3.78 | 79.6 | 0.5013 | 6.52 | 21.81 | 0.299 ¹ |
| T6 | 150 - 140 | L2 1/2x2x3/16 | 8.61 | 4.21 | 88.2 | 0.5013 | 6.99 | 21.81 | 0.321 ¹ |
| T7 | 140 - 130 | L3x2 1/2x1/4 | 12.53 | 6.35 | 104.5 | 0.8419 | 10.43 | 36.62 | 0.285 ¹ |
| T8 | 130 - 120 | L3x3x1/4 | 12.98 | 6.56 | 87.2 | 0.9394 | 12.28 | 40.86 | 0.301 ¹ |
| T9 | 120 - 110 | L3x3x1/4 | 13.45 | 6.78 | 90.0 | 0.9394 | 13.19 | 40.86 | 0.323 ¹ |
| T10 | 110 - 100 | L3 1/2x3x1/4 | 13.94 | 7.02 | 94.8 | 1.0294 | 15.97 | 44.78 | 0.357 ¹ |
| T11 | 100 - 90 | L3 1/2x3x1/4 | 14.44 | 7.26 | 98.1 | 1.0294 | 15.35 | 44.78 | 0.343 ¹ |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T12 | 90 - 80 | L3 1/2x3x1/4 | 14.97 | 7.52 | 101.4 | 1.0294 | 17.15 | 44.78 | 0.383 ¹ |
| T13 | 80 - 60 | 2L2 1/2x2x3/16 | 16.07 | 8.06 | 125.4 | 1.0041 | 17.08 | 43.68 | 0.391 ¹ |
| T14 | 60 - 50 | 2L2 1/2x2x3/16 | 16.63 | 8.33 | 129.6 | 1.0041 | 17.07 | 43.68 | 0.391 ¹ |
| T15 | 50 - 40 | 2L2 1/2x2x3/8 | 17.21 | 8.62 | 137.8 | 1.8956 | 17.89 | 82.46 | 0.217 ¹ |
| T16 | 40 - 30 | 2L2 1/2x2x3/8 | 17.80 | 8.91 | 142.3 | 1.8956 | 18.39 | 82.46 | 0.223 ¹ |
| T17 | 30 - 20 | 2L2 1/2x2x3/8 | 18.40 | 9.21 | 147.0 | 1.8956 | 19.38 | 82.46 | 0.235 ¹ |
| T18 | 20 - 10 | 2L2 1/2x2x3/8 | 19.00 | 9.51 | 151.6 | 1.8956 | 21.16 | 82.46 | 0.257 ¹ |
| T19 | 10 - 0 | 2L2 1/2x2 1/2x5/16 | 13.37 | 12.47 | 145.7 | 1.8459 | 30.82 | 80.30 | 0.384 ¹ |

¹ P_u / φP_n controls

Horizontal Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T9 | 120 - 110 | L2 1/2x2 1/2x1/4 | 9.12 | 4.11 | 67.3 | 0.7519 | 2.08 | 32.71 | 0.064 ¹ |
| T11 | 100 - 90 | L2 1/2x2 1/2x1/4 | 10.56 | 4.75 | 77.2 | 0.7519 | 3.03 | 32.71 | 0.093 ¹ |
| T14 | 60 - 50 | 2L2x2x3/16 | 13.43 | 6.16 | 123.7 | 0.8616 | 4.94 | 37.48 | 0.132 ¹ |
| T18 | 20 - 10 | 2L2x2x3/16 | 16.29 | 7.62 | 152.0 | 0.8616 | 6.68 | 37.48 | 0.178 ¹ |
| T19 | 10 - 0 | 2L2 1/2x2 1/2x1/4 | 17.01 | 7.97 | 127.5 | 1.5037 | 22.72 | 65.41 | 0.347 ¹ |

¹ P_u / φP_n controls

Secondary Horizontal Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 170 | L2x2x3/16 | 6.00 | 5.31 | 111.0 | 0.4308 | 0.84 | 18.74 | 0.045 ¹ |
| T7 | 140 - 130 | L2x2x1/4 | 8.03 | 7.53 | 148.4 | 0.9380 | 1.26 | 30.39 | 0.042 ¹ |
| T8 | 130 - 120 | L2x2x1/4 | 8.75 | 7.86 | 162.6 | 0.5629 | 1.65 | 24.49 | 0.067 ¹ |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T9 | 120 - 110 | L2x2x3/16 | 9.47 | 8.57 | 174.4 | 0.4308 | 2.08 | 18.74 | 0.111 ¹ ✓ |
| T10 | 110 - 100 | L2x2x1/4 | 10.19 | 9.29 | 190.9 | 0.5629 | 2.53 | 24.49 | 0.103 ¹ ✓ |
| T12 | 90 - 80 | L2 1/2x2 1/2x1/4 | 11.62 | 10.56 | 171.0 | 0.7519 | 3.50 | 32.71 | 0.107 ¹ ✓ |
| T15 | 50 - 40 | L3 1/2x3 1/2x1/4 | 14.49 | 13.39 | 151.8 | 1.1269 | 5.38 | 49.02 | 0.110 ¹ ✓ |
| T16 | 40 - 30 | L3 1/2x3 1/2x1/4 | 15.21 | 14.15 | 160.1 | 1.1269 | 5.83 | 49.02 | 0.119 ¹ ✓ |
| T17 | 30 - 20 | L3 1/2x3 1/2x1/4 | 15.93 | 14.87 | 168.0 | 1.1269 | 6.31 | 49.02 | 0.129 ¹ ✓ |
| T18 | 20 - 10 | L3 1/2x3 1/2x1/4 | 16.65 | 15.58 | 175.9 | 1.1269 | 6.68 | 49.02 | 0.136 ¹ ✓ |

¹ P_u / φP_n controls

Top Girt Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-------------------|-------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 170 | L2x2x3/16 | 6.00 | 5.31 | 111.0 | 0.4308 | 0.20 | 18.74 | 0.010 ¹ ✓ |
| T2 | 170 - 163.573 | L2x2x3/16 | 6.00 | 5.19 | 108.6 | 0.4308 | 0.70 | 18.74 | 0.037 ¹ ✓ |
| T3 | 163.573 - 159.049 | L2x2x3/16 | 6.00 | 5.19 | 108.6 | 0.4308 | 0.60 | 18.74 | 0.032 ¹ ✓ |
| T6 | 150 - 140 | L2 1/2x2 1/2x3/16 | 6.97 | 6.16 | 101.1 | 0.5710 | 1.00 | 24.84 | 0.040 ¹ ✓ |
| T7 | 140 - 130 | L2 1/2x2 1/2x3/16 | 7.69 | 3.40 | 55.5 | 0.5710 | 1.26 | 24.84 | 0.051 ¹ ✓ |
| T13 | 80 - 60 | L2 1/2x2 1/2x1/4 | 11.99 | 5.44 | 88.0 | 0.7519 | 4.49 | 32.71 | 0.137 ¹ ✓ |
| T16 | 40 - 30 | 2L2x2x3/16 | 14.86 | 6.90 | 138.0 | 0.8616 | 5.83 | 37.48 | 0.155 ¹ ✓ |

¹ P_u / φP_n controls

Redundant Horizontal (1) Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| T19 | 10 - 0 | L2 1/2x2 1/2x3/16 | 4.25 | 3.92 | 60.5 | 0.9020 | 6.85 | 29.22 | 0.234 ¹ ✓ |

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| | Client AT&T | Designed by TJJ |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| | | | | | | | | | ✓ |

¹ P_u / φP_n controls

Redundant Diagonal (1) Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| T19 | 10 - 0 | L2 1/2x2 1/2x3/16 | 6.45 | 5.92 | 91.4 | 0.9020 | 8.51 | 29.22 | 0.291 ¹ |
| | | | | | | | | | ✓ |

¹ P_u / φP_n controls

Redundant Hip (1) Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| T19 | 10 - 0 | L2 1/2x2 1/2x3/16 | 6.01 | 6.01 | 92.8 | 0.9020 | 0.01 | 29.22 | 0.000 ¹ |
| | | | | | | | | | ✓ |

¹ P_u / φP_n controls

Redundant Sub-Horizontal Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T19 | 10 - 0 | L3x3x5/16 | 8.86 | 8.86 | 115.4 | 1.7800 | 9.59 | 57.67 | 0.166 ¹ |
| | | | | | | | | | ✓ |

¹ P_u / φP_n controls

Inner Bracing Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T7 | 140 - 130 | L2x2x3/16 | 5.44 | 5.44 | 105.8 | 0.7150 | 0.09 | 23.17 | 0.004 ¹ |

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| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio P _u / φP _n |
|-------------|-----------------|----------------|---------|----------------------|-------|----------------------|---------------------|----------------------|--|
| T9 | 120 - 110 | L2 1/2x2x3/16 | 6.45 | 6.45 | 129.1 | 0.8090 | 0.10 | 26.21 | 0.004 ¹ ✓ |
| T11 | 100 - 90 | L2 1/2x2x3/16 | 7.47 | 7.47 | 149.4 | 0.8090 | 0.12 | 26.21 | 0.005 ¹ ✓ |
| T13 | 80 - 60 | 2L2x2x3/16 | 8.48 | 8.48 | 164.9 | 1.4300 | 0.16 | 46.33 | 0.003 ¹ ✓ |
| T14 | 60 - 50 | 2L2x2x3/16 | 9.49 | 9.49 | 184.6 | 1.4300 | 0.18 | 46.33 | 0.004 ¹ ✓ |
| T16 | 40 - 30 | 2L2x2x3/16 | 10.51 | 10.51 | 204.4 | 1.4300 | 0.24 | 46.33 | 0.005 ¹ ✓ |
| T18 | 20 - 10 | 2L2x2 1/2x3/16 | 11.52 | 11.52 | 230.4 | 1.6200 | 0.07 | 52.49 | 0.001 ¹ ✓ |
| T19 | 10 - 0 | 2L2x2 1/2x3/16 | 12.03 | 12.03 | 240.6 | 1.6200 | 0.21 | 52.49 | 0.004 ¹ ✓ |

¹ P_u / φP_n controls

Section Capacity Table

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | φP _{allow} K | % Capacity | Pass Fail |
|-------------|-------------------|-------------------|----------------------------|---------------------|---------|--------------------------|---------------|--------------|
| T1 | 180 - 170 | Leg | L3 1/2x3 1/2x3/8 | 4 | -2.73 | 67.87 | 4.0 | Pass |
| T2 | 170 - 163.573 | Leg | L5x5x5/16 | 24 | -10.67 | 86.11 | 12.4 | Pass |
| T3 | 163.573 - 159.049 | Leg | L5x5x5/16 | 39 | -22.50 | 95.81 | 23.5 | Pass |
| T4 | 159.049 - 154.524 | Leg | L5x5x5/16 | 56 | -33.80 | 95.81 | 35.3 | Pass |
| T5 | 154.524 - 150 | Leg | L5x5x5/16 | 66 | 37.87 | 81.01 | 46.7 | Pass |
| T6 | 150 - 140 | Leg | L5x5x3/8 | 78 | 59.99 | 96.37 | 62.3 | Pass |
| T7 | 140 - 130 | Leg | L6x6x1/2 | 104 | -84.04 | 188.59 | 44.6 | Pass |
| T8 | 130 - 120 | Leg | L6x6x1/2 | 127 | 99.41 | 159.05 | 62.5 | Pass |
| T9 | 120 - 110 | Leg | L6x6x3/4 | 145 | -138.91 | 276.71 | 50.2 | Pass |
| T10 | 110 - 100 | Leg | L6x6x3/4 | 168 | 154.04 | 232.54 | 66.2 | Pass |
| T11 | 100 - 90 | Leg | L8x8x3/4 | 186 | -201.77 | 335.77 | 60.1 | Pass |
| T12 | 90 - 80 | Leg | L8x8x3/4 | 205 | 215.54 | 329.11 | 65.5 | Pass |
| T13 | 80 - 60 | Leg | L8x8x1 w/ 1/2x7 Plates | 223 | -298.94 | 630.40 | 47.4 | Pass |
| T14 | 60 - 50 | Leg | L8x8x1-1/8 w/ 1/2x7 Plates | 252 | -329.35 | 679.24 | 48.5 | Pass |
| T15 | 50 - 40 | Leg | L8x8x1-1/8 w/ 1/2x7 Plates | 273 | -358.63 | 744.33 | 48.2 | Pass |
| T16 | 40 - 30 | Leg | L8x8x1 1/8 | 289 | -388.13 | 571.83 | 67.9 | Pass |
| T17 | 30 - 20 | Leg | L8x8x1 1/8 | 312 | 387.02 | 471.43 | 82.1 | Pass |
| T18 | 20 - 10 | Leg | L8x8x1 1/8 | 330 | -445.33 | 571.94 | 77.9 | Pass |
| T19 | 10 - 0 | Leg | L8x8x1 1/8 | 353 | 418.95 | 471.43 | 88.9 | Pass |
| T1 | 180 - 170 | Diagonal | L2 1/2x2 1/2x3/16 | 14 | -3.19 | 15.19 | 21.0 | Pass |
| T2 | 170 - 163.573 | Diagonal | L2 1/2x2 1/2x3/16 | 36 | -3.90 | 21.58 | 18.1 | Pass |
| T3 | 163.573 - 159.049 | Diagonal | L2x2x3/16 | 50 | -6.22 | 15.86 | 39.2 | Pass |
| T4 | 159.049 - 154.524 | Diagonal | L2 1/2x2x3/16 | 62 | -6.62 | 18.66 | 35.5 | Pass |
| T5 | 154.524 - 150 | Diagonal | L2 1/2x2x3/16 | 74 | -6.70 | 18.12 | 37.0 | Pass |

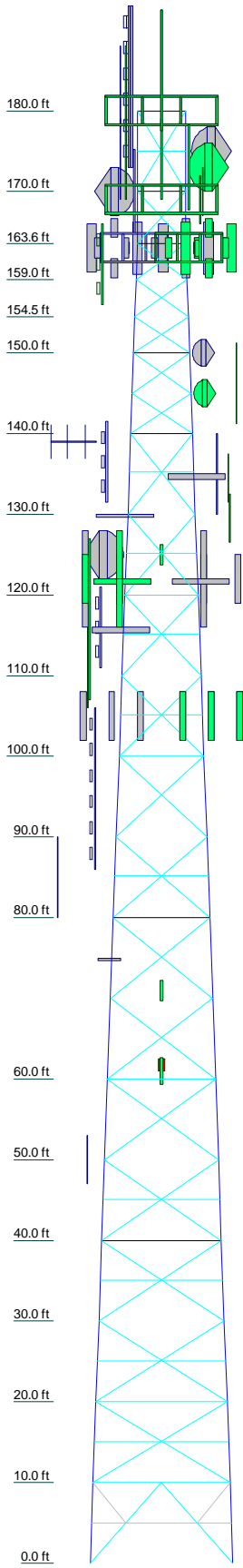
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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | ϕP_{allow} K | % Capacity | Pass Fail |
|-------------|-------------------|-------------------------|--------------------|------------------|--------|--------------------|------------------|-----------|
| T6 | 150 - 140 | Diagonal | L2 1/2x2x3/16 | 90 | -7.05 | 16.21 | 45.4 (b) 43.5 | Pass |
| T7 | 140 - 130 | Diagonal | L3x2 1/2x1/4 | 119 | -10.63 | 19.53 | 48.6 (b) 54.4 | Pass |
| T8 | 130 - 120 | Diagonal | L3x3x1/4 | 135 | -12.52 | 24.43 | 51.3 59.8 (b) | Pass |
| T9 | 120 - 110 | Diagonal | L3x3x1/4 | 162 | -13.34 | 23.19 | 57.5 64.3 (b) | Pass |
| T10 | 110 - 100 | Diagonal | L3 1/2x3x1/4 | 176 | -16.23 | 26.32 | 61.7 68.7 (b) | Pass |
| T11 | 100 - 90 | Diagonal | L3 1/2x3x1/4 | 203 | -15.45 | 24.93 | 62.0 66.0 (b) | Pass |
| T12 | 90 - 80 | Diagonal | L3 1/2x3x1/4 | 215 | -17.43 | 23.60 | 73.9 | Pass |
| T13 | 80 - 60 | Diagonal | 2L2 1/2x2x3/16 | 240 | -17.53 | 30.87 | 56.8 59.4 (b) | Pass |
| T14 | 60 - 50 | Diagonal | 2L2 1/2x2x3/16 | 269 | -17.18 | 28.93 | 59.4 | Pass |
| T15 | 50 - 40 | Diagonal | 2L2 1/2x2x3/8 | 281 | -19.11 | 51.35 | 37.2 | Pass |
| T16 | 40 - 30 | Diagonal | 2L2 1/2x2x3/8 | 306 | -18.74 | 48.75 | 38.5 | Pass |
| T17 | 30 - 20 | Diagonal | 2L2 1/2x2x3/8 | 322 | -19.99 | 46.29 | 43.2 | Pass |
| T18 | 20 - 10 | Diagonal | 2L2 1/2x2x3/8 | 346 | -23.70 | 43.98 | 53.9 | Pass |
| T19 | 10 - 0 | Diagonal | 2L2 1/2x2 1/2x5/16 | 383 | -31.74 | 42.08 | 75.4 | Pass |
| T9 | 120 - 110 | Horizontal | L2 1/2x2 1/2x1/4 | 148 | -2.08 | 26.46 | 7.9 10.9 (b) | Pass |
| T11 | 100 - 90 | Horizontal | L2 1/2x2 1/2x1/4 | 189 | -3.03 | 24.08 | 12.6 15.8 (b) | Pass |
| T14 | 60 - 50 | Horizontal | 2L2x2x3/16 | 255 | -4.94 | 28.24 | 17.5 20.0 (b) | Pass |
| T18 | 20 - 10 | Horizontal | 2L2x2x3/16 | 333 | -6.68 | 20.45 | 32.7 | Pass |
| T19 | 10 - 0 | Horizontal | 2L2 1/2x2 1/2x1/4 | 382 | -20.51 | 44.64 | 46.0 59.3 (b) | Pass |
| T1 | 180 - 170 | Secondary Horizontal | L2x2x3/16 | 18 | -0.85 | 15.65 | 5.4 6.8 (b) | Pass |
| T7 | 140 - 130 | Secondary Horizontal | L2x2x1/4 | 124 | -1.26 | 12.19 | 10.4 | Pass |
| T8 | 130 - 120 | Secondary Horizontal | L2x2x1/4 | 141 | -1.66 | 11.21 | 14.8 | Pass |
| T9 | 120 - 110 | Secondary Horizontal | L2x2x3/16 | 165 | -2.08 | 7.36 | 28.3 | Pass |
| T10 | 110 - 100 | Secondary Horizontal | L2x2x1/4 | 181 | -2.53 | 8.01 | 31.5 | Pass |
| T12 | 90 - 80 | Secondary Horizontal | L2 1/2x2 1/2x1/4 | 218 | -3.50 | 12.54 | 27.9 | Pass |
| T15 | 50 - 40 | Secondary Horizontal | L3 1/2x3 1/2x1/4 | 284 | -5.38 | 22.26 | 24.2 | Pass |
| T16 | 40 - 30 | Secondary Horizontal | L3 1/2x3 1/2x1/4 | 309 | -5.83 | 19.94 | 29.2 | Pass |
| T17 | 30 - 20 | Secondary Horizontal | L3 1/2x3 1/2x1/4 | 325 | -6.31 | 18.06 | 34.9 | Pass |
| T18 | 20 - 10 | Secondary Horizontal | L3 1/2x3 1/2x1/4 | 350 | -6.68 | 16.43 | 40.7 | Pass |
| T1 | 180 - 170 | Top Girt | L2x2x3/16 | 5 | -0.11 | 9.64 | 1.1 1.6 (b) | Pass |
| T2 | 170 - 163.573 | Top Girt | L2x2x3/16 | 25 | -0.46 | 9.96 | 4.6 5.7 (b) | Pass |
| T3 | 163.573 - 159.049 | Top Girt | L2x2x3/16 | 42 | -0.53 | 9.96 | 5.3 | Pass |
| T6 | 150 - 140 | Top Girt | L2 1/2x2 1/2x3/16 | 83 | -1.00 | 13.55 | 7.4 | Pass |
| T7 | 140 - 130 | Top Girt | L2 1/2x2 1/2x3/16 | 107 | -1.26 | 22.02 | 5.7 8.8 (b) | Pass |
| T13 | 80 - 60 | Top Girt | L2 1/2x2 1/2x1/4 | 226 | -4.49 | 20.16 | 22.3 23.4 (b) | Pass |
| T16 | 40 - 30 | Top Girt | 2L2x2x3/16 | 292 | -5.83 | 23.91 | 24.4 | Pass |
| T19 | 10 - 0 | Redund Horz 1 Bracing | L2 1/2x2 1/2x3/16 | 378 | -6.85 | 20.67 | 33.1 | Pass |
| T19 | 10 - 0 | Redund Diag 1 Bracing | L2 1/2x2 1/2x3/16 | 379 | -8.99 | 12.52 | 71.8 | Pass |
| T19 | 10 - 0 | Redund Hip 1 Bracing | L2 1/2x2 1/2x3/16 | 372 | -0.04 | 12.14 | 0.4 | Pass |
| T19 | 10 - 0 | Redund Sub Horz Bracing | L3x3x5/16 | 389 | -10.46 | 15.62 | 66.9 | Pass |

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| | Project 180-ft Lattice Tower #31 Wilton | Date 09:32:21 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | ϕP_{allow} K | % Capacity | Pass Fail |
|-------------|--------------|----------------|----------------|------------------|-------|-------------------------------|-------------|-------------|
| T7 | 140 - 130 | Inner Bracing | L2x2x3/16 | 112 | -0.09 | 7.46 | 1.2 | Pass |
| T9 | 120 - 110 | Inner Bracing | L2 1/2x2x3/16 | 151 | -0.10 | 7.04 | 1.5 | Pass |
| T11 | 100 - 90 | Inner Bracing | L2 1/2x2x3/16 | 194 | -0.12 | 5.26 | 2.3 | Pass |
| T13 | 80 - 60 | Inner Bracing | 2L2x2x3/16 | 229 | -0.16 | 15.05 | 1.0 | Pass |
| T14 | 60 - 50 | Inner Bracing | 2L2x2x3/16 | 258 | -0.18 | 12.00 | 1.5 | Pass |
| T16 | 40 - 30 | Inner Bracing | 2L2x2x3/16 | 295 | -0.23 | 9.80 | 2.4 | Pass |
| T18 | 20 - 10 | Inner Bracing | 2L2x2 1/2x3/16 | 339 | 0.01 | 52.49 | 0.8 | Pass |
| T19 | 10 - 0 | Inner Bracing | 2L2x2 1/2x3/16 | 395 | -0.22 | 8.01 | 2.7 | Pass |
| | | | | | | Summary | | |
| | | | | | | Leg (T19) | 88.9 | Pass |
| | | | | | | Diagonal (T19) | 75.4 | Pass |
| | | | | | | Horizontal (T19) | 59.3 | Pass |
| | | | | | | Secondary Horizontal (T18) | 40.7 | Pass |
| | | | | | | Top Girt (T16) | 24.4 | Pass |
| | | | | | | Redund Horz 1 Bracing (T19) | 33.1 | Pass |
| | | | | | | Redund Diag 1 Bracing (T19) | 71.8 | Pass |
| | | | | | | Redund Hip 1 Bracing (T19) | 0.4 | Pass |
| | | | | | | Redund Sub Horz Bracing (T19) | 66.9 | Pass |
| | | | | | | Inner Bracing (T19) | 2.7 | Pass |
| | | | | | | Bolt Checks | 75.2 | Pass |
| | | | | | | RATING = | 88.9 | Pass |

| Section | T19 | T18 | T17 | T16 | T15 | T14 | T13 | T12 | T11 | T10 | T9 | T8 | T7 | T6 | T5 | T4 | T3 | T2 | T1 |
|------------------|----------------|----------------|--------------------------|--------------------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----|
| Legs | L8x8x1/8 | L8x8x1/8 | L8x8x1/8 w/ 1/2x7 Plates | L8x8x1/8 w/ 1/2x7 Plates | L8x8x3/4 | L8x8x3/4 | L8x8x3/4 | L6x6x1/2 | L6x6x3/4 | L6x6x3/4 | L6x6x1/2 | L6x6x1/2 | L5x5x5/16 | L5x5x3/8 | L5x5x5/16 | L5x5x5/16 | L5x5x5/16 | L5x5x5/16 | A |
| Diagonals | C | 2L2 1/2x2x3/8 | 2L2 1/2x2x3/16 | 2L2 1/2x2x3/16 | A36 | A36 | A36 | L3x2 1/2x1/4 | L3x3x1/4 | L3x2 1/2x1/4 | L3x2 1/2x1/4 | L3x2 1/2x1/4 | L2 1/2x2x3/16 | L2 1/2x2x3/16 | L2 1/2x2x3/16 | L2 1/2x2x3/16 | L2 1/2x2x3/16 | B | |
| Top Girts | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | L2 1/2x2 1/2x1/4 | L2 1/2x2 1/2x1/4 | L2 1/2x2 1/2x1/4 | L2 1/2x2 1/2x1/4 | L2 1/2x2 1/2x1/4 | L2 1/2x2 1/2x1/4 | L2 1/2x2 1/2x1/4 | L2 1/2x2 1/2x1/4 | L2 1/2x2 1/2x1/4 | L2 1/2x2 1/2x1/4 | L2 1/2x2 1/2x1/4 | |
| Horizontals | E | 2L2x2x3/16 | 2L2x2x3/16 | 2L2x2x3/16 | 2L2x2x3/16 | 2L2x2x3/16 | 2L2x2x3/16 | L2x2x1/4 | L2x2x3/16 | L2x2x1/4 | L2x2x3/16 | L2x2x1/4 | L2x2x3/16 | L2x2x3/16 | L2x2x3/16 | L2x2x3/16 | L2x2x3/16 | L2x2x3/16 | |
| Sec. Horizontals | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | L2x2x1/4 | L2x2x3/16 | L2x2x1/4 | L2x2x3/16 | L2x2x1/4 | L2x2x3/16 | L2x2x3/16 | L2x2x3/16 | L2x2x3/16 | L2x2x3/16 | L2x2x3/16 | |
| Red. Diagonals | F | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | |
| Red. Sub-Horiz | F | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | |
| Red. Hips | F | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | L3x3x5/16 | |
| Inner Bracing | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | 2L2x2 1/2x3/16 | |
| Face Width (ft) | 17.73 | 17.0125 | 16.2949 | 15.5779 | 14.8608 | 14.1438 | 13.4267 | 11.9926 | 11.2756 | 10.5585 | 9.84145 | 9.1244 | 8.40735 | 7.6903 | 6.97356 | 6.2564 | 5.5393 | 4.8222 | |
| # Panels @ (ft) | 4.9 | 5.0 | 4.3 | 4.3 | 5.1 | 5.1 | 4.6 | 8.0 | 14 @ 10 | 2.4 | 2.4 | 2.5 | 1.9 | 2.1 | 1.4 | 1.4 | 1.5 | 1.0 | |
| Weight (K) | 51.8 | 4.9 | 4.3 | 4.3 | 5.1 | 5.1 | 4.6 | 8.0 | 14 @ 10 | 2.4 | 2.4 | 2.5 | 1.9 | 2.1 | 1.4 | 1.4 | 1.5 | 1.0 | |



SYMBOL LIST

| MARK | SIZE | MARK | SIZE |
|------|--------------------|------|-------------------|
| A | L3 1/2x3 1/2x3/8 | E | 2L2 1/2x2 1/2x1/4 |
| B | L2x2x3/16 | F | L2 1/2x2 1/2x3/16 |
| C | 2L2 1/2x2 1/2x5/16 | G | L2 1/2x2x3/16 |
| D | L2 1/2x2 1/2x1/4 | | |

MATERIAL STRENGTH

| GRADE | Fy | Fu | GRADE | Fy | Fu |
|-------|--------|--------|-------|----|----|
| A36 | 36 ksi | 58 ksi | | | |

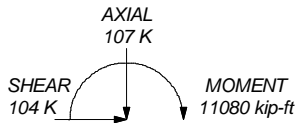
TOWER DESIGN NOTES

1. Tower designed for a 90 mph basic wind in accordance with the TIA/EIA-222-F Standard.
2. Tower is also designed for a 90 mph basic wind with 0.50 in ice.
3. Deflections are based upon a 90 mph wind.

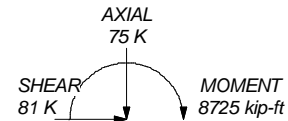
MAX. CORNER REACTIONS AT BASE:

DOWN: 468 K
SHEAR: 41 K

UPLIFT: -416 K
SHEAR: 44 K



TORQUE 129 kip-ft
90 mph WIND - 0.5000 in ICE



TORQUE 69 kip-ft
REACTIONS - 90 mph WIND

Centek Engineering Inc.
63-2 North Branford Rd.
Branford, CT 06405
Phone: (203) 488-0580
FAX: (203) 488-8587

| | | |
|---|----------------|-------------|
| Job: 22007.02 - CT2143 | | |
| Project: 180-ft Lattice Tower #31 Wilton | | |
| Client: AT&T | Drawn by: T.JL | App'd: |
| Code: TIA/EIA-222-F | Date: 04/28/22 | Scale: NTS |
| Path: | | Dwg No. E-1 |

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 1 of 4 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 10:35:37 04/28/22 |
| | Client AT&T | Designed by TJL |

Load Combinations

| Comb. No. | Description |
|-----------|-----------------------------|
| 1 | Dead Only |
| 2 | Dead+Wind 0 deg - No Ice |
| 3 | Dead+Wind 30 deg - No Ice |
| 4 | Dead+Wind 45 deg - No Ice |
| 5 | Dead+Wind 60 deg - No Ice |
| 6 | Dead+Wind 90 deg - No Ice |
| 7 | Dead+Wind 120 deg - No Ice |
| 8 | Dead+Wind 135 deg - No Ice |
| 9 | Dead+Wind 150 deg - No Ice |
| 10 | Dead+Wind 180 deg - No Ice |
| 11 | Dead+Wind 210 deg - No Ice |
| 12 | Dead+Wind 225 deg - No Ice |
| 13 | Dead+Wind 240 deg - No Ice |
| 14 | Dead+Wind 270 deg - No Ice |
| 15 | Dead+Wind 300 deg - No Ice |
| 16 | Dead+Wind 315 deg - No Ice |
| 17 | Dead+Wind 330 deg - No Ice |
| 18 | Dead+Ice+Temp |
| 19 | Dead+Wind 0 deg+Ice+Temp |
| 20 | Dead+Wind 30 deg+Ice+Temp |
| 21 | Dead+Wind 45 deg+Ice+Temp |
| 22 | Dead+Wind 60 deg+Ice+Temp |
| 23 | Dead+Wind 90 deg+Ice+Temp |
| 24 | Dead+Wind 120 deg+Ice+Temp |
| 25 | Dead+Wind 135 deg+Ice+Temp |
| 26 | Dead+Wind 150 deg+Ice+Temp |
| 27 | Dead+Wind 180 deg+Ice+Temp |
| 28 | Dead+Wind 210 deg+Ice+Temp |
| 29 | Dead+Wind 225 deg+Ice+Temp |
| 30 | Dead+Wind 240 deg+Ice+Temp |
| 31 | Dead+Wind 270 deg+Ice+Temp |
| 32 | Dead+Wind 300 deg+Ice+Temp |
| 33 | Dead+Wind 315 deg+Ice+Temp |
| 34 | Dead+Wind 330 deg+Ice+Temp |
| 35 | Dead+Wind 0 deg - Service |
| 36 | Dead+Wind 30 deg - Service |
| 37 | Dead+Wind 45 deg - Service |
| 38 | Dead+Wind 60 deg - Service |
| 39 | Dead+Wind 90 deg - Service |
| 40 | Dead+Wind 120 deg - Service |
| 41 | Dead+Wind 135 deg - Service |
| 42 | Dead+Wind 150 deg - Service |
| 43 | Dead+Wind 180 deg - Service |
| 44 | Dead+Wind 210 deg - Service |
| 45 | Dead+Wind 225 deg - Service |
| 46 | Dead+Wind 240 deg - Service |
| 47 | Dead+Wind 270 deg - Service |
| 48 | Dead+Wind 300 deg - Service |
| 49 | Dead+Wind 315 deg - Service |
| 50 | Dead+Wind 330 deg - Service |

Maximum Tower Deflections - Service Wind

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 2 of 4 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 10:35:37 04/28/22 |
| | Client AT&T | Designed by TJL |

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-------------------|------------------------|--------------------|-----------|------------|
| T1 | 180 - 170 | 11.214 | 49 | 0.5082 | 0.0452 |
| T2 | 170 - 163.573 | 10.035 | 49 | 0.5048 | 0.0428 |
| T3 | 163.573 - 159.049 | 9.281 | 49 | 0.4968 | 0.0413 |
| T4 | 159.049 - 154.524 | 8.747 | 49 | 0.4894 | 0.0383 |
| T5 | 154.524 - 150 | 8.226 | 49 | 0.4761 | 0.0364 |
| T6 | 150 - 140 | 7.722 | 49 | 0.4588 | 0.0349 |
| T7 | 140 - 130 | 6.680 | 49 | 0.4146 | 0.0335 |
| T8 | 130 - 120 | 5.740 | 49 | 0.3781 | 0.0341 |
| T9 | 120 - 110 | 4.892 | 49 | 0.3368 | 0.0334 |
| T10 | 110 - 100 | 4.128 | 49 | 0.3018 | 0.0301 |
| T11 | 100 - 90 | 3.443 | 49 | 0.2645 | 0.0272 |
| T12 | 90 - 80 | 2.837 | 49 | 0.2322 | 0.0244 |
| T13 | 80 - 60 | 2.298 | 49 | 0.1987 | 0.0211 |
| T14 | 60 - 50 | 1.388 | 49 | 0.1610 | 0.0142 |
| T15 | 50 - 40 | 0.994 | 49 | 0.1420 | 0.0107 |
| T16 | 40 - 30 | 0.673 | 49 | 0.1221 | 0.0088 |
| T17 | 30 - 20 | 0.406 | 49 | 0.0918 | 0.0069 |
| T18 | 20 - 10 | 0.203 | 49 | 0.0613 | 0.0051 |
| T19 | 10 - 0 | 0.067 | 41 | 0.0302 | 0.0032 |

Critical Deflections and Radius of Curvature - Service Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------------|---------------------------------|--------------------|------------------|-----------|------------|------------------------------|
| 185.00 | Lightning Rod 2"x15' | 49 | 11.214 | 0.5082 | 0.0452 | 135548 |
| 183.00 | SC479-HF1LDF (D00-E5764) | 49 | 11.214 | 0.5082 | 0.0452 | 135548 |
| 181.00 | TMA 432-83H-01T - Future Decom. | 49 | 11.214 | 0.5082 | 0.0452 | 135548 |
| 180.00 | SC479-HF1LDF (D00I-E5764) | 49 | 11.214 | 0.5082 | 0.0452 | 135548 |
| 175.00 | 6' PAD w/ Radome | 49 | 10.624 | 0.5075 | 0.0439 | 135548 |
| 174.00 | SC479-HF1LDF (D00I-E5764) | 49 | 10.506 | 0.5072 | 0.0436 | 113767 |
| 173.00 | 6' PAD w/ Radome | 49 | 10.388 | 0.5068 | 0.0434 | 101790 |
| 170.00 | 6' PAD w/ Radome | 49 | 10.035 | 0.5048 | 0.0428 | 145460 |
| 169.00 | BA1010-2 | 49 | 9.918 | 0.5038 | 0.0427 | 365028 |
| 168.00 | SC479-HF1LDF (D00I-E5764) | 49 | 9.801 | 0.5027 | 0.0425 | 251775 |
| 163.00 | SitePro VFA14-10 | 49 | 9.213 | 0.4961 | 0.0410 | 166555 |
| 161.00 | DB408-B | 49 | 8.977 | 0.4931 | 0.0397 | 37519 |
| 152.00 | 12' Omni Antenna | 49 | 7.943 | 0.4668 | 0.0355 | 13279 |
| 150.00 | RFS SC3-100 | 49 | 7.722 | 0.4588 | 0.0349 | 12689 |
| 146.25 | 12' Omni Antenna | 49 | 7.320 | 0.4422 | 0.0339 | 12017 |
| 145.00 | RFS SC3-100 | 49 | 7.189 | 0.4365 | 0.0337 | 11868 |
| 140.50 | 12' Omni Antenna | 49 | 6.730 | 0.4167 | 0.0335 | 11538 |
| 139.00 | Yagi ASP-816 | 49 | 6.582 | 0.4107 | 0.0336 | 11597 |
| 137.00 | BA1010 | 49 | 6.388 | 0.4032 | 0.0337 | 11831 |
| 136.50 | DB222-A | 49 | 6.340 | 0.4014 | 0.0337 | 11909 |
| 135.00 | ANT220F2 w/clamps | 49 | 6.198 | 0.3961 | 0.0338 | 12171 |
| 134.50 | BA1010 | 49 | 6.151 | 0.3944 | 0.0339 | 12264 |
| 132.00 | BA1010 | 49 | 5.920 | 0.3855 | 0.0340 | 12731 |
| 130.00 | Dish Ice Shield | 49 | 5.740 | 0.3781 | 0.0341 | 13081 |
| 129.50 | BA1010 | 49 | 5.695 | 0.3761 | 0.0341 | 13160 |
| 128.00 | PD128-1 | 49 | 5.563 | 0.3701 | 0.0341 | 13379 |
| 127.00 | 3" Dia 20' Omni | 49 | 5.476 | 0.3659 | 0.0341 | 13512 |
| 125.00 | 6' PAD w/ Radome | 49 | 5.305 | 0.3574 | 0.0341 | 13764 |
| 124.50 | PD128-1 | 49 | 5.263 | 0.3553 | 0.0340 | 13827 |
| 122.00 | 3" Dia 20' Omni | 49 | 5.054 | 0.3448 | 0.0338 | 14141 |
| 121.00 | PD128-1 | 49 | 4.973 | 0.3407 | 0.0336 | 14260 |
| 117.00 | 3" Dia 20' Omni | 49 | 4.654 | 0.3259 | 0.0326 | 14647 |

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 22007.02 - CT2143 | Page 3 of 4 |
| | Project 180-ft Lattice Tower #31 Wilton | Date 10:35:37 04/28/22 |
| | Client AT&T | Designed by TJL |

| Elevation | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------|--------------------|-----------------|---------------|--------|---------|------------------------|
| 116.00 | 12' Omni Antenna | 49 | 4.576 | 0.3224 | 0.0323 | 14727 |
| 112.00 | 3" Dia 20' Omni | 49 | 4.274 | 0.3088 | 0.0308 | 15025 |
| 111.00 | 12' Omni Antenna | 49 | 4.200 | 0.3054 | 0.0304 | 15077 |
| 107.00 | 3" Dia 20' Omni | 49 | 3.914 | 0.2907 | 0.0291 | 15092 |
| 106.00 | DB264-A | 49 | 3.844 | 0.2869 | 0.0288 | 15060 |
| 105.00 | 12' Wireless Frame | 49 | 3.775 | 0.2831 | 0.0285 | 15024 |
| 101.00 | DB264-A | 49 | 3.508 | 0.2681 | 0.0274 | 15015 |
| 96.00 | DB264-A | 49 | 3.192 | 0.2513 | 0.0261 | 16053 |
| 91.00 | SC479-HF1LDF | 49 | 2.894 | 0.2355 | 0.0247 | 17722 |
| 86.00 | DB264-A | 49 | 2.614 | 0.2183 | 0.0231 | 18527 |
| 85.00 | SC479-HF1LDF | 49 | 2.560 | 0.2149 | 0.0228 | 18592 |
| 79.00 | SC479-HF1LDF | 49 | 2.248 | 0.1959 | 0.0208 | 19712 |
| 75.00 | Dish Ice Shield | 49 | 2.053 | 0.1864 | 0.0195 | 22179 |
| 71.00 | 2'6"x4" Pipe Mount | 49 | 1.866 | 0.1787 | 0.0181 | 25734 |
| 61.00 | GPS | 49 | 1.429 | 0.1627 | 0.0146 | 38138 |
| 50.00 | DB803M-Y | 49 | 0.994 | 0.1420 | 0.0107 | 14872 |

Maximum Tower Deflections - Design Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-------------------|---------------------|-----------------|--------|---------|
| T1 | 180 - 170 | 14.047 | 33 | 0.6309 | 0.0648 |
| T2 | 170 - 163.573 | 12.585 | 33 | 0.6264 | 0.0606 |
| T3 | 163.573 - 159.049 | 11.650 | 33 | 0.6165 | 0.0579 |
| T4 | 159.049 - 154.524 | 10.988 | 33 | 0.6074 | 0.0562 |
| T5 | 154.524 - 150 | 10.343 | 33 | 0.5913 | 0.0548 |
| T6 | 150 - 140 | 9.719 | 33 | 0.5705 | 0.0535 |
| T7 | 140 - 130 | 8.423 | 33 | 0.5173 | 0.0525 |
| T8 | 130 - 120 | 7.248 | 33 | 0.4730 | 0.0524 |
| T9 | 120 - 110 | 6.185 | 33 | 0.4225 | 0.0511 |
| T10 | 110 - 100 | 5.225 | 33 | 0.3794 | 0.0467 |
| T11 | 100 - 90 | 4.364 | 33 | 0.3331 | 0.0426 |
| T12 | 90 - 80 | 3.599 | 33 | 0.2928 | 0.0383 |
| T13 | 80 - 60 | 2.919 | 33 | 0.2511 | 0.0341 |
| T14 | 60 - 50 | 1.765 | 33 | 0.2038 | 0.0244 |
| T15 | 50 - 40 | 1.265 | 33 | 0.1800 | 0.0190 |
| T16 | 40 - 30 | 0.856 | 33 | 0.1548 | 0.0159 |
| T17 | 30 - 20 | 0.517 | 33 | 0.1166 | 0.0127 |
| T18 | 20 - 10 | 0.259 | 33 | 0.0778 | 0.0094 |
| T19 | 10 - 0 | 0.085 | 25 | 0.0384 | 0.0059 |

Critical Deflections and Radius of Curvature - Design Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|--------------|---------------------------------|-----------------|---------------|--------|---------|------------------------|
| 185.00 | Lightning Rod 2"x15' | 33 | 14.047 | 0.6309 | 0.0648 | 104978 |
| 183.00 | SC479-HF1LDF (D00-E5764) | 33 | 14.047 | 0.6309 | 0.0648 | 104978 |
| 181.00 | TMA 432-83H-01T - Future Decom. | 33 | 14.047 | 0.6309 | 0.0648 | 104978 |
| 180.00 | SC479-HF1LDF (D00I-E5764) | 33 | 14.047 | 0.6309 | 0.0648 | 104978 |
| 175.00 | 6' PAD w/ Radome | 33 | 13.315 | 0.6299 | 0.0627 | 104978 |

| | | | | |
|--|----------------|---------------------------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 22007.02 - CT2143 | Page | 4 of 4 |
| | Project | 180-ft Lattice Tower #31 Wilton | Date | 10:35:37 04/28/22 |
| | Client | AT&T | Designed by | TJL |

| <i>Elevation</i> | <i>Appurtenance</i> | <i>Gov. Load Comb.</i> | <i>Deflection in</i> | <i>Tilt °</i> | <i>Twist °</i> | <i>Radius of Curvature ft</i> |
|------------------|---------------------------|------------------------|----------------------|---------------|----------------|-------------------------------|
| 174.00 | SC479-HF1LDF (D00I-E5764) | 33 | 13.168 | 0.6295 | 0.0623 | 88045 |
| 173.00 | 6' PAD w/ Radome | 33 | 13.022 | 0.6289 | 0.0619 | 78426 |
| 170.00 | 6' PAD w/ Radome | 33 | 12.585 | 0.6264 | 0.0606 | 100937 |
| 169.00 | BA1010-2 | 33 | 12.439 | 0.6251 | 0.0602 | 188628 |
| 168.00 | SC479-HF1LDF (D00I-E5764) | 33 | 12.294 | 0.6237 | 0.0598 | 251775 |
| 163.00 | SitePro VFA14-10 | 33 | 11.566 | 0.6155 | 0.0577 | 166555 |
| 161.00 | DB408-B | 33 | 11.273 | 0.6119 | 0.0569 | 29832 |
| 152.00 | 12' Omni Antenna | 33 | 9.992 | 0.5802 | 0.0540 | 11113 |
| 150.00 | RFS SC3-100 | 33 | 9.719 | 0.5705 | 0.0535 | 10597 |
| 146.25 | 12' Omni Antenna | 33 | 9.219 | 0.5506 | 0.0528 | 10066 |
| 145.00 | RFS SC3-100 | 33 | 9.056 | 0.5437 | 0.0527 | 9963 |
| 140.50 | 12' Omni Antenna | 33 | 8.485 | 0.5198 | 0.0525 | 9732 |
| 139.00 | Yagi ASP-816 | 33 | 8.300 | 0.5125 | 0.0524 | 9773 |
| 137.00 | BA1010 | 33 | 8.058 | 0.5035 | 0.0524 | 9930 |
| 136.50 | DB222-A | 33 | 7.998 | 0.5014 | 0.0524 | 9983 |
| 135.00 | ANT220F2 w/clamps | 33 | 7.821 | 0.4949 | 0.0524 | 10158 |
| 134.50 | BA1010 | 33 | 7.762 | 0.4928 | 0.0524 | 10220 |
| 132.00 | BA1010 | 33 | 7.474 | 0.4821 | 0.0524 | 10528 |
| 130.00 | Dish Ice Shield | 33 | 7.248 | 0.4730 | 0.0524 | 10761 |
| 129.50 | BA1010 | 33 | 7.192 | 0.4706 | 0.0524 | 10815 |
| 128.00 | PD128-1 | 33 | 7.027 | 0.4632 | 0.0524 | 10966 |
| 127.00 | 3" Dia 20' Omni | 33 | 6.918 | 0.4581 | 0.0523 | 11060 |
| 125.00 | 6' PAD w/ Radome | 33 | 6.703 | 0.4478 | 0.0521 | 11242 |
| 124.50 | PD128-1 | 33 | 6.650 | 0.4452 | 0.0521 | 11287 |
| 122.00 | 3" Dia 20' Omni | 33 | 6.389 | 0.4323 | 0.0516 | 11514 |
| 121.00 | PD128-1 | 33 | 6.287 | 0.4273 | 0.0514 | 11601 |
| 117.00 | 3" Dia 20' Omni | 33 | 5.887 | 0.4090 | 0.0500 | 11897 |
| 116.00 | 12' Omni Antenna | 33 | 5.789 | 0.4048 | 0.0496 | 11961 |
| 112.00 | 3" Dia 20' Omni | 33 | 5.409 | 0.3880 | 0.0476 | 12200 |
| 111.00 | 12' Omni Antenna | 33 | 5.317 | 0.3837 | 0.0472 | 12239 |
| 107.00 | 3" Dia 20' Omni | 33 | 4.956 | 0.3656 | 0.0453 | 12219 |
| 106.00 | DB264-A | 33 | 4.869 | 0.3609 | 0.0449 | 12182 |
| 105.00 | 12' Wireless Frame | 33 | 4.782 | 0.3561 | 0.0445 | 12141 |
| 101.00 | DB264-A | 33 | 4.446 | 0.3375 | 0.0429 | 12094 |
| 96.00 | DB264-A | 33 | 4.047 | 0.3167 | 0.0409 | 12935 |
| 91.00 | SC479-HF1LDF | 33 | 3.672 | 0.2969 | 0.0388 | 14311 |
| 86.00 | DB264-A | 33 | 3.318 | 0.2756 | 0.0366 | 14932 |
| 85.00 | SC479-HF1LDF | 33 | 3.249 | 0.2713 | 0.0362 | 14972 |
| 79.00 | SC479-HF1LDF | 33 | 2.855 | 0.2476 | 0.0336 | 15821 |
| 75.00 | Dish Ice Shield | 33 | 2.608 | 0.2356 | 0.0319 | 17819 |
| 71.00 | 2'6"x4" Pipe Mount | 33 | 2.372 | 0.2261 | 0.0300 | 20718 |
| 61.00 | GPS | 33 | 1.818 | 0.2060 | 0.0250 | 30845 |
| 50.00 | DB803M-Y | 33 | 1.265 | 0.1800 | 0.0190 | 11676 |

Anchor Bolt Analysis:

Input Data:

Tower Reactions:

| | | |
|---------------------|-------------------------|-----------------------|
| Tension Force = | Tension := 457-kips | (Input From trnTower) |
| Compression Force = | Compression := 497-kips | (Input From trnTower) |
| Shear Force = | Shear := 50-kips | (Input From trnTower) |

Anchor Bolt Data:

ASTMA36

| | | |
|---|---------------------|--------------|
| Number of Anchor Bolts = | N := 4 | (User Input) |
| Bolt Ultimate Strength = | $F_u := 58$ -ksi | (User Input) |
| Bolt Yield Strength = | $F_y := 36$ -ksi | (User Input) |
| Bolt Modulus = | E := 29000-ksi | (User Input) |
| Diameter of Anchor Bolts = | D := 2.5-in | (User Input) |
| Threads per Inch = | n := 4 | (User Input) |
| Length from Top of Pier to Bottom of Leveling Nut = | $L_{ar} := 2.5$ -in | (User Input) |

Anchor Bolt Analysis:

Calculated Anchor Bolt Properties:

Gross Area of Bolt = $A_g := \frac{\pi}{4} \cdot D^2 = 4.909 \cdot \text{in}^2$

Net Area of Bolt = $A_n := \frac{\pi}{4} \cdot \left(D - \frac{0.9743 \cdot \text{in}}{n} \right)^2 = 3.999 \cdot \text{in}^2$

Net Diameter = $D_n := \frac{2 \cdot \sqrt{A_n}}{\sqrt{\pi}} = 2.256 \cdot \text{in}$

Radius of Gyration of Bolt = $r := \frac{D_n}{4} = 0.564 \cdot \text{in}$

Elastic Section Modulus of Bolt = $S_x := \frac{\pi \cdot D_n^3}{32} = 1.128 \cdot \text{in}^3$

Plastic Section Modulus of Bolt = $Z_x := \frac{D_n^3}{6} = 1.915 \cdot \text{in}^3$

Anchor Bolt Design Strength:

Resistance Factor for Flexure = $\phi_f := 0.9$

Resistance Factor for Compression = $\phi_c := 0.9$

Resistance Factor for Tension = $\phi_t := 0.75$

Resistance Factor for Shear = $\phi_v := 0.75$

Design Tensile Strength = $\Phi R_{nt} := \phi_t \cdot F_u \cdot A_n = 173.9 \cdot \text{k}$

Design Compression Strength = $\Phi R_{nc} := \phi_c \cdot F_y \cdot A_g = 159 \cdot \text{k}$

Design Shear Strength (Tension) = $\Phi R_{nv} := \phi_v \cdot 0.5 F_u \cdot A_g = 106.8 \cdot \text{k}$

Design Shear Strength (Compression) = $\Phi R_{nvc} := \phi_c \cdot 0.6 F_y \cdot A_g \cdot 0.75 = 71.6 \cdot \text{k}$

Check Anchor Bolt Tension Force:

Maximum Tensile Force = $P_{ut} := \frac{\text{Tension}}{N} = 114.3 \text{ kips}$

Maximum Compressive Force = $P_{uc} := \frac{\text{Compression}}{N} = 124.3 \text{ kips}$

Maximum Shear Force = $V_u := \frac{\text{Shear}}{N} = 12.5 \text{ kips}$

Condition1 =
$$\text{Condition1} := \text{if} \left[\left[\left(\frac{P_{ut}}{\Phi R_{nt}} \right)^2 + \left(\frac{V_u}{\Phi R_{nv}} \right)^2 \right] \leq 1.00, \text{"OK"}, \text{"Overstressed"} \right]$$

Condition1 = "OK"

Condition2 =
$$\text{Condition2} := \text{if} \left[\left[\left(\frac{P_{uc}}{\Phi R_{nc}} \right) + \left(\frac{V_u}{\Phi R_{nvc}} \right)^2 \right] \leq 1.00, \text{"OK"}, \text{"Overstressed"} \right]$$

Condition2 = "OK"

Bolt % of Capacity =
$$\max \left[\left(\frac{P_{ut}}{\Phi R_{nt}} \right)^2 + \left(\frac{V_u}{\Phi R_{nv}} \right)^2, \left(\frac{P_{uc}}{\Phi R_{nc}} \right) + \left(\frac{V_u}{\Phi R_{nvc}} \right)^2 \right] = 81.2\%$$

Pier and Mat Foundation Analysis:

Input Data:

Tower Data

| | | |
|---|---------------------|----------------------------|
| Overturing Moment = | OM := 11896-ft-kips | (User Input from tnxTower) |
| Shear Force = | $S_t := 123$ -kip | (User Input from tnxTower) |
| Axial Force = | $WT_t := 91$ -kip | (User Input from tnxTower) |
| Max Compression Force = | $C_t := 497$ -kip | (User Input from tnxTower) |
| Max Uplift Force = | $U_t := 457$ -kip | (User Input from tnxTower) |
| Tower Height = | $H_t := 180$ -ft | (User Input) |
| Tower Width = | $W_t := 17.7$ -ft | (User Input) |
| Tower Position on Foundation (1=offset, 2=centered) = | $Pos_t := 2$ | (User Input) |

Footing Data:

| | | |
|---------------------------------|----------------------|--------------|
| Overall Depth of Footing = | $D_f := 8.5$ -ft | (User Input) |
| Length of Pier = | $L_p := 6.5$ -ft | (User Input) |
| Extension of Pier Above Grade = | $L_{pag} := 1.0$ -ft | (User Input) |
| Diameter of Pier = | $d_p := 4.0$ -ft | (User Input) |
| Thickness of Footing = | $T_f := 3.0$ -ft | (User Input) |
| Width of Footing = | $W_f := 37$ -ft | (User Input) |

Material Properties:

| | | |
|--|-----------------------------|-------------------------------------|
| Concrete Compressive Strength = | $f_c := 3000$ -psi | (User Input) |
| Steel Reinforcement Yield Strength = | $f_y := 60000$ -psi | (User Input) |
| Internal Friction Angle of Soil = | $\Phi_s := 30$ -deg | (User Input) |
| Allowable Soil Bearing Capacity = | $q_s := 6800$ -psf | (User Input) |
| Unit Weight of Soil = | $\gamma_{soil} := 100$ -pcf | (User Input) |
| Unit Weight of Concrete = | $\gamma_{conc} := 150$ -pcf | (User Input) |
| Foundation Bouyancy = | Bouyancy := 0 | (User Input) (Yes=1 / No=0) |
| Depth to Neglect = | $n := 3$ -ft | (User Input) |
| Cohesion of Clay Type Soil = | $c := 0$ -ksf | (User Input) (Use 0 for Sandy Soil) |
| Seismic Zone Factor = | $Z := 2$ | (User Input) (UBC-1997 Fig 23-2) |
| Coefficient of Friction Between Concrete = | $\mu := 0.45$ | (User Input) |

Pier Reinforcement:

| | | | |
|---------------------------------|---|--------------|-------------------|
| Bar Size = | $BS_{\text{pier}} := 9$ | (User Input) | |
| Bar Diameter = | $d_{\text{bpier}} := 1.128 \cdot \text{in}$ | (User Input) | |
| Number of Bars = | $NB_{\text{pier}} := 24$ | (User Input) | |
| Clear Cover of Reinforcement = | $Cvr_{\text{pier}} := 3 \cdot \text{in}$ | (User Input) | |
| Reinforcement Location Factor = | $\alpha_{\text{pier}} := 1.0$ | (User Input) | (ACI-2008 12.2.4) |
| Coating Factor = | $\beta_{\text{pier}} := 1.0$ | (User Input) | (ACI-2008 12.2.4) |
| Concrete Strength Factor = | $\lambda_{\text{pier}} := 1.0$ | (User Input) | (ACI-2008 12.2.4) |
| Reinforcement Size Factor = | $\gamma_{\text{pier}} := 1.0$ | (User Input) | (ACI-2008 12.2.4) |
| Diameter of Tie = | $d_{\text{Tie}} := 0.375 \cdot \text{in}$ | (User Input) | |

Pad Reinforcement:

| | | | |
|---------------------------------|--|--------------|-------------------|
| Bar Size = | $BS_{\text{top}} := 9$ | (User Input) | (Top of Pad) |
| Bar Diameter = | $d_{\text{btop}} := 1.128 \cdot \text{in}$ | (User Input) | (Top of Pad) |
| Number of Bars = | $NB_{\text{top}} := 42$ | (User Input) | (Top of Pad) |
| Bar Size = | $BS_{\text{bot}} := 9$ | (User Input) | (Bottom of Pad) |
| Bar Diameter = | $d_{\text{bbot}} := 1.128 \cdot \text{in}$ | (User Input) | (Bottom of Pad) |
| Number of Bars = | $NB_{\text{bot}} := 42$ | (User Input) | (Bottom of Pad) |
| Clear Cover of Reinforcement = | $Cvr_{\text{pad}} := 3.0 \cdot \text{in}$ | (User Input) | |
| Reinforcement Location Factor = | $\alpha_{\text{pad}} := 1.0$ | (User Input) | (ACI-2008 12.2.4) |
| Coating Factor = | $\beta_{\text{pad}} := 1.0$ | (User Input) | (ACI-2008 12.2.4) |
| Concrete Strength Factor = | $\lambda_{\text{pad}} := 1.0$ | (User Input) | (ACI-2008 12.2.4) |
| Reinforcement Size Factor = | $\gamma_{\text{pad}} := 1.0$ | (User Input) | (ACI-2008 12.2.4) |

Calculated Factors:

| | |
|--|--|
| Pier Reinforcement Bar Area = | $A_{\text{bpier}} := \frac{\pi \cdot d_{\text{bpier}}^2}{4} = 0.999 \cdot \text{in}^2$ |
| Pad Top Reinforcement Bar Area = | $A_{\text{btop}} := \frac{\pi \cdot d_{\text{btop}}^2}{4} = 0.999 \cdot \text{in}^2$ |
| Pad Bottom Reinforcement Bar Area = | $A_{\text{bbot}} := \frac{\pi \cdot d_{\text{bbot}}^2}{4} = 0.999 \cdot \text{in}^2$ |
| Coefficient of Lateral Soil Pressure = | $K_p := \frac{1 + \sin(\Phi_s)}{1 - \sin(\Phi_s)} = 3$ |
| Load Factor = | $LF := 1$ |

Stability of Footing:

Adjusted Concrete Unit Weight =

$$\gamma_c := \text{if}(\text{Bouyancy} = 1, \gamma_{\text{conc}} - 62.4\text{pcf}, \gamma_{\text{conc}}) = 150\text{-pcf}$$

Adjusted Soil Unit Weight =

$$\gamma_s := \text{if}(\text{Bouyancy} = 1, \gamma_{\text{soil}} - 62.4\text{pcf}, \gamma_{\text{soil}}) = 100\text{-pcf}$$

Passive Pressure =

$$P_{pn} := K_p \cdot \gamma_s \cdot n + c \cdot 2 \cdot \sqrt{K_p} = 0.9\text{-ksf}$$

$$P_{pt} := K_p \cdot \gamma_s \cdot (D_f - T_f) + c \cdot 2 \cdot \sqrt{K_p} = 1.65\text{-ksf}$$

$$P_{top} := \text{if}[n < (D_f - T_f), P_{pt}, P_{pn}] = 1.65\text{-ksf}$$

$$P_{bot} := K_p \cdot \gamma_s \cdot D_f + c \cdot 2 \cdot \sqrt{K_p} = 2.55\text{-ksf}$$

$$P_{ave} := \frac{P_{top} + P_{bot}}{2} = 2.1\text{-ksf}$$

$$T_p := \text{if}[n < (D_f - T_f), T_f, (D_f - n)] = 3\text{-ft}$$

$$A_p := W_f \cdot T_p = 111\text{-ft}^2$$

Ultimate Shear =

$$S_u := P_{ave} \cdot A_p = 233.1\text{-kip}$$

Weight of Concrete =

$$WT_c := \left[(W_f^2 \cdot T_f) + (4) \cdot \left(\frac{d_p^2 \cdot \pi}{4} \cdot L_p \right) \right] \cdot \gamma_c = 665.059\text{-kip}$$

Weight of Soil Above Footing =

$$WT_{s1} := \left[W_f^2 - (4) \cdot \left(\frac{d_p^2 \cdot \pi}{4} \right) \right] \cdot (L_p - L_{pag} - n) \cdot \gamma_s = 329.68\text{-kip}$$

Weight of Soil Wedge at Back Face =

$$WT_{s2} := \left[\frac{(D_f - n)^2 \cdot \tan(\phi_s)}{2} \cdot W_f \right] \cdot \gamma_s = 32.31\text{-kip}$$

Tower Offset =

$$X_{t1} := \left[\frac{W_f}{2} - \frac{(W_t \cdot \cos(30\text{-deg}))}{2} \right] \quad X_{t2} := \frac{W_f}{2} - \frac{(W_t \cdot \cos(30\text{-deg}))}{3}$$

$$X_t := \text{if}(\text{Pos}_t = 1, X_{t1}, X_{t2}) = 13.39$$

$$X_{off1} := \frac{W_f}{2} - \left[\frac{(W_t \cdot \cos(30\text{-deg}))}{3} + X_t \right] = 0 \quad X_{off2} := 0$$

$$X_{off} := \text{if}(\text{Pos}_t = 1, X_{off1}, X_{off2}) \quad X_{off} = 0\text{-ft}$$

$$\text{Total Weight} = WT_{tot} := 0.9WT_c + 0.75WT_{s1} + WT_t = 936.8\text{-kip}$$

$$\text{Resisting Moment} = M_r := (WT_{tot}) \cdot \frac{W_f}{2} + 0.9WT_t \cdot \left(\frac{W_f}{2} - X_{off} \right) + 0.75 \left(S_u \cdot \frac{T_p}{3} \right) + 0.75WT_{s2} \cdot \left[W_f + \frac{(D_f - n) \cdot \tan(\phi_s)}{3} \right] = 19943\text{-kip-ft}$$

$$\text{Overturing Moment} = M_{ot} := OM + S_t \cdot (L_p + T_f) = 13064.5\text{-kip-ft}$$

$$\text{Factor of Safety Actual} = FS := \frac{M_r}{M_{ot}} = 1.53$$

$$\text{Factor of Safety Required} = FS_{req} := 1 \quad \text{OverTurning_Moment_Check} := \text{if}(FS \geq FS_{req}, \text{"Okay"}, \text{"No Good"})$$

OverTurning_Moment_Check = "Okay"

Shear Capacity in Pier:

Shear Resistance of Pier =

$$S_p := \frac{P_{ave} \cdot A_p + \mu \cdot W_{T_{tot}}}{FS_{req}} = 654.667 \cdot \text{kips}$$

$$\text{Shear_Check} := \text{if}(S_p > S_t, \text{"Okay"}, \text{"No Good"})$$

Shear_Check = "Okay"

Bearing Pressure Caused by Footing:

Total Load =

$$\text{Load}_{tot} := W_{T_c} + W_{T_{s1}} + W_{T_t} = 1086 \cdot \text{kip}$$

Area of the Mat =

$$A_{mat} := W_f^2 = 1.369 \times 10^3$$

Section Modulus of Mat =

$$S := \frac{W_f^3}{6} = 8442.17 \cdot \text{ft}^3$$

Maximum Pressure in Mat =

$$P_{max} := \frac{\text{Load}_{tot}}{A_{mat}} + \frac{M_{ot}}{S} = 2.341 \cdot \text{ksf}$$

$$\text{Max_Pressure_Check} := \text{if}(P_{max} < 0.75q_s, \text{"Okay"}, \text{"No Good"})$$

Max_Pressure_Check = "Okay"

Minimum Pressure in Mat =

$$P_{min} := \frac{\text{Load}_{tot}}{A_{mat}} - \frac{M_{ot}}{S} = -0.754 \cdot \text{ksf}$$

$$\text{Min_Pressure_Check} := \text{if}((P_{min} \geq 0) \cdot (P_{min} < 0.75q_s), \text{"Okay"}, \text{"No Good"})$$

Min_Pressure_Check = "No Good"

Distance to Resultant of Pressure Distribution =

$$X_p := \frac{P_{max}}{P_{max} - P_{min}} \cdot \frac{1}{3} = 9.327$$

Distance to Kern =

$$X_k := \frac{W_f}{6} = 6.167$$

Since Resultant Force is Not in Kern, Area to which Pressure is Applied Must be Reduced.

Eccentricity =

$$e := \frac{M_{ot}}{\text{Load}_{tot}} = 12.033$$

Adjusted Soil Pressure =

$$P_a := \frac{2 \cdot \text{Load}_{tot}}{3 \cdot W_f \left(\frac{W_f}{2} - e \right)} = 3.025 \cdot \text{ksf}$$

$$q_{adj} := \text{if}(P_{min} < 0, P_a \cdot P_{max}) = 3.025 \cdot \text{ksf}$$

$$\text{Pressure_Check} := \text{if}(q_{adj} < 0.75q_s, \text{"Okay"}, \text{"No Good"})$$

Pressure_Check = "Okay"

Concrete Bearing Capacity:

Strength Reduction Factor =

$$\Phi_c := 0.65 \quad (\text{ACI-2008 9.3.2.2})$$

Bearing Strength Between Pier and Pad =

$$P_b := \Phi_c \cdot 0.85 \cdot f_c \cdot \frac{\pi \cdot d_p^2}{4} = 2.999 \times 10^3 \text{ kips} \quad (\text{ACI-2008 10.14})$$

$$\text{Bearing_Check} := \text{if}(P_b > LF \cdot C_t, \text{"Okay"}, \text{"No Good"})$$

Bearing_Check = "Okay"

Shear Strength of Concrete:

Beam Shear:

(Critical section located at a distance d from the face of Pier) (ACI 11.3.1.1)

$$\Phi_c := 0.85 \quad (\text{ACI 9.3.2.5})$$

$$d := T_f - C_{vr_pad} - d_{bot} = 31.872 \text{ in}$$

$$FL := LF \cdot \frac{C_t}{W_f^2} = 0.363 \text{ ksf}$$

$$V_{req} := FL \cdot (X_t - .5 \cdot d_p - d) \cdot W_f = 117.325 \text{ kips}$$

$$V_{Avail} := \Phi_c \cdot 2 \cdot \sqrt{f_c \cdot \text{psi}} \cdot W_f \cdot d = 1318 \text{ kip} \quad (\text{ACI-2008 11.2.1.1})$$

$$\text{Beam_Shear_Check} := \text{if}(V_{req} < V_{Avail}, \text{"Okay"}, \text{"No Good"})$$

Beam_Shear_Check = "Okay"

Punching Shear:

(Critical Section Located at a distance of d/2 from the face of pier) (ACI 11.11.1.2)

Critical Perimeter of Punching Shear =

$$b_o := (d_p + d) \cdot \pi = 20.9$$

Area Included Inside Perimeter =

$$A_{bo} := \frac{\pi \cdot (d_p + d)^2}{4} = 34.8$$

Required Shear Strength =

$$V_{req} := FL \cdot (W_f^2 - A_{bo}) = 484 \text{ kips}$$

Available Shear Strength =

$$V_{Avail} := \Phi_c \cdot 4 \cdot \sqrt{f_c \cdot \text{psi}} \cdot b_o \cdot d = 1489.3 \text{ kip} \quad (\text{ACI-2008 11.11.2.1})$$

$$\text{Punching_Shear_Check} := \text{if}(V_{req} < V_{Avail}, \text{"Okay"}, \text{"No Good"})$$

Punching_Shear_Check = "Okay"

Steel Reinforcement in Pad:

Required Reinforcement for Bending:

Strength Reduction Factor = $\phi_m := .90$ (ACI-2008 9.3.2.1)

Maximum Moment in Pad = $M_{max} := 3575 \cdot \text{kip}\cdot\text{ft}$ (User Input)

Design Moment = $M_n := \frac{LF \cdot M_{max}}{\phi_m} = 3.972 \times 10^3 \cdot \text{kips}\cdot\text{ft}$

$$\beta := \begin{cases} 0.85 & \text{if } 2500 \cdot \text{psi} \leq f_c \leq 4000 \cdot \text{psi} \\ 0.65 & \text{if } f_c > 8000 \cdot \text{psi} \\ \left[0.85 - \left[\frac{\left(\frac{f_c}{\text{psi}} - 4000 \right)}{1000} \right] \cdot 0.5 \right] & \text{otherwise} \end{cases} = 0.85$$

(ACI-2008 10.2.7.3)

$b_{eff} := W_t \cdot \cos(30 \cdot \text{deg}) + d_p = 231.944 \cdot \text{in}$

$A_s := \frac{M_n}{(f_y \cdot d)} = 24.926 \cdot \text{in}^2$

$a := \frac{A_s \cdot f_y}{\beta \cdot f_c \cdot b_{eff}} = 2.529 \cdot \text{in}$

$A_s := \frac{M_n}{f_y \cdot \left(d - \frac{a}{2} \right)} = 25.956 \cdot \text{in}^2$

$\rho := \frac{A_s}{b_{eff} \cdot d} = 0.04213 \cdot \text{in}$

Required Reinforcement for Temperature and Shrinkage:

$$\rho_{sh} := \begin{cases} .0018 & \text{if } f_y \geq 60000 \text{ psi} \\ .0020 & \text{otherwise} \end{cases} = 0.0018 \quad (\text{ACI-2008 7.12.2.1})$$

Check Bottom Bars:

$$A_s := \text{if} \left(\rho \geq \rho_{sh}, A_s, \rho_{sh} \cdot \frac{b_{eff}}{2} \cdot d \right) = 26 \text{ in}^2$$

$$A_{s_{prov}} := A_{bbot} \cdot NB_{bot} = 42 \text{ in}^2$$

$$\text{Pad_Reinforcement_Bot} := \text{if}(A_{s_{prov}} > A_s, \text{"Okay"}, \text{"No Good"})$$

Pad_Reinforcement_Bot = "Okay"

Check top Bars:

$$A_s := \text{if} \left(\rho \geq \rho_{sh}, A_s, \rho_{sh} \cdot \frac{b_{eff}}{2} \cdot d \right) = 26 \text{ in}^2$$

$$A_{s_{prov}} := A_{btop} \cdot NB_{top} = 42 \text{ in}^2$$

$$\text{Pad_Reinforcement_Top} := \text{if}(A_{s_{prov}} > A_s, \text{"Okay"}, \text{"No Good"})$$

Pad_Reinforcement_Top = "Okay"

Development Length Pad Reinforcement:

Bar Spacing =

$$B_{sPad} := \frac{W_f - 2 \cdot C_{vr_{pad}} - NB_{bot} \cdot d_{bbot}}{NB_{bot} - 1} = 9.53 \text{ in}$$

Spacing or Cover Dimension =

$$c := \text{if} \left(C_{vr_{pad}} < \frac{B_{sPad}}{2}, C_{vr_{pad}}, \frac{B_{sPad}}{2} \right) = 3 \text{ in}$$

Transverse Reinforcement Index =

$$k_{tr} := 0 \quad (\text{ACI-2008 12.2.3})$$

$$L_{dbt} := \frac{3 \cdot f_y \cdot \alpha_{pad} \cdot \beta_{pad} \cdot \gamma_{pad} \cdot \lambda_{pad}}{40 \cdot \sqrt{f_c} \cdot \text{psi} \cdot \frac{c + k_{tr}}{d_{bbot}}} \cdot d_{bbot} = 34.8 \text{ in}$$

Minimum Development Length =

$$L_{dbmin} := 12 \text{ in} \quad (\text{ACI-2008 12.2.1})$$

$$L_{dbtCheck} := \text{if}(L_{dbt} \geq L_{dbmin}, \text{"Use L.dbt"}, \text{"Use L.dbmin"}) = \text{"Use L.dbt"}$$

Available Length in Pad =

$$L_{Pad} := \frac{W_f}{2} - \frac{W_t}{2} - C_{vr_{pad}} = 112.8 \text{ in}$$

$$L_{pad_Check} := \text{if}(L_{Pad} > L_{dbt}, \text{"Okay"}, \text{"No Good"})$$

Lpad_Check = "Okay"

Steel Reinforcement in Pier:

Area of Pier = $A_p := \frac{\pi \cdot d_p^2}{4} = 1809.56 \cdot \text{in}^2$

$A_{smin} := 0.01 \cdot 0.5 \cdot A_p = 9.05 \cdot \text{in}^2$ (ACI-2008 10.8.4 & 10.9.1)

$A_{sprov} := N_{B_{pier}} \cdot A_{b_{pier}} = 23.98 \cdot \text{in}^2$

Steel_Area_Check := if($A_{sprov} > A_{smin}$, "Okay", "No Good")

Steel_Area_Check = "Okay"

Bar Spacing In Pier = $B_{sPier} := \frac{d_p \cdot \pi}{N_{B_{pier}}} - d_{b_{pier}} = 5.155 \cdot \text{in}$

Diameter of Reinforcement Cage = $Diam_{cage} := d_p - 2 \cdot C_{vr_{pier}} = 42 \cdot \text{in}$

Maximum Moment in Pier = $M_p := S_t(L_p) \cdot LF = 9594 \cdot \text{in} \cdot \text{kips}$

Pier Check evaluated from outside program and results are listed below;

$(D \ N \ n \ P_u \ M_{xu}) := \left(d_p^{12} \ N_{B_{pier}} \ B_{S_{pier}} \ \frac{C_t \cdot 1.333}{\text{kips}} \ \frac{M_p}{\text{in} \cdot \text{kips}} \right)$

$(D \ N \ n \ P_u \ M_{xu}) = (48 \ 24 \ 9 \ 662.501 \ 9.594 \times 10^3)$

$(\phi P_n \ \phi M_{xn} \ f_{sp} \ \rho) := (0 \ 0 \ 0 \ 0)$

$(\phi P_n \ \phi M_{xn} \ f_{sp} \ \rho) := \phi P'_n (D, N, n, P_u, M_{xu})^T$

$(\phi P_n \ \phi M_{xn} \ f_{sp} \ \rho) = (1.861 \times 10^3 \ 2.694 \times 10^4 \ -60 \ 0.013)$

Axial_Load_Check := if($\phi P_n \geq P_u$, "Okay", "No Good")

Axial_Load_Check = "Okay"

Bending_Check := if($\phi M_{xn} \geq M_{xu}$, "Okay", "No Good")

Bending_Check = "Okay"

Development Length Pier Reinforcement:

Available Length in Foundation:

$$L_{\text{pier}} := L_p - C_{\text{vr}}_{\text{pier}} = 75 \text{ in}$$

$$L_{\text{pad}} := T_f - C_{\text{vr}}_{\text{pad}} = 33 \text{ in}$$

Tension:

(ACI-2008 12.2.3)

Spacing or Cover Dimension =

$$c := \text{if} \left(C_{\text{vr}}_{\text{pier}} < \frac{B_{\text{sPier}}}{2}, C_{\text{vr}}_{\text{pier}}, \frac{B_{\text{sPier}}}{2} \right) = 2.578 \text{ in}$$

Transverse Reinforcement =

$$k_{\text{tr}} := 0$$

(ACI-2008 12.2.3)

$$L_{\text{dbt}} := \frac{3 \cdot f_y \cdot \alpha_{\text{pier}} \cdot \beta_{\text{pier}} \cdot \gamma_{\text{pier}} \cdot \lambda_{\text{pier}}}{40 \cdot \sqrt{f_c \text{ psi}} \cdot \left(\frac{c + k_{\text{tr}}}{d_{\text{bpier}}} \right)} \cdot d_{\text{bpier}} = 40.56 \text{ in}$$

Minimum Development Length =

$$L_{\text{dh}} := \frac{1200 \cdot d_{\text{bpier}}}{\sqrt{\frac{f_c}{\text{psi}}}} \cdot .7 = 17.299 \text{ in} \quad (\text{ACI 12.2.1})$$

Pier reinforcement bars are standard 90 degree hooks and therefore development in the pad is computed as follows:

$$L_{\text{db}} := \max(L_{\text{dbt}}, L_{\text{dbmin}}) = 40.556 \text{ in}$$

$$L_{\text{tension_Check}} := \text{if}(L_{\text{pier}} + L_{\text{pad}} > L_{\text{db}}, \text{"Okay"}, \text{"No Good"})$$

$$L_{\text{tension_Check}} = \text{"Okay"}$$

Compression:

(ACI-2008 12.3.2)

$$L_{\text{dbc1}} := \frac{.02 \cdot d_{\text{bpier}} \cdot f_y}{\sqrt{f_c \text{ psi}}} = 24.713 \text{ in}$$

$$L_{\text{dbmin}} := 0.0003 \cdot \frac{\text{in}^2}{\text{lb}} \cdot (d_{\text{bpier}} \cdot f_y) = 20.304 \text{ in}$$

$$L_{\text{dbc}} := \text{if}(L_{\text{dbc1}} \geq L_{\text{dbmin}}, L_{\text{dbc1}}, L_{\text{dbmin}}) = 24.713 \text{ in}$$

$$L_{\text{compression_Check}} := \text{if}(L_{\text{pier}} + L_{\text{pad}} > L_{\text{dbc}}, \text{"Okay"}, \text{"No Good"})$$

$$L_{\text{compression_Check}} = \text{"Okay"}$$

| Section 1 - RDDES GENERAL INFORMATION | | | | | | | | | | | |
|---------------------------------------|---|------------------------|--------------------|------------------------------------|--|---------------------|----------------|---------------------|------------------|-------------|--------|
| RDDES NAME: | CT2143 | DATE: | 11/15/2021 | RF DESIGN ENG: | Mhammad M Hussain | RF PERFORMER: | Folami Ayo | RDDES PROGRAM TYPE: | 2021 5G NR Radio | | |
| ISSUE: | Bronze Standard | Approved? (Y/N): | Yes | RF DESIGN PHONE: | 510-493-3024 | RF PERFORMER PHONE: | 908-271-8354 | RDDES TECHNOLOGY: | 5G NR 15R CBAND | | |
| REVISION: | Final | RF MANAGER: | John Benedeto | RF DESIGN EMAIL: | mh705r@att.com | RF PERFORMER EMAIL: | sm4897@att.com | STATUS/STATUS: | Final/Approved | | |
| INITIATIVE PROJECT | C Band, DOD and Multi carrier Preliminary SOW RDDES | | | ADDITIONAL WORKFLOW NOTIFICATIONS: | | RDDES ID: | 4862601 | Created By: | mh705r | Updated By: | mh705r |
| | UMTS VERSION: | 3.00 | Created: | 11/15/2021 | Updated: | 1/27/2022 | | | | | |
| | LTE FREQUENCY: | 700,1900,AWS,WCS | Estimated SQM: | 17,690 | Expiration: | | | | | | |
| | 5G FREQUENCY: | CBAND,DOD,850,1900,AWS | RER Initiative: | | Calculation ID: | 202111191713204312 | | | | | |
| | IPLAN JOB # 1: | ER_RCTB-21-04530 | PRD SUB GRP #1: | | Cellular Modifications #4343434343434343 | | | | | | |
| | IPLAN JOB # 2: | ER_RCTB-21-05540 | PRD SUB GRP #2: | | 5G NR Radio 5G NR 15R CBand | | | | | | |
| | IPLAN JOB # 3: | ER_RCTB-21-03971 | PRD SUB GRP #3: | | Cell Site RF Modifications BBU Add | | | | | | |
| | IPLAN JOB # 4: | ER_RCTB-21-04524 | PRD SUB GRP #4: | | 5G NR Radio 5G NR 15R 1DR-1 | | | | | | |
| | IPLAN JOB # 5: | ER_RCTB-21-05538 | PRD SUB GRP #5: | | 5G NR Radio 5G NR 15R CBand | | | | | | |
| | IPLAN JOB # 6: | ER_RCTB-21-05591 | PRD SUB GRP #6: | | 5G NR Software Radio 5G NR Activation | | | | | | |
| | IPLAN JOB # 7: | ER_RCTB-21-05589 | PRD SUB GRP #7: | | 5G NR Software Radio 5G NR Activation | | | | | | |
| | IPLAN JOB # 8: | | PRD SUB GRP #8: | | | | | | | | |
| | IPLAN JOB # 9: | | PRD SUB GRP #9: | | | | | | | | |
| | IPLAN JOB # 10: | | PRD SUB GRP #10: | | | | | | | | |
| | IPLAN JOB # 11: | | PRD SUB GRP #11: | | | | | | | | |
| | IPLAN JOB # 12: | | PRD SUB GRP #12: | | | | | | | | |
| IPLAN JOB # 13: | | PRD SUB GRP #13: | | | | | | | | | |
| IPLAN JOB # 14: | | PRD SUB GRP #14: | | | | | | | | | |
| IPLAN JOB # 15: | | PRD SUB GRP #15: | | | | | | | | | |
| IPLAN JOB # 16: | | PRD SUB GRP #16: | | | | | | | | | |

| Section 2 - LOCATION INFORMATION | | | | | | | | | |
|--|--|--------------------|-------------------|--------------------------------|-----------------|------------------|------------|--------------|-------------|
| UBID: | 5775 | FA LOCATION CODE: | 10035016 | LOCATION NAME: | GILBERTS CORNER | ORACLE PRJT # 1: | 2051A11LXL | PAGE JOB #1: | MRC2B055795 |
| REGION: | NORTHEAST | MARKET CLUSTER: | NEW ENGLAND | MARKET: | CONNECTICUT | ORACLE PRJT # 2: | 2051A11MBC | PAGE JOB #2: | MRC2B056271 |
| ADDRESS: | 46 FENWOOD LANE | CITY: | WILTON | STATE: | CT | ORACLE PRJT # 3: | 2051A11N7H | PAGE JOB #3: | MRC2B055278 |
| ZIP CODE: | 06897 | COUNTY: | FARFIELD | LONG (DEC DEG): | 73.4319161 | ORACLE PRJT # 4: | 2051A113H | PAGE JOB #4: | MRC2B055500 |
| 412 UTM | | LONGITUDE (D-M-S): | 73° 2'59" | LAT (DEC DEG): | -41.1725481 | ORACLE PRJT # 5: | 2051A11MBB | PAGE JOB #5: | MRC2B056662 |
| LATITUDE (D-M-S): | 41° 13'31.6S | | 2.99786S | | | ORACLE PRJT # 6: | | PAGE JOB #6: | MRC2B053316 |
| LEGACY ORANGE | 2143 WILTON RT. 15 TO EXIT 40 (RT. 7) GO NORTH ON RTE 7 & CONTINUE APPROX. 1.5 MILES & TURN LEFT ONTO KENT ROAD. FOLLOW KENT TO STOP SIGN, TURN RIGHT ON OLD BELDON HILL ROAD AND GO 1/2 M. TO NEXT STOP SIGN AND TURN RIGHT ONTO BELDON HILL RD. GO 410 M. AND TURN RIGHT ONTO PAVED ROAD NEXT TO YELLOW HYDRANT. (FENWOOD LANE). IT HAS A BLACK METAL STREET SIGN. SITE IN REAR 3/10 M. | | | | | ORACLE PRJT # 7: | | PAGE JOB #7: | MRC2B053312 |
| LEGACY BLUE | UPDATED 4/04 | | | | | ORACLE PRJT # 8: | | PAGE JOB #8: | |
| GILBERTS CORNER | CT-056 | | | | | ORACLE PRJT # 9: | | PAGE JOB #9: | |
| TAKE ROUTE 17 NORTH TO RIDGEWOOD AVE. FOLLOW RIDGEWOOD AVENUE TO THE GARDEN STATE PARKWAY GET ON GOING NORTH. STAY ON THE GARDEN STATE PARKWAY NORTH UNTIL YOU GET TO THE NEW YORK STATE THRUWAY (RT. 87 SOUTH) TOWARDS THE TAPPAN ZEE BRIDGE. CROSS THE TAPPAN ZEE BRIDGE AND GET OFF AT EXIT 8 (CROSS WESTCHESTER PARKWAY RT. 287). TAKE RT. 287 EAST TO 195 NORTH (NEW ENGLAND THRUWAY). TAKE 195 NORTH TO EXIT 15 (ROUTE 7 EXTENSION) CONTAINES NORTH ON ROUTE 7. AT LIGHT MAKE RIGHT. FOLLOW TO END MAKE LEFT ON ROUTE 7 NORTH FOLLOW (3-MILES) TO WOLFPT ROAD MAKE LEFT FOLLOW TO BELDEN HILL ROAD MAKE LEFT CONTINUE TO FENWOOD LANE (FIRST ROAD ON THE LEFT) SMALL STREET SIGN TAKE LEFT FOLLOW TO SITE. DEMARC IS LOCATED AT EQUIPMENT. OUTDOOR PEDESTAL. | ORACLE PRJT # 10: | | PAGE JOB #10: | | | | | | |
| ADDRESS: 46 FENWOOD LANE, WILTON, CONNECTICUT | ORACLE PRJT # 11: | | PAGE JOB #11: | | | | | | |
| ACCESS: 247 LOCKS ON GATE (COMB 0043) | ORACLE PRJT # 12: | | PAGE JOB #12: | | | | | | |
| CONTACT: BRIAN BENITO (860) 685-8280 | ORACLE PRJT # 13: | | PAGE JOB #13: | | | | | | |
| SECURITY: NO ISSUES | ORACLE PRJT # 14: | | PAGE JOB #14: | | | | | | |
| POWER COMPANY: NORTHEAST UTILITIES (800) 286-2000 | ORACLE PRJT # 15: | | PAGE JOB #15: | | | | | | |
| FIRE: (203) 834-6247 | ORACLE PRJT # 16: | | PAGE JOB #16: | | | | | | |
| POLICE: (203) 834-6260 | BORDER CELL WITH COORDINATE: | | SEARCH RING NAME: | | | | | | |
| T-1 CIRCUIT NUMBERS HCGS 664921 / HCGS 664921 | AM STUDY REQ'D (Y/N): | No | SEARCH RING ID: | | | | | | |
| SNET: (800) 448-1008 AND (203) 420-3131 (24-HR REPAIR) | RF DISTRICT: | TBD | RF ZONE: | TBD | | | | | |
| | RF ZONE: | TBD | RNC(UMTS): | BRIDGEPORT RNC06 ERICSSON 3820 | | | | | |
| | RF ZONE: | TBD | MME POOL ID(LTE): | FF01 | | | | | |
| | PARENT NAME(UMTS): | BRPTCT04CRB06 | | | | | | | |

| Section 3 - LICENSE COVERAGE/FILING INFORMATION | | | | | | | | | |
|---|-----|-------------------------|--|------------------------|--|------------------|-------------------------|--|--|
| CGSA - NO FILING TRIGGERED (Yes/No): | No | CGSA LOSS: | | PCS REDUCED - UPS ZIP: | | CGSA CALL SIGNS: | KNKAZ56,KNKA256,KNKA256 | | |
| CGSA - MINOR FILING NEEDED (Yes/No): | No | CGSA EXT AGMT NEEDED: | | PCS POPS REDUCED: | | | | | |
| CGSA - MAJOR FILING NEEDED (Yes/No): | Yes | CGSA SCORECARD UPDATED: | | | | | | | |

| Section 4 - TOWER/REGULATORY INFORMATION | | | | | | | | | |
|--|--------------|------------------------|--------|-----------------|--------------|--------------------------------|--|--|--|
| STRUCTURE AT AT OWNED?: | No | GROUND ELEVATION (ft): | 0 | STRUCTURE TYPE: | SELF SUPPORT | MARKET LOCATION 700 MHz Band: | | | |
| ADDITIONAL REGULATORY?: | No | HEIGHT OVERALL (ft): | 200.00 | FCC APP NUMBER: | NR | MARKET LOCATION 850 MHz Band: | | | |
| SUB-LEASE RIGHTS?: | No | STRUCTURE HEIGHT (ft): | 182.00 | | | MARKET LOCATION 1900 MHz Band: | | | |
| LIGHTING TYPE: | NOT REQUIRED | | | | | MARKET LOCATION AWS Band: | | | |
| | | | | | | MARKET LOCATION WCS Band: | | | |
| | | | | | | MARKET LOCATION Future Band: | | | |

| Section 5 - E-911 INFORMATION - existing | | | | | | | | | | | | | | | | | |
|--|------|------------|--|----------|--|-------------|--|-------------------|--|---------------|---|-------|--|----------------|--|----------------|--|
| SECTOR A | E911 | PSAP NAME: | | PSAP ID: | | E911 PHASE: | | MPC SVC PROVIDER: | | LMU REQUIRED: | 0 | ESRN: | | DATE LIVE PH1: | | DATE LIVE PH2: | |
| SECTOR B | | | | | | INTRADO | | | | 0 | | | | | | | |
| SECTOR C | | | | | | INTRADO | | | | 0 | | | | | | | |
| SECTOR D | | | | | | INTRADO | | | | 0 | | | | | | | |
| SECTOR E | | | | | | | | | | | | | | | | | |
| SECTOR F | | | | | | | | | | | | | | | | | |
| OMN | | | | | | | | | | | | | | | | | |

| Section 5 - E-911 INFORMATION - final | | | | | | | | | | | | | | | | | |
|---------------------------------------|------|------------|--|----------|--|-------------|--|-------------------|--|---------------|---|-------|--|----------------|--|----------------|--|
| SECTOR A | E911 | PSAP NAME: | | PSAP ID: | | E911 PHASE: | | MPC SVC PROVIDER: | | LMU REQUIRED: | 0 | ESRN: | | DATE LIVE PH1: | | DATE LIVE PH2: | |
| SECTOR B | | | | | | INTRADO | | | | 0 | | | | | | | |
| SECTOR C | | | | | | INTRADO | | | | 0 | | | | | | | |
| SECTOR D | | | | | | INTRADO | | | | 0 | | | | | | | |
| SECTOR E | | | | | | | | | | | | | | | | | |
| SECTOR F | | | | | | | | | | | | | | | | | |
| OMN | | | | | | | | | | | | | | | | | |

| Section 67 - BBU INFORMATION - existing | | | | |
|---|--------------------|--------------------|--------------------|--------------------|
| | BBU 1 | BBU 2 | BBU 3 | BBU 4 |
| BBU ID: | 229582 | 210621 | 360180 | 651936 |
| TECHNOLOGY: | LMTS | LMTS | LTE | LTE |
| BBU NAME: | CTU2143 | CTV2143 | CTU2143 | CTU06143R |
| BBU USID: | 5775 | 5775 | 5775 | 5775 |
| CELL ID / BCF: | CTV2143 | CTV2143 | CTU2143 | CTU06143R |
| BTS TYPE: | 32TV | 32TV | 32TL | 32TL |
| 4-9 DIGIT SITE ID: | 2143 | 2143 | 2143 | 06143 |
| COW OR TOY? | No | No | No | No |
| CELL SITE TYPE: | SECTORIZED | SECTORIZED | SECTORIZED | SECTORIZED |
| SITE TYPE: | MACRO-CONVENTIONAL | MACRO-CONVENTIONAL | MACRO-CONVENTIONAL | MACRO-CONVENTIONAL |
| BTS LOCATION ID: | INTERNAL | INTERNAL | INTERNAL | INTERNAL |
| BASE STATION TYPE: | OVERLAY | BASE | BASE | OVERLAY |
| EQUIPMENT NAME: | GILBERT'S CORNER | GILBERT'S CORNER | GILBERT'S CORNER | GILBERT'S CORNER |
| DISASTER PRIORITY: | 0 | 0 | 3 | 3 |
| EQUIPMENT VENDOR: | ERICSSON | ERICSSON | ERICSSON | ERICSSON |
| EQUIPMENT TYPE (Model): | | | 6601 INDOOR MU | 6601 INDOOR MU |
| BASEBAND CONFIGURATION: | | | | |
| MARKET STATE CODE: | | | CT | CT |
| NODE B NUMBER: | 0 | 0 | 2143 | 6143 |
| SIDEHAUL SWITCH VENDOR: | | | | |
| SIDEHAUL SWITCH MODEL: | | | | |
| SIDEHAUL SWITCH NAME: | | | | |
| CSS - CTS COMMON ID: | CTU2143 | CTV2143 | CTU2143 | CTU06143R |
| CSS - SECONDARY FUNCTION ID: | | | | |

Section 67 - BBU INFORMATION - final

| Section 67 - BBU INFORMATION - final | | | | |
|--------------------------------------|--------------------------|-------------------------------|-------|-------|
| | BBU 1 | BBU 2 | BBU 3 | BBU 4 |
| BBU ID: | 360180 | 651936 | | |
| TECHNOLOGY: | LTE | LTE-SG | | |
| BBU NAME: | CTU02143 | CTU06143R / CTU0602143 | | |
| BBU USID: | 5775 | 5775 | | |
| CELL ID / BCF: | CTU02143 | CTU06143R | | |
| BTS TYPE: | 32TL | 32TL | | |
| 4-9 DIGIT SITE ID: | 2143 | 06143 | | |
| COW OR TOY? | No | No | | |
| CELL SITE TYPE: | SECTORIZED | SECTORIZED | | |
| SITE TYPE: | MACRO-CONVENTIONAL | MACRO-CONVENTIONAL | | |
| BTS LOCATION ID: | INTERNAL | INTERNAL | | |
| BASE STATION TYPE: | BASE | OVERLAY | | |
| EQUIPMENT NAME: | GILBERT'S CORNER | GILBERT'S CORNER | | |
| DISASTER PRIORITY: | 3 | 3 | | |
| EQUIPMENT VENDOR: | ERICSSON | ERICSSON | | |
| EQUIPMENT TYPE (Model): | 6601 RADIONODE 5216 | BASEBAND 6630 | | |
| BASEBAND CONFIGURATION: | 1x6601 / 1x5216 / 2x6630 | xxxxx / 1x6630 / xxxxx + IDle | | |
| MARKET STATE CODE: | CT | CT,CTC | | |
| NODE B NUMBER: | 2143 | 6143,2143 | | |
| SIDEHAUL SWITCH VENDOR: | | | | |
| SIDEHAUL SWITCH MODEL: | | | | |
| SIDEHAUL SWITCH NAME: | | | | |
| CSS - CTS COMMON ID: | CTU02143 | CTU06143R | | |
| CSS - SECONDARY FUNCTION ID: | | | | |

Section 7b - Radio INFORMATION - existing

Section 7b - Radio INFORMATION - final

Section 8 - RBS/SECTOR ASSOCIATION - existing

| Section 8 - RBS/SECTOR ASSOCIATION - existing | | | | |
|---|----------|----------|--------------|-----------------|
| | BBU 1 | BBU 2 | BBU 3 | BBU 4 |
| CTS Common ID: | CTU2143 | CTV2143 | CTU2143 | CTU06143R |
| Soft Sector IDs: | CTU21437 | CTV21431 | CTU2143_3A_1 | CTU06143_7A_2 |
| | CTU21438 | CTV21432 | CTU2143_3B_1 | CTU06143_7B_2 |
| | CTU21439 | CTV21433 | CTU2143_3C_1 | CTU06143_7C_2 |
| | | | CTU2143_7A_1 | CTU06143_7A_3,F |
| | | | CTU2143_7B_1 | CTU06143_7B_3,F |
| | | | CTU2143_7C_1 | CTU06143_7C_3,F |
| | | | CTU2143_8A_1 | CTU06143_8A_1 |
| | | | CTU2143_8B_1 | CTU06143_8B_1 |
| | | | CTU2143_8C_1 | CTU06143_8C_1 |
| | | | CTU2143_9A_1 | |
| | | | CTU2143_9B_2 | |
| | | | CTU2143_9B_1 | |
| | | | CTU2143_9B_2 | |
| | | | CTU2143_9C_1 | |
| | | | CTU2143_9C_2 | |

| Section 8 - RBS/SECTOR ASSOCIATION - final | | | | | | | | | | | | | | | | |
|--|-----------------|--|----------------------|---------------|--|--|--|--|--|--|--|--|--|--|--|--|
| | BBU 1 | | | BBU 2 | | | | | | | | | | | | |
| CTS Common ID | CTI02143 | | CTI06143R,CTI0602143 | | | | | | | | | | | | | |
| Soft Sector IDs | CTI02143_3A_1 | | CTI0602143, N020A_1 | | | | | | | | | | | | | |
| | CTI02143_3B_1 | | CTI0602143, N020B_1 | | | | | | | | | | | | | |
| | CTI02143_3C_1 | | CTI0602143, N020C_1 | | | | | | | | | | | | | |
| | CTI02143_3A_1 | | CTI0602143, N020A_1 | | | | | | | | | | | | | |
| | CTI02143_3A_3_F | | CTI0602143, N020F_1 | | | | | | | | | | | | | |
| | CTI02143_3B_1 | | CTI0602143, N020C_1 | | | | | | | | | | | | | |
| | CTI02143_3B_3_F | | CTI0602143, N020A_1 | | | | | | | | | | | | | |
| | CTI02143_3C_1 | | CTI0602143, N020C_1 | | | | | | | | | | | | | |
| | CTI02143_3C_3_F | | CTI0602143, N020A_1 | | | | | | | | | | | | | |
| | | | | CTI06143_2A_2 | | | | | | | | | | | | |
| | | | | CTI06143_2B_2 | | | | | | | | | | | | |
| | | | | CTI06143_2C_2 | | | | | | | | | | | | |
| | | | | CTI06143_9A_1 | | | | | | | | | | | | |
| | | | | CTI06143_9A_2 | | | | | | | | | | | | |
| | | | | CTI06143_9B_1 | | | | | | | | | | | | |
| | | | CTI06143_9B_2 | | | | | | | | | | | | | |
| | | | CTI06143_9C_1 | | | | | | | | | | | | | |
| | | | CTI06143_9C_2 | | | | | | | | | | | | | |

| Section 9 - SOFT SECTOR ID - existing | | | | | | | | | | | | | | | |
|---------------------------------------|-----------------|------------------|----------------|----------------|-----------------|----------------|----------------|-----------------|----------------|-----------------|-----------------|----------------|---------------|----------------|---------------|
| | UMTS 1ST 850 | UMTS 1ST 1900 | LTE 1ST 700 | LTE 1ST 850 | LTE 1ST 1900 | LTE 1ST AWS | LTE 1ST WCS | LTE 2ND 700 | LTE 2ND 850 | LTE 2ND 1900 | LTE 4TH 1900 | LTE 5TH 700 | 5G 1ST 850 | 5G 1ST 1900 | 5G 1ST AWS |
| USBD (excluding Hard Sector) | 5775 850 3G.1 | 5775 1900 3G.1 | | | | | | | | | | | | | |
| SECTOR A SOFT SECTOR ID | CTV21431 | CTU21437 | CTI02143_7A_1 | CTI02143_8A_1 | CTI02143_9A_1 | CTI06143_2A_2 | CTI02143_3A_1 | CTI06143_7A_3_F | CTI06143_8A_1 | CTI02143_9A_2 | | | | | |
| SECTOR B | CTV21432 | CTU21438 | CTI02143_7B_1 | CTI02143_8B_1 | CTI02143_9B_1 | CTI06143_2B_2 | CTI02143_3B_1 | CTI06143_7B_3_F | CTI06143_8B_1 | CTI02143_9B_2 | | | | | |
| SECTOR C | CTV21433 | CTU21439 | CTI02143_7C_1 | CTI02143_8C_1 | CTI02143_9C_1 | CTI06143_2C_2 | CTI02143_3C_1 | CTI06143_7C_3_F | CTI06143_8C_1 | CTI02143_9C_2 | | | | | |
| SECTOR D | | | | | | | | | | | | | | | |
| SECTOR E | | | | | | | | | | | | | | | |
| SECTOR F | | | | | | | | | | | | | | | |
| OMNI | | | | | | | | | | | | | | | |

| Section 9 - SOFT SECTOR ID - final | | | | | | | | | | | | | | | |
|------------------------------------|-----------------|------------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|---------------------|---------------------|---------------------|
| | UMTS 1ST 850 | UMTS 1ST 1900 | LTE 1ST 700 | LTE 1ST 850 | LTE 1ST 1900 | LTE 1ST AWS | LTE 1ST WCS | LTE 2ND 700 | LTE 2ND 850 | LTE 2ND 1900 | LTE 4TH 1900 | LTE 5TH 700 | 5G 1ST 850 | 5G 1ST 1900 | 5G 1ST AWS |
| USBD (excluding Hard Sector) | | | | | | | | | | | | | | | |
| SECTOR A SOFT SECTOR ID | | | CTI02143_7A_1 | | CTI06143_9A_1 | CTI06143_2A_2 | CTI02143_3A_1 | | | | CTI06143_9A_2 | CTI02143_7A_3_F | CTI0602143, N020C_1 | CTI0602143, N020A_1 | CTI0602143, N020A_1 |
| SECTOR B | | | CTI02143_7B_1 | | CTI06143_9B_1 | CTI06143_2B_2 | CTI02143_3B_1 | | | | CTI06143_9B_2 | CTI02143_7B_3_F | CTI0602143, N020C_1 | CTI0602143, N020B_1 | CTI0602143, N020A_1 |
| SECTOR C | | | CTI02143_7C_1 | | CTI06143_9C_1 | CTI06143_2C_2 | CTI02143_3C_1 | | | | CTI06143_9C_2 | CTI02143_7C_3_F | CTI0602143, N020C_1 | CTI0602143, N020C_1 | CTI0602143, N020A_1 |
| SECTOR D | | | | | | | | | | | | | | | |
| SECTOR E | | | | | | | | | | | | | | | |
| SECTOR F | | | | | | | | | | | | | | | |
| OMNI | | | | | | | | | | | | | | | |

| Section 9 - Cell Number - existing | | | | | | | | | | | | | | | |
|------------------------------------|-----------------|------------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|----------------|---------------|----------------|---------------|
| | UMTS 1ST 850 | UMTS 1ST 1900 | LTE 1ST 700 | LTE 1ST 850 | LTE 1ST 1900 | LTE 1ST AWS | LTE 1ST WCS | LTE 2ND 700 | LTE 2ND 850 | LTE 2ND 1900 | LTE 4TH 1900 | LTE 5TH 700 | 5G 1ST 850 | 5G 1ST 1900 | 5G 1ST AWS |
| USBD (excluding Hard Sector) | 5775 850 3G.1 | 5775 1900 3G.1 | | | | | | | | | | | | | |
| SECTOR A CELL NUMBER | | | 15 | 1 | 8 | 192 | 149 | 171 | 1 | 178 | | | | | |
| SECTOR B | | | 16 | 2 | 9 | 193 | 150 | 172 | 2 | 179 | | | | | |
| SECTOR C | | | 17 | 3 | 10 | 194 | 151 | 173 | 3 | 180 | | | | | |
| SECTOR D | | | | | | | | | | | | | | | |
| SECTOR E | | | | | | | | | | | | | | | |
| SECTOR F | | | | | | | | | | | | | | | |
| OMNI | | | | | | | | | | | | | | | |

| Section 9 - Cell Number - final | | | | | | | | | | | | | | | |
|---------------------------------|-----------------|------------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|----------------|---------------|----------------|---------------|
| | UMTS 1ST 850 | UMTS 1ST 1900 | LTE 1ST 700 | LTE 1ST 850 | LTE 1ST 1900 | LTE 1ST AWS | LTE 1ST WCS | LTE 2ND 700 | LTE 2ND 850 | LTE 2ND 1900 | LTE 4TH 1900 | LTE 5TH 700 | 5G 1ST 850 | 5G 1ST 1900 | 5G 1ST AWS |
| USBD (excluding Hard Sector) | | | | | | | | | | | | | | | |
| SECTOR A CELL NUMBER | | | 15 | | | 192 | 149 | | | | 178 | 171 | 25 | 26 | 27 |
| SECTOR B | | | 16 | | | 193 | 150 | | | | 179 | 172 | 49 | 50 | 51 |
| SECTOR C | | | 17 | | | 194 | 151 | | | | 180 | 173 | 73 | 74 | 75 |
| SECTOR D | | | | | | | | | | | | | | | |
| SECTOR E | | | | | | | | | | | | | | | |
| SECTOR F | | | | | | | | | | | | | | | |
| OMNI | | | | | | | | | | | | | | | |

| Section 10 - CID/SAC - existing | | | | | | | | | | | | | | | |
|---------------------------------|-----------------|------------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|----------------|---------------|----------------|---------------|
| | UMTS 1ST 850 | UMTS 1ST 1900 | LTE 1ST 700 | LTE 1ST 850 | LTE 1ST 1900 | LTE 1ST AWS | LTE 1ST WCS | LTE 2ND 700 | LTE 2ND 850 | LTE 2ND 1900 | LTE 4TH 1900 | LTE 5TH 700 | 5G 1ST 850 | 5G 1ST 1900 | 5G 1ST AWS |
| SECTOR A CID/SAC | 21431 | 21437 | | | | | | | | | | | | | |
| SECTOR B | 21432 | 21438 | | | | | | | | | | | | | |
| SECTOR C | 21433 | 21439 | | | | | | | | | | | | | |
| SECTOR D | | | | | | | | | | | | | | | |
| SECTOR E | | | | | | | | | | | | | | | |
| SECTOR F | | | | | | | | | | | | | | | |
| OMNI | | | | | | | | | | | | | | | |

| Section 10 - CID/SAC - final | | | | | | | | | | | | | | | |
|------------------------------|-----------------|------------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|----------------|---------------|----------------|---------------|
| | UMTS 1ST 850 | UMTS 1ST 1900 | LTE 1ST 700 | LTE 1ST 850 | LTE 1ST 1900 | LTE 1ST AWS | LTE 1ST WCS | LTE 2ND 700 | LTE 2ND 850 | LTE 2ND 1900 | LTE 4TH 1900 | LTE 5TH 700 | 5G 1ST 850 | 5G 1ST 1900 | 5G 1ST AWS |
| SECTOR A CID/SAC | | | | | | | | | | | | | | | |
| SECTOR B | | | | | | | | | | | | | | | |
| SECTOR C | | | | | | | | | | | | | | | |
| SECTOR D | | | | | | | | | | | | | | | |
| SECTOR E | | | | | | | | | | | | | | | |
| SECTOR F | | | | | | | | | | | | | | | |
| OMNI | | | | | | | | | | | | | | | |

Section 15A - CURRENT TOWER CONFIGURATION - SECTOR A (OR OMNI)

| ANTENNA POSITION 1 | ANTENNA POSITION 2 | ANTENNA POSITION 3 | ANTENNA POSITION 4 | ANTENNA POSITION 5 | ANTENNA POSITION 6 | ANTENNA POSITION 7 |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| ANTENNA MAKE / MODEL | 7770 | 800-10965 | OS66512-2 | | | |
| ANTENNA VENDOR | Powertowers | Kathrein | Quintel | | | |
| ANTENNA SIZE (H x W x D) | 55X11X5 | 78.7X20X6.9 | 72X12X0.6 | | | |
| ANTENNA WEIGHT | 35 | 108.6 | 111 | | | |
| AZIMUTH | 263 | 30 | 30 | | | |
| MAGNETIC DECLINATION | | | | | | |
| RADIATION CENTER (feet) | 163 | 163 | 163 | | | |
| ANTENNA TIP HEIGHT | | 166 | 166 | | | |
| MECHANICAL DOWNTILT | 0 | 0 | 0 | | | |
| FEEDER AMOUNT | 2 | | Fiber + 2 Coax | | | |
| VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP) | | | | | | |
| VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP) | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE) | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE) | | | | | | |
| HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches) | | | | | | |
| Antenna RET Motor (QTY/MODEL) | 2 | 7020 | Bulk-m | Bulk-m | | |
| SURGE ARRESTOR (QTY/MODEL) | | | 2 | WP7DC-80FDNA DB | | |
| DUPLEXER (QTY/MODEL) | 2 | LGP21901 | | | | |
| DUPLEXER (QTY/MODEL) | | | RRH CONTROLLED | RRH CONTROLLED | | |
| Antenna RET CONTROL UNIT (QTY/MODEL) | 1 | 860-10006 | | | | |
| DC BLOCK (QTY/MODEL) | | | | | | |
| TMALNA (QTY/MODEL) | 2 | LGP21401 | | | | |
| CURRENT INJECTORS FOR TMA (QTY/MODEL) | 2 | 1000860 | | | | |
| PDU FOR TMAS (QTY/MODEL) | 1 | LGP12104 | | | | |
| FILTER (QTY/MODEL) | | | | | | |
| SOLID (QTY/MODEL) | | 2 | DC6-48-60-18 | | | |
| FIBER TRUNK (QTY/MODEL) | | | | | | |
| DC TRUNK (QTY/MODEL) | | | | | | |
| REPEATER (QTY/MODEL) | | | | | | |
| RRH - 700 band (QTY/MODEL) | | 1 | 4478 B14 | 1 | RRUS-11 B12 | |
| RRH - 850 band (QTY/MODEL) | | | | 1 | RRUS-12 B5 | |
| RRH - 1900 band (QTY/MODEL) | | | | 1 | RRUS-32 B2 | |
| RRH - AWS band (QTY/MODEL) | | 1 | RRUS-32 B66A | | | |
| RRH - WCS band (QTY/MODEL) | | | | 1 | RRUS-32 B30 | |
| Additional RRH #1 - any band (QTY/MODEL) | | | | | | |
| Additional RRH #2 - any band (QTY/MODEL) | | | | | | |
| RRH 7B_1 (QTY/MODEL) | | | | | | |
| RRH 7B_2 (QTY/MODEL) | | | | | | |
| RRH 7B_3 (QTY/MODEL) | | | | | | |
| Additional Component 1 (QTY/MODEL) | | 1 | DC-48-60-0-8F | | | |
| Additional Component 2 (QTY/MODEL) | | | | | | |
| Additional Component 3 (QTY/MODEL) | | | | | | |
| Local Market Note 1 | | | | | | |
| Local Market Note 2 | | | | | | |
| Local Market Note 3 | | | | | | |

| PORT SPECIFIC RELOS | PORT NUMBER | USED (CSS#) | USED (AtoB) | ATOLL TXID | ATOLL CELL ID | TXRX? | TECHNOLOGY / FREQUENCY | ANTENNA ATOLL | ANTENNA GAN | ELECTRICAL AZIMUTH | ELECTRICAL TILT | RRH LOCATION (Top/Bottom/Integrated/None) | FEEDERS TYPE | FEEDER LENGTH (feet) | RX/IT KIT MODULE? | TRIPLEXER or LLC (QTY) | TRIPLEXER or LLC (MODEL) | SCP/AMCPA MODULE? | HATCHPLATE POWER (Watts) | ERP (Watts) | Antenna RET Name | CABLE NUMBER | CABLE ID(cssng) | |
|---------------------|-------------|-------------|-------------|---------------|---------------|-------|------------------------|------------------------|-------------|--------------------|-----------------|---|------------------|----------------------|-------------------|------------------------|--------------------------|-------------------|--------------------------|-------------|------------------|--------------|-----------------|--|
| ANTENNA POSITION 1 | PORT 1 | | | CTV21431 | CTV21431 | | UMTS 850 | 7770.00.850.06 | 13.5 | 263 | 6 | None | Fiber at 850 MHz | 190.05 | | | | | 207.01 | | | 1 | | |
| ANTENNA POSITION 3 | PORT 1 | | | CTL06143_7A_3 | CTL06143_7A_3 | | LTE 700 | 80010965_777M Hz_03DT | 13.5 | 30 | 3 | TOP | FIBER | 0 | | | | | 2951.413 | | | 5 | | |
| | PORT 3 | | | CTL06143_2A_2 | CTL06143_2A_2 | | LTE AWS | 80010985_2170 MHz_04DT | 18.5 | 30 | 4 | TOP | FIBER | 0 | | | | | 5070.2572 | | | 6 | | |
| ANTENNA POSITION 4 | PORT 1 | | | CTL06143_8A_1 | CTL06143_8A_1 | | LTE 850 | 2_850MHz_03D T | 13.5 | 30 | 3 | None | Fiber at 850 MHz | 190.05 | | | | | 1000 | | | 7 | | |
| | PORT 2 | | | CTL02143_7A_1 | CTL02143_7A_1 | | LTE 700 | 2_722MHz_03D T | 13.5 | 30 | 3 | TOP | FIBER | 0 | | | | | 1475.7065 | | | 8 | | |
| | PORT 3 | | | CTL02143_9A_1 | CTL02143_9A_1 | | LTE 1900 | 2_1930MHz_04 DT | 15.6 | 30 | 4 | TOP | FIBER | 0 | | | | | 4842.058 | | | 8 | | |
| | PORT 4 | | | CTL02143_8A_2 | CTL02143_8A_2 | | LTE 1900 | 2_1930MHz_04 DT | 15.6 | 30 | 4 | TOP | FIBER | 0 | | | | | | 4842.058 | | | 8 | |
| | PORT 7 | | | CTL02143_3A_1 | CTL02143_3A_1 | | LTE WCS | 2_2355MHz_03 DT | 16.7 | 30 | 3 | TOP | FIBER | 0 | | | | | | 1286.2866 | | | 8 | |

Section 15B - CURRENT TOWER CONFIGURATION - SECTOR B

| ANTENNA POSITION 1 | | ANTENNA POSITION 2 | | ANTENNA POSITION 3 | | ANTENNA POSITION 4 | | ANTENNA POSITION 5 | | ANTENNA POSITION 6 | | ANTENNA POSITION 7 | |
|--|-------------|--------------------|--|--------------------|-------------|--------------------|--|--------------------|--|--------------------|--|--------------------|--|
| ANTENNA MAKE / MODEL | 7770 | | | 800-10965 | | 0566512-2 | | | | | | | |
| ANTENNA VENDOR | Powertowers | | | Kathrein | | Quintel | | | | | | | |
| ANTENNA SIZE (H x W x D) | 55X11X5 | | | 78.7X20X6.9 | | 72X12X0.6 | | | | | | | |
| ANTENNA WEIGHT | 35 | | | 108.6 | | 111 | | | | | | | |
| AZIMUTH | 150 | | | 150 | | 150 | | | | | | | |
| MAGNETIC DECLINATION | | | | | | | | | | | | | |
| RADIATION CENTER (feet) | 163 | | | 163 | | 163 | | | | | | | |
| ANTENNA TIP HEIGHT | | | | 166 | | 166 | | | | | | | |
| MECHANICAL DOWNTILT | 0 | | | 0 | | 0 | | | | | | | |
| FEEDER AMOUNT | 2 | | | | | Fiber + 2 Coax | | | | | | | |
| VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP) | | | | | | | | | | | | | |
| VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP) | | | | | | | | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE) | | | | | | | | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE) | | | | | | | | | | | | | |
| HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches) | | | | | | | | | | | | | |
| Antenna RET Motor (QTY/MODEL) | 2 | 7020 | | | | Bulk-in | | Bulk-in | | | | | |
| SURGE ARRESTOR (QTY/MODEL) | | | | | | 2 | | SP7DC-80FDNA DB | | | | | |
| DUPLEXER (QTY/MODEL) | 2 | LGP21901 | | | | | | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | | | | | | | | |
| Antenna RET CONTROL UNIT (QTY/MODEL) | | | | | | RRH CONTROLLED | | RRH CONTROLLED | | | | | |
| DC BLOCK (QTY/MODEL) | | | | | | | | | | | | | |
| TMALNA (QTY/MODEL) | 2 | LGP21401 | | | | | | | | | | | |
| CURRENT INJECTORS FOR TMA (QTY/MODEL) | 2 | 1000860 | | | | | | | | | | | |
| PDU FOR TMA5 (QTY/MODEL) | | | | | | | | | | | | | |
| FILTER (QTY/MODEL) | | | | | | | | | | | | | |
| SOLID (QTY/MODEL) | | | | | | | | | | | | | |
| FIBER TRUNK (QTY/MODEL) | | | | | | | | | | | | | |
| DC TRUNK (QTY/MODEL) | | | | | | | | | | | | | |
| REPEATER (QTY/MODEL) | | | | | | | | | | | | | |
| RRH - 700 band (QTY/MODEL) | | | | 1 | 4478 B14 | 1 | | RRUS-11 B12 | | | | | |
| RRH - 850 band (QTY/MODEL) | | | | | | 1 | | RRUS-12 B5 | | | | | |
| RRH - 1900 band (QTY/MODEL) | | | | | | 1 | | RRUS-32 B2 | | | | | |
| RRH - AWS band (QTY/MODEL) | | | | 1 | RRUS-32 B6A | | | | | | | | |
| RRH - WCS band (QTY/MODEL) | | | | | | 1 | | RRUS-32 B30 | | | | | |
| Additional RRH #1 - any band (QTY/MODEL) | | | | | | | | | | | | | |
| Additional RRH #2 - any band (QTY/MODEL) | | | | | | | | | | | | | |
| RRH 7B_1 (QTY/MODEL) | | | | | | | | | | | | | |
| RRH 7B_2 (QTY/MODEL) | | | | | | | | | | | | | |
| RRH 7B_3 (QTY/MODEL) | | | | | | | | | | | | | |
| Additional Component 1 (QTY/MODEL) | | | | | | | | | | | | | |
| Additional Component 2 (QTY/MODEL) | | | | | | | | | | | | | |
| Additional Component 3 (QTY/MODEL) | | | | | | | | | | | | | |
| Local Market Note 1 | | | | | | | | | | | | | |
| Local Market Note 2 | | | | | | | | | | | | | |
| Local Market Note 3 | | | | | | | | | | | | | |

| PORT SPECIFIC RELOS | PORT NUMBER | USED (CSSng) | USED (Ant#) | ATOLL TXID | ATOLL CELL ID | TXRX? | TECHNOLOGY / FREQUENCY | ANTENNA ATOLL | ANTENNA GAN | ELECTRICAL AZIMUTH | ELECTRICAL TILT | RRH LOCATION (Top/Bottom/Integrated/None) | FEEDERS TYPE | FEEDER LENGTH (feet) | RX/IT KIT MODULE? | TRIPLEXER or LLC (QTY) | TRIPLEXER or LLC (MODEL) | SCP/AMCPA MODULE? | HATCHPLATE POWER (Watts) | ERP (Watts) | Antenna RET Name | CABLE NUMBER | CABLE ID(CSSng) |
|---------------------|-------------|--------------|-------------|---------------|---------------|-------|------------------------|------------------------|-------------|--------------------|-----------------|---|------------------|----------------------|-------------------|------------------------|--------------------------|-------------------|--------------------------|-------------|------------------|--------------|-----------------|
| ANTENNA POSITION 1 | PORT 1 | | | CTV21432 | CTV21432 | | UMTS 850 | 7770.00.850.04 | 13.5 | 150 | 4 | None | Fiber at 850 MHz | 190.05 | | | | | | 207.01 | | 9 | |
| ANTENNA POSITION 3 | PORT 1 | | | CTL06143_7B_3 | CTL06143_7B_3 | | LTE 700 | 80010965_777M Hz_07DT | 15.3 | 150 | 7 | TOP | FIBER | 0 | | | | | | 2951.413 | | 13 | |
| | PORT 3 | | | CTL06143_2B_2 | CTL06143_2B_2 | | LTE AWS | 80010965_2170 MHz_030T | 18.5 | 150 | 3 | TOP | FIBER | 0 | | | | | | 5070.2572 | | 14 | |
| ANTENNA POSITION 4 | PORT 1 | | | CTL06143_8B_1 | CTL06143_8B_1 | | LTE 850 | 2_850MHz_07D T | 13.5 | 150 | 7 | None | Fiber at 850 MHz | 190.05 | | | | | | 1000 | | 15 | |
| | PORT 2 | | | CTL02143_7B_1 | CTL02143_7B_1 | | LTE 700 | 2_722MHz_07D T | 13.1 | 150 | 7 | TOP | FIBER | 0 | | | | | 1475.7065 | | 17 | | |
| | PORT 3 | | | CTL02143_9B_1 | CTL02143_9B_1 | | LTE 1900 | 2_1930MHz_02 DT | 16 | 150 | 2 | TOP | FIBER | 0 | | | | | 4842.058 | | 16 | | |
| | PORT 4 | | | CTL02143_9B_2 | CTL02143_9B_2 | | LTE 1900 | 2_1930MHz_03 DT | 16 | 150 | 2 | TOP | FIBER | 0 | | | | | 4842.058 | | 16 | | |
| | PORT 7 | | | CTL02143_3B_1 | CTL02143_3B_1 | | LTE WCS | 2_2355MHz_03 DT | 16.7 | 150 | 3 | TOP | FIBER | 0 | | | | | 1286.2866 | | 16 | | |

Section 15C - CURRENT TOWER CONFIGURATION - SECTOR C

| ANTENNA POSITION 1 | | ANTENNA POSITION 2 | | ANTENNA POSITION 3 | | ANTENNA POSITION 4 | | ANTENNA POSITION 5 | | ANTENNA POSITION 6 | | ANTENNA POSITION 7 | |
|--|------------|--------------------|--|--------------------|-------------|--------------------|--|--------------------|--|--------------------|--|--------------------|--|
| ANTENNA MAKE / MODEL | 7770 | | | 800-10965 | | OS66512-2 | | | | | | | |
| ANTENNA VENDOR | Powertwave | | | Kathrein | | Quintel | | | | | | | |
| ANTENNA SIZE (H x W x D) | 55X11X5 | | | 78.7X20X6.9 | | 72X12X0.6 | | | | | | | |
| ANTENNA WEIGHT | 35 | | | 108.6 | | 111 | | | | | | | |
| AZIMUTH | 23 | | | 270 | | 270 | | | | | | | |
| MAGNETIC DECLINATION | | | | | | | | | | | | | |
| RADIATION CENTER (feet) | 163 | | | 163 | | 163 | | | | | | | |
| ANTENNA TIP HEIGHT | | | | 166 | | 166 | | | | | | | |
| MECHANICAL DOWNTILT | 0 | | | 0 | | 0 | | | | | | | |
| FEEDER AMOUNT | 2 | | | | | Fiber + 2 Coax | | | | | | | |
| VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP) | | | | | | | | | | | | | |
| VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP) | | | | | | | | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE) | | | | | | | | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE) | | | | | | | | | | | | | |
| HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches) | | | | | | | | | | | | | |
| Antenna RET Motor (QTY/MODEL) | 2 | 7020 | | | | Bulk-m | | Bulk-m | | | | | |
| SURGE ARRESTOR (QTY/MODEL) | | | | | | 2 | | SP7DC-80FDNA DB | | | | | |
| DUPLEXER (QTY/MODEL) | 2 | LGP21901 | | | | | | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | RRH CONTROLLED | | RRH CONTROLLED | | | | | |
| Antenna RET CONTROL UNIT (QTY/MODEL) | | | | | | | | | | | | | |
| DC BLOCK (QTY/MODEL) | | | | | | | | | | | | | |
| TMALNA (QTY/MODEL) | 2 | LGP21401 | | | | | | | | | | | |
| CURRENT INJECTORS FOR TMA (QTY/MODEL) | 2 | 1000860 | | | | | | | | | | | |
| PDU FOR TMA5 (QTY/MODEL) | | | | | | | | | | | | | |
| FILTER (QTY/MODEL) | | | | | | | | | | | | | |
| SOLID (QTY/MODEL) | | | | | | | | | | | | | |
| FIBER TRUNK (QTY/MODEL) | | | | | | | | | | | | | |
| DC TRUNK (QTY/MODEL) | | | | | | | | | | | | | |
| REPEATER (QTY/MODEL) | | | | | | | | | | | | | |
| RRH - 700 band (QTY/MODEL) | | | | 1 | 4478 B14 | 1 | | RRUS-11 B12 | | | | | |
| RRH - 850 band (QTY/MODEL) | | | | | | 1 | | RRUS-12 B5 | | | | | |
| RRH - 1900 band (QTY/MODEL) | | | | | | 1 | | RRUS-32 B2 | | | | | |
| RRH - AWS band (QTY/MODEL) | | | | 1 | RRUS-32 B6A | | | | | | | | |
| RRH - WCS band (QTY/MODEL) | | | | | | 1 | | RRUS-32 B30 | | | | | |
| Additional RRH #1 - any band (QTY/MODEL) | | | | | | | | | | | | | |
| Additional RRH #2 - any band (QTY/MODEL) | | | | | | | | | | | | | |
| RRH 7B_1 (QTY/MODEL) | | | | | | | | | | | | | |
| RRH 7B_2 (QTY/MODEL) | | | | | | | | | | | | | |
| RRH 7B_3 (QTY/MODEL) | | | | | | | | | | | | | |
| Additional Component 1 (QTY/MODEL) | | | | | | | | | | | | | |
| Additional Component 2 (QTY/MODEL) | | | | | | | | | | | | | |
| Additional Component 3 (QTY/MODEL) | | | | | | | | | | | | | |
| Local Market Note 1 | | | | | | | | | | | | | |
| Local Market Note 2 | | | | | | | | | | | | | |
| Local Market Note 3 | | | | | | | | | | | | | |

| PORT SPECIFIC RELOS | PORT NUMBER | USED (CSSng) | USED (Ant#) | ATOLL TXID | ATOLL CELL ID | TXRX? | TECHNOLOGY / FREQUENCY | ANTENNA ATOLL | ANTENNA GAN | ELECTRICAL AZIMUTH | ELECTRICAL TILT | RRH LOCATION (Top/Bottom/Integrated/None) | FEEDERS TYPE | FEEDER LENGTH (feet) | RX/IT KIT MODULE? | TRIPLEXER or LLC (QTY) | TRIPLEXER or LLC (MODEL) | SCP/MP/CA MODULE? | HATCHPLATE POWER (Watts) | ERP (Watts) | Antenna RET Name | CABLE NUMBER | CABLE ID(cssng) |
|---------------------|-------------|--------------|-------------|-----------------|-----------------|-------|------------------------|------------------------|-------------|--------------------|-----------------|---|--------------|----------------------|-------------------|------------------------|--------------------------|-------------------|--------------------------|-------------|------------------|--------------|-----------------|
| ANTENNA POSITION 1 | PORT 1 | | | CTV21433 | CTV21433 | | UMTS 850 | 7770.00.850.10 | 13.5 | 23 | 10 | None | Fiber | 190.05 | | | | | | 207.01 | | 17 | |
| ANTENNA POSITION 3 | PORT 1 | | | CTL06143_7C_3_F | CTL06143_7C_3_F | | LTE 700 | 80010965_777M Hz_06DT | 15.3 | 270 | 6 | TOP | FIBER | 0 | | | | | | 2951.413 | | 21 | |
| | PORT 3 | | | CTL06143_2C_2 | CTL06143_2C_2 | | LTE AWS | 80010985_2170 MHz_030T | 18.5 | 270 | 3 | TOP | FIBER | 0 | | | | | | 5070.2572 | | 22 | |
| ANTENNA POSITION 4 | PORT 1 | | | CTL02143_9C_1 | CTL02143_9C_1 | | LTE 850 | 2_850MHz_06D T | 13.4 | 270 | 6 | None | Fiber | 190.05 | | | | | | 1000 | | 23 | |
| | PORT 2 | | | CTL02143_7C_1 | CTL02143_7C_1 | | LTE 700 | 2_722MHz_06D T | 13.1 | 270 | 6 | TOP | FIBER | 0 | | | | | | 1475.7065 | | 25 | |
| | PORT 3 | | | CTL02143_9C_1 | CTL02143_9C_1 | | LTE 1900 | 2_1930MHz_03 DT | 15.9 | 270 | 3 | TOP | FIBER | 0 | | | | | | 4842.058 | | 24 | |
| | PORT 4 | | | CTL02143_9C_2 | CTL02143_9C_2 | | LTE 1900 | 2_1930MHz_03 DT | 15.9 | 270 | 3 | TOP | FIBER | 0 | | | | | | 4842.058 | | 24 | |
| | PORT 7 | | | CTL02143_3C_1 | CTL02143_3C_1 | | LTE WCS | 2_2355MHz_03 DT | 16.7 | 270 | 3 | TOP | FIBER | 0 | | | | | | 1286.2866 | | 24 | |

Section 16A - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR A (OR OMNI)

| ANTENNA POSITION 1 | ANTENNA POSITION 2 | ANTENNA POSITION 3 | ANTENNA POSITION 4 | ANTENNA POSITION 5 | ANTENNA POSITION 6 | ANTENNA POSITION 7 |
|---|--|-----------------------------------|-------------------------------|--------------------|--------------------|--------------------|
| ANTENNA POSITION IS LEFT TO RIGHT FROM BACK OF ANTENNA (unless otherwise specified) | | | | | | |
| Existing Antenna? | Yes | | | | | |
| ANTENNA MAKE / MODEL | | ARR649 B77D+ARR6419 B77G STACKEED | DMPLER-BLUG&K | | | |
| ANTENNA VENDOR | | Ericsson | CCI | | | |
| ANTENNA SIZE (H x W x D) | | 30.4X15.9X8.1 | 71.2X20.7X9.7 | | | |
| ANTENNA WEIGHT | | 81.6 | 103.8 | | | |
| AZMUTH | | 30 | 30 | | | |
| MAGNETIC DECLINATION | | | | | | |
| RADIATION CENTER (feet) | | 163 | 163 | | | |
| ANTENNA TIP HEIGHT | | | | | | |
| MECHANICAL DOWNTILT | | 0 | 0 | | | |
| FEEDER AMOUNT | | Fiber | | | | |
| VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP) | | | | | | |
| VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP) | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE) | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE) | | | | | | |
| HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches) | | | | | | |
| Antenna RET Motor (QTY/MODEL) | | Built-in | Built-in | | | |
| SURGE ARRESTOR (QTY/MODEL) | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | |
| Antenna RET CONTROL UNIT (QTY/MODEL) | | RRH CONTROLLED | RRH CONTROLLED | | | |
| DC BLOCK (QTY/MODEL) | | | | | | |
| TMA (QTY/MODEL) | | | | | | |
| CURRENT INJECTORS FOR TMA (QTY/MODEL) | | | | | | |
| PDU FOR TMAs (QTY/MODEL) | | | | | | |
| FILTER (QTY/MODEL) | | | | | | |
| SQUID (QTY/MODEL) | | | | | | |
| FIBER TRUNK (QTY/MODEL) | | | | | | |
| DC TRUNK (QTY/MODEL) | | | | | | |
| REPEATER (QTY/MODEL) | | | | | | |
| RRH - 700 band (QTY/MODEL) | | | | | | |
| RRH - 850 band (QTY/MODEL) | | | | | | |
| RRH - 1900 band (QTY/MODEL) | | | | | | |
| RRH - AWS band (QTY/MODEL) | | | | | | |
| RRH - WCS band (QTY/MODEL) | | | | | | |
| Additional RRH #1 - any band (QTY/MODEL) | | 1 | Integrated with: ARR649 B77D | | | |
| Additional RRH #2 - any band (QTY/MODEL) | | 1 | Integrated with: ARR6419 B77G | | | |
| RRH 7B_1 (QTY/MODEL) | | | | | | |
| RRH 7B_2 (QTY/MODEL) | | | | | | |
| RRH 7B_3 (QTY/MODEL) | | | | | | |
| Additional Component 1 (QTY/MODEL) | | | | | | |
| Additional Component 2 (QTY/MODEL) | | | | | | |
| Additional Component 3 (QTY/MODEL) | | | | | | |
| Local Market Note 1 | -Follow Antenna/RRHs positions as per PDS. -Replace Antenna and RRHs. | | | | | |
| Local Market Note 2 | | | | | | |
| Local Market Note 3 | 1x5216+2x8MJ+1x6630+DL+1x6648+Xcode. | | | | | |

| PORT SPECIFIC FIELDS | PORT NUMBER | USEID (CS&sig) | USEID (AtoB) | ATOLL TXID | ATOLL CELL ID | TXRX? | TECHNOLOGY / FREQUENCY | ANTENNA ATOLL | ANTENNA GAIN | ELECTRICAL AZMUTH | ELECTRICAL TILT | RRH LOCATION (Top/Bottom/Integrated/None) | FEEDERS TYPE | FEEDER LENGTH (feet) | RX/PT KIT MODULE? | TRIPLEXER or LLC (QTY) | TRIPLEXER or LLC (MODEL) | SCF/AMCPA MODULE? | MATCHPLATE POWER (Watts) | ERP (Watts) | Antenna RET Name | CABLE NUMBER | CABLE ID(c&sig) | | |
|----------------------|-------------|----------------|--------------|---------------------|---------------------|-------|------------------------|-----------------------|--------------|-------------------|-----------------|---|--------------|----------------------|-------------------|------------------------|--------------------------|-------------------|--------------------------|-------------|------------------|--------------|-----------------|---|--|
| ANTENNA POSITION 2 | PORT 4 | | | CTCN002143_N 006A_1 | CTCN002143_N 006A_1 | | 5G AWS | 8001985_2170 MHz_04DT | 18.5 | 30 | 4 | TOP | FIBER | 0 | | | | | | 5070.2572 | | 4 | | | |
| ANTENNA POSITION 3 | PORT 1 | | | | | | 5G CBAND | | | 30 | 0 | Integrated | FIBER | 0 | | | | | | | | | 5 | | |
| ANTENNA POSITION 4 | PORT 1 | | | CTL02143_7A_1 | CTL02143_7A_1 | | LTE 700 | 2_722MHz_03D T | 13.5 | 30 | 3 | TOP | FIBER | 0 | | | | | | | 1475.7065 | | 7 | | |
| | PORT 2 | | | CTCN002143_N 006A_1 | CTCN002143_N 006A_1 | | 5G 850 | 2_722MHz_03D T | 13.5 | 30 | 3 | TOP | FIBER | 0 | | | | | | | 1475.7065 | | 7 | | |
| | PORT 3 | | | CTL06143_9A_1 | CTL06143_9A_1 | | LTE 1900 | 2_1930MHz_04 DT | 15.6 | 30 | 4 | TOP | FIBER | 0 | | | | | | | 4842.058 | | 8 | | |
| | PORT 4 | | | CTL06143_9A_2 | CTL06143_9A_2 | | LTE 1900 | 2_1930MHz_04 DT | 15.6 | 30 | 4 | TOP | FIBER | 0 | | | | | | | | 4842.058 | | 8 | |
| | PORT 7 | | | CTL02143_3A_1 | CTL02143_3A_1 | | LTE WCS | 2_2355MHz_03 DT | 16.7 | 30 | 3 | TOP | FIBER | 0 | | | | | | | | 1286.2866 | | 8 | |
| | PORT 8 | | | CTCN002143_N 002A_1 | CTCN002143_N 002A_1 | | 5G 1900 | 2_1930MHz_04 DT | 15.6 | 30 | 4 | TOP | FIBER | 0 | | | | | | | | 4842.058 | | 8 | |

Section 16B - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR B

| ANTENNA POSITION 1 | ANTENNA POSITION 2 | ANTENNA POSITION 3 | ANTENNA POSITION 4 | ANTENNA POSITION 5 | ANTENNA POSITION 6 | ANTENNA POSITION 7 |
|---|--|----------------------------------|-------------------------------|-------------------------------|--------------------|--------------------|
| ANTENNA POSITION IS LEFT TO RIGHT FROM BACK OF ANTENNA (unless otherwise specified) | | | | | | |
| Existing Antenna? | Yes | | | | | |
| ANTENNA MAKE - MODEL | | ARR649 B77D+ARR6419 B77G STACKED | DMPLER-BUSE&K | | | |
| ANTENNA VENDOR | | Ericsson | CCI | | | |
| ANTENNA SIZE (H x W x D) | | 30.4X15.9X8.1 | 71.2X20.7X9.7 | | | |
| ANTENNA WEIGHT | | 81.6 | 103.8 | | | |
| AZMUTH | | 150 | 150 | | | |
| MAGNETIC DECLINATION | | | | | | |
| RADIATION CENTER (feet) | | 163 | 163 | | | |
| ANTENNA TIP HEIGHT | | | | | | |
| MECHANICAL DOWNTILT | | 0 | 0 | | | |
| FEEDER AMOUNT | | Fiber | | | | |
| VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP) | | | | | | |
| VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP) | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE) | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE) | | | | | | |
| HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches) | | | | | | |
| Antenna RET Motor (QTY/MODEL) | | | Built-in | Built-in | | |
| SURGE ARRESTOR (QTY/MODEL) | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | |
| Antenna RET CONTROL UNIT (QTY/MODEL) | | | RRH CONTROLLED | RRH CONTROLLED | | |
| DC BLOCK (QTY/MODEL) | | | | | | |
| TMA/NA (QTY/MODEL) | | | | | | |
| CURRENT INJECTORS FOR TMA (QTY/MODEL) | | | | | | |
| PDU FOR TMAs (QTY/MODEL) | | | | | | |
| FILTER (QTY/MODEL) | | | | | | |
| SQUID (QTY/MODEL) | | | | | | |
| FIBER TRUNK (QTY/MODEL) | | | | | | |
| DC TRUNK (QTY/MODEL) | | | | | | |
| REPEATER (QTY/MODEL) | | | | | | |
| RRH - 700 band (QTY/MODEL) | | | 1 | 4449 B5/B12 with another band | | |
| RRH - 850 band (QTY/MODEL) | | | | | | |
| RRH - 1900 band (QTY/MODEL) | | | | | | |
| RRH - AWS band (QTY/MODEL) | | | | | | |
| RRH - WCS band (QTY/MODEL) | | | | | | |
| Additional RRH #1 - any band (QTY/MODEL) | | 1 | Integrated with: ARR649 B77D | | | |
| Additional RRH #2 - any band (QTY/MODEL) | | 1 | Integrated with: ARR6419 B77G | | | |
| RRH 7B_1 (QTY/MODEL) | | | | | | |
| RRH 7B_2 (QTY/MODEL) | | | | | | |
| RRH 7B_3 (QTY/MODEL) | | | | | | |
| Additional Component 1 (QTY/MODEL) | | | 1 | Y-Cable | | |
| Additional Component 2 (QTY/MODEL) | | | | | | |
| Additional Component 3 (QTY/MODEL) | | | | | | |
| Local Market Note 1 | -Follow Antenna/RRHs positions as per PDS. Replace Antenna and RRHs. | | | | | |
| Local Market Note 2 | | | | | | |
| Local Market Note 3 | 1x5216+2x8MJ+1x6630+DL+1x6648+Xcode. | | | | | |

| PORT SPECIFIC FIELDS | PORT NUMBER | USEID (CS&sig) | USEID (AtoB) | ATOLL TXID | ATOLL CELL ID | TXRX? | TECHNOLOGY / FREQUENCY | ANTENNA ATOLL | ANTENNA GAIN | ELECTRICAL AZMUTH | ELECTRICAL TILT | RRH LOCATION (Top/Bottom/Integrated/None) | FEEDERS TYPE | FEEDER LENGTH (feet) | RRH KIT MODULE# | TRIPLEXER or LLC (QTY) | TRIPLEXER or LLC (MODEL) | SCF/AMCPA MODULE? | MATCHPLATE POWER (Watts) | ERP (Watts) | Antenna RET Name | CABLE NUMBER | CABLE ID(csr#) | |
|----------------------|-------------|----------------|--------------|---------------------|---------------------|-------|------------------------|-----------------------|--------------|-------------------|-----------------|---|--------------|----------------------|-----------------|------------------------|--------------------------|-------------------|--------------------------|-------------|------------------|--------------|----------------|--|
| ANTENNA POSITION 2 | PORT 4 | | | CTCN002143_N 006B_1 | CTCN002143_N 006B_1 | | 5G AWS | 8001985_2170 MHz_030Y | 18.5 | 150 | 3 | TOP | FIBER | 0 | | | | | | 5070.2572 | | 12 | | |
| ANTENNA POSITION 3 | PORT 1 | | | | | | 5G CBAND | | | 150 | 0 | Integrated | FIBER | 0 | | | | | | | | | 13 | |
| ANTENNA POSITION 4 | PORT 1 | | | CTL02143_7B_1 | CTL02143_7B_1 | | LTE 700 | 2_722MHz_07D T | 13.1 | 150 | 7 | TOP | FIBER | 0 | | | | | | 1475.7065 | | 15 | | |
| | PORT 2 | | | CTCN002143_N 000B_1 | CTCN002143_N 000B_1 | | 5G 850 | 2_722MHz_07D T | 13.1 | 150 | 7 | TOP | FIBER | 0 | | | | | | 1475.7065 | | 15 | | |
| | PORT 3 | | | CTL06143_9B_1 | CTL06143_9B_1 | | LTE 1900 | 2_1930MHz_02 DT | 16 | 150 | 2 | TOP | FIBER | 0 | | | | | 4842.058 | | 16 | | | |
| | PORT 4 | | | CTL06143_9B_2 | CTL06143_9B_2 | | LTE 1900 | 2_1930MHz_03 DT | 16 | 150 | 2 | TOP | FIBER | 0 | | | | | 4842.058 | | 16 | | | |
| | PORT 7 | | | CTL02143_3B_1 | CTL02143_3B_1 | | LTE WCS | 2_2355MHz_03 DT | 16.7 | 150 | 3 | TOP | FIBER | 0 | | | | | 1286.2866 | | 16 | | | |
| | PORT 8 | | | CTCN002143_N 002B_1 | CTCN002143_N 002B_1 | | 5G 1900 | 2_1930MHz_02 DT | 16 | 150 | 2 | TOP | FIBER | 0 | | | | | 4842.058 | | 16 | | | |

Section 16C - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR C

| ANTENNA POSITION 1 | ANTENNA POSITION 2 | ANTENNA POSITION 3 | ANTENNA POSITION 4 | ANTENNA POSITION 5 | ANTENNA POSITION 6 | ANTENNA POSITION 7 |
|---|---|-----------------------------------|-------------------------------|------------------------------|--------------------|--------------------|
| ANTENNA POSITION IS LEFT TO RIGHT FROM BACK OF ANTENNA (unless otherwise specified) | | | | | | |
| Existing Antenna? | Yes | | | | | |
| ANTENNA MAKE - MODEL | | ARR649 B77D+ARR6419 B77G STACKEED | DMWJR-BUSE&K | | | |
| ANTENNA VENDOR | | Ericsson | CCI | | | |
| ANTENNA SIZE (H x W x D) | | 30.4X15.9X8.1 | 71.2X20.7X9.7 | | | |
| ANTENNA WEIGHT | | 81.6 | 103.8 | | | |
| AZMUTH | | 270 | 270 | | | |
| MAGNETIC DECLINATION | | | | | | |
| RADIATION CENTER (feet) | | 163 | 163 | | | |
| ANTENNA TIP HEIGHT | | | | | | |
| MECHANICAL DOWNTILT | | 0 | 0 | | | |
| FEEDER AMOUNT | | Fiber | | | | |
| VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP) | | | | | | |
| VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP) | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE) | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE) | | | | | | |
| HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches) | | | | | | |
| Antenna RET Motor (QTY/MODEL) | | | Built-in | Built-in | | |
| SURGE ARRESTOR (QTY/MODEL) | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | |
| Antenna RET CONTROL UNIT (QTY/MODEL) | | | RRH CONTROLLED | RRH CONTROLLED | | |
| DC BLOCK (QTY/MODEL) | | | | | | |
| TMA/NA (QTY/MODEL) | | | | | | |
| CURRENT INJECTORS FOR TMA (QTY/MODEL) | | | | | | |
| PDU FOR TMA (QTY/MODEL) | | | | | | |
| FILTER (QTY/MODEL) | | | | | | |
| SQUID (QTY/MODEL) | | | | | | |
| FIBER TRUNK (QTY/MODEL) | | | | | | |
| DC TRUNK (QTY/MODEL) | | | | | | |
| REPEATER (QTY/MODEL) | | | | | | |
| RRH - 700 band (QTY/MODEL) | | | 1 | 4449 B5B12 with another band | | |
| RRH - 850 band (QTY/MODEL) | | | | | | |
| RRH - 1900 band (QTY/MODEL) | | | | | | |
| RRH - AWS band (QTY/MODEL) | | | | | | |
| RRH - WCS band (QTY/MODEL) | | | | | | |
| Additional RRH #1 - any band (QTY/MODEL) | | 1 | Integrated with: ARR649 B77D | | | |
| Additional RRH #2 - any band (QTY/MODEL) | | 1 | Integrated with: ARR6419 B77G | | | |
| RRH 7B_1 (QTY/MODEL) | | | | | | |
| RRH 7B_2 (QTY/MODEL) | | | | | | |
| RRH 7B_3 (QTY/MODEL) | | | | | | |
| Additional Component 1 (QTY/MODEL) | | | 1 | Y-Cable | | |
| Additional Component 2 (QTY/MODEL) | | | | | | |
| Additional Component 3 (QTY/MODEL) | | | | | | |
| Local Market Note 1 | -Follow Antenna/RRHs positions as per PIDs. Replace Antenna and RRHs. | | | | | |
| Local Market Note 2 | | | | | | |
| Local Market Note 3 | 1x5216+2x8MJ+1x6630+DL+1x6648+Xcode. | | | | | |

| PORT SPECIFIC FIELDS | PORT NUMBER | USEID (CS&sig) | USEID (AtoB) | ATOLL TXID | ATOLL CELL ID | TXRX? | TECHNOLOGY / FREQUENCY | ANTENNA ATOLL | ANTENNA GAN | ELECTRICAL AZMUTH | ELECTRICAL TILT | RRH LOCATION (Top/Bottom/Integrated/None) | FEEDERS TYPE | FEEDER LENGTH (feet) | RX/PT KIT MODULE? | TRIPLEXER or LLC (QTY) | TRIPLEXER or LLC (MODEL) | SCF/AMCPA MODULE? | MATCHPLATE POWER (Watts) | ERP (Watts) | Antenna RET Name | CABLE NUMBER | CABLE ID(c&sig) |
|----------------------|-------------|----------------|--------------|---------------------|---------------------|-------|------------------------|-----------------------|-------------|-------------------|-----------------|---|--------------|----------------------|-------------------|------------------------|--------------------------|-------------------|--------------------------|-------------|------------------|--------------|-----------------|
| ANTENNA POSITION 2 | PORT 4 | | | CTCN002143.N 006C.1 | CTCN002143.N 006C.1 | | 5G AWS | 8001985_2170 MHz_030Y | 18.5 | 270 | 3 | TOP | FIBER | 0 | | | | | | 5070.2572 | | 20 | |
| ANTENNA POSITION 3 | PORT 1 | | | | | | 5G CBAND | | | 270 | 0 | Integrated | FIBER | 0 | | | | | | | | 21 | |
| ANTENNA POSITION 4 | PORT 1 | | | CTL02143_7C_1 | CTL02143_7C_1 | | LTE 700 | 2_722MHz_06D T | 13.1 | 270 | 6 | TOP | FIBER | 0 | | | | | | 1475.7065 | | 23 | |
| | PORT 2 | | | CTCN002143.N 002C.1 | CTCN002143.N 002C.1 | | 5G 850 | 2_722MHz_06D T | 13.1 | 270 | 6 | TOP | FIBER | 0 | | | | | | 1475.7065 | | 23 | |
| | PORT 3 | | | CTL06143_9C_1 | CTL06143_9C_1 | | LTE 1900 | 2_1930MHz_03 DT | 15.9 | 270 | 3 | TOP | FIBER | 0 | | | | | 4842.058 | | 24 | | |
| | PORT 4 | | | CTL08143_9C_2 | CTL08143_9C_2 | | LTE 1900 | 2_1930MHz_03 DT | 15.9 | 270 | 3 | TOP | FIBER | 0 | | | | | | 4842.058 | | 24 | |
| | PORT 7 | | | CTL02143_3C_1 | CTL02143_3C_1 | | LTE WCS | 2_2355MHz_03 DT | 16.7 | 270 | 3 | TOP | FIBER | 0 | | | | | | 1286.2866 | | 24 | |
| | PORT 8 | | | CTCN002143.N 002C.1 | CTCN002143.N 002C.1 | | 5G 1900 | 2_1930MHz_03 DT | 15.9 | 270 | 3 | TOP | FIBER | 0 | | | | | | 4842.058 | | 24 | |

Section 16.5A - SCOPING TOWER CONFIGURATION - SECTOR A (OR OMNI)

Section 17A - FINAL TOWER CONFIGURATION - SECTOR A (OR OMNI)

| ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified) | ANTENNA POSITION 1 | ANTENNA POSITION 2 | ANTENNA POSITION 3 | ANTENNA POSITION 4 | ANTENNA POSITION 5 | ANTENNA POSITION 6 | ANTENNA POSITION 7 |
|---|---|--------------------|----------------------------------|-------------------------------|------------------------------|--------------------|--------------------|
| ANTENNA MAKE - MODEL | | 800-10965 | ARR649 B77D+ARR6419 B77G STACKED | DMPLXJR-BLUSE&K | | | |
| ANTENNA VENDOR | Kathrein | | Ericsson | CCI | | | |
| ANTENNA SIZE (H x W x D) | 78.7X206.9 | | 30.4X15.9X8.1 | 71.2X20.7X9.7 | | | |
| ANTENNA WEIGHT | 108.6 | | 81.6 | 103.8 | | | |
| AZMUTH | 30 | | 30 | 30 | | | |
| MAGNETIC DECLINATION | | | | | | | |
| RADIATION CENTER (feet) | 163 | | 163 | 163 | | | |
| ANTENNA TIP HEIGHT | | | | | | | |
| MECHANICAL DOWN TILT | 0 | | 0 | 0 | | | |
| FEEDER AMOUNT | | | Fiber | Fiber + 2 Coax | | | |
| VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP) | | | | | | | |
| VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP) | | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE) | | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE) | | | | | | | |
| HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches) | | | | | | | |
| Antenna RET Motor (QTY/MODEL) | | Built-in | Built-in | Built-in | | | |
| SURGE ARRESTOR (QTY/MODEL) | | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | | |
| Antenna RET CONTROL UNIT (QTY/MODEL) | | RRH CONTROLLED | RRH CONTROLLED | RRH CONTROLLED | | | |
| DC BLOCK (QTY/MODEL) | | | | | | | |
| TMA/NA (QTY/MODEL) | | | | | | | |
| CURRENT INJECTORS FOR TMA (QTY/MODEL) | | | | | | | |
| PDU FOR TMAs (QTY/MODEL) | | | | | | | |
| FILTER (QTY/MODEL) | | | | | | | |
| SQUID (QTY/MODEL) | 2 | DC6-48-60-18 | | 1 | DC9-48-60-24-BC-EV | | |
| FIBER TRUNK (QTY/MODEL) | | | | | | | |
| DC TRUNK (QTY/MODEL) | | | | | | | |
| REPEATER (QTY/MODEL) | | | | | | | |
| RRH - 700 band (QTY/MODEL) | 1 | 4478 B14 | | 1 | 4449 B5B12 with another band | | |
| RRH - 850 band (QTY/MODEL) | | | | | | | |
| RRH - 1900 band (QTY/MODEL) | | | | 1 | RRUS-32 B2 | | |
| RRH - AWS band (QTY/MODEL) | 1 | RRUS-32 B66A | | | | | |
| RRH - WCS band (QTY/MODEL) | | | | 1 | RRUS-32 B30 | | |
| Additional RRH #1 - any band (QTY/MODEL) | | | 1 | Integrated with: ARR6449 B77D | | | |
| Additional RRH #2 - any band (QTY/MODEL) | | | 1 | Integrated with: ARR6419 B77G | | | |
| RRH 7B_1 (QTY/MODEL) | | | | | | | |
| RRH 7B_2 (QTY/MODEL) | | | | | | | |
| RRH 7B_3 (QTY/MODEL) | | | | | | | |
| Additional Component 1 (QTY/MODEL) | | | | 1 | Y-Cable | | |
| Additional Component 2 (QTY/MODEL) | | | | | | | |
| Additional Component 3 (QTY/MODEL) | | | | | | | |
| Local Market Note 1 | Follow Antenna/RRHs positions as per PDS. Replace Antenna and RRHs. | | | | | | |
| Local Market Note 2 | | | | | | | |
| Local Market Note 3 | 1x5216+2x8Mx1+4x630+DL+e+4x648+Xcable | | | | | | |

| PORT SPECIFIC FIELDS | PORT NUMBER | USEID (CS&Sig) | USEID (AofB) | ATOLL TXID | ATOLL CELL ID | TXRX? | TECHNOLOGY / FREQUENCY | ANTENNA ATOLL | ANTENNA GAIN | ELECTRICAL AZMUTH | ELECTRICAL TILT | RRH LOCATION (Top/Bottom/Integrated/None) | FEEDERS TYPE | FEEDER LENGTH (feet) | RRH KIT MODULE? | TRIPLEXER or LLC (QTY) | TRIPLEXER or LLC (MODEL) | SCFAMP/OPA MODULE? | HATCH/PLATE POWER (Watts) | ERP (Watts) | Antenna RET Name | CABLE NUMBER | CABLE Bc(csrng) | |
|----------------------|-------------|------------------|--------------|--------------------|--------------------|-------|------------------------|-----------------------|--------------|-------------------|-----------------|---|--------------|----------------------|-----------------|------------------------|--------------------------|--------------------|---------------------------|-------------|------------------|--------------|-----------------|--|
| ANTENNA POSITION 2 | PORT 2 | 5775.A.700.4G.1 | | CTL02143_7A_3 | CTL02143_7A_3 | | LTE 700 | 8001985_777M Hz_0ADT | 15.3 | 30 | 3 | TOP | FIBER | 0 | | | | | | 2951.413 | | 3 | | |
| | PORT 3 | 5775.A.AWS.4G | | CTL06143_2A_2 | CTL06143_2A_2 | | LTE AWS | 8001985_2170 MHz_0ADT | 18.5 | 30 | 4 | TOP | FIBER | 0 | | | | | | 5070.2572 | | 4 | | |
| | PORT 4 | 5775.A.AWS.5G.1 | | CTCN002143_N002A_1 | CTCN002143_N002A_1 | | 5G AWS | 8001985_2170 MHz_0ADT | 18.5 | 30 | 4 | TOP | FIBER | 0 | | | | | | 5070.2572 | | 4 | | |
| | PORT 1 | | | | | | 5G CBAND | | | 30 | 0 | Integrated | FIBER | 0 | | | | | | | | | 5 | |
| ANTENNA POSITION 4 | PORT 1 | 5775.A.700.4G.1 | | CTL02143_7A_1 | CTL02143_7A_1 | | LTE 700 | 2_722MHz_030 DT | 13.5 | 30 | 3 | TOP | FIBER | 0 | | | | | | 1475.7065 | | 7 | | |
| | PORT 2 | 5775.A.850.5G.1 | | CTCN002143_N005A_1 | CTCN002143_N005A_1 | | 5G 850 | 2_722MHz_030 DT | 13.5 | 30 | 3 | TOP | FIBER | 0 | | | | | | 1475.7065 | | 7 | | |
| | PORT 3 | 5775.A.1900.4G.1 | | CTL06143_9A_1 | CTL06143_9A_1 | | LTE 1900 | 2_1930MHz_04 DT | 15.6 | 30 | 4 | TOP | FIBER | 0 | | | | | | 4842.058 | | 8 | | |
| | PORT 4 | 5775.A.1900.4G.1 | | CTL06143_9A_2 | CTL06143_9A_2 | | LTE 1900 | 2_1930MHz_04 DT | 15.6 | 30 | 4 | TOP | FIBER | 0 | | | | | | 4842.058 | | 8 | | |
| | PORT 7 | 5775.A.WCS.4G | | CTL02143_3A_1 | CTL02143_3A_1 | | LTE WCS | 2_2355MHz_03 DT | 16.7 | 30 | 3 | TOP | FIBER | 0 | | | | | | 1286.2866 | | 8 | | |
| | PORT 8 | 5775.A.1900.5G.1 | | CTCN002143_N002A_1 | CTCN002143_N002A_1 | | 5G 1900 | 2_1930MHz_04 DT | 15.6 | 30 | 4 | TOP | FIBER | 0 | | | | | | 4842.058 | | 8 | | |
| | PORT 5 | | | | | | | | | | | | | | | | | | | | | | | |
| | PORT 6 | | | | | | | | | | | | | | | | | | | | | | | |

Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

| ANTENNA POSITION 1 | ANTENNA POSITION 2 | ANTENNA POSITION 3 | ANTENNA POSITION 4 | ANTENNA POSITION 5 | ANTENNA POSITION 6 | ANTENNA POSITION 7 |
|--|---|----------------------------------|--------------------|-------------------------------|--------------------|--------------------|
| ANTENNA MAKE / MODEL | 800-10965 | ARR449 B77D+ARR6419 B77G STACKED | DMP6R-BUKEA-K | | | |
| ANTENNA VENDOR | Kathrein | Ericsson | CCI | | | |
| ANTENNA SIZE (H x W x D) | 78.7X206.9 | 30.4X15.9X8.1 | 71.2X20.7X9.7 | | | |
| ANTENNA WEIGHT | 108.6 | 81.6 | 103.8 | | | |
| AZIMUTH | 150 | 150 | 150 | | | |
| MAGNETIC DECLINATION | | | | | | |
| RADIATION CENTER (feet) | 163 | 163 | 163 | | | |
| ANTENNA TIP HEIGHT | | | | | | |
| MECHANICAL DOWNTILT | 0 | 0 | 0 | | | |
| FEEDER AMOUNT | | Elber | Elber + 2 Coax | | | |
| VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP) | | | | | | |
| VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP) | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE) | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE) | | | | | | |
| HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches) | | | | | | |
| Antenna RET Motor (QTY/MODEL) | | Built-in | Built-in | Built-in | | |
| SURGE ARRESTOR (QTY/MODEL) | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | |
| Antenna RET CONTROL UNIT (QTY/MODEL) | | RRH CONTROLLED | RRH CONTROLLED | RRH CONTROLLED | | |
| DC BLOCK (QTY/MODEL) | | | | | | |
| TMALNA (QTY/MODEL) | | | | | | |
| CURRENT INJECTORS FOR TMA (QTY/MODEL) | | | | | | |
| PDU FOR TMA5 (QTY/MODEL) | | | | | | |
| FILTER (QTY/MODEL) | | | | | | |
| SOLID (QTY/MODEL) | | | | | | |
| FIBER TRUNK (QTY/MODEL) | | | | | | |
| DC TRUNK (QTY/MODEL) | | | | | | |
| REPEATER (QTY/MODEL) | | | | | | |
| RRH - 700 band (QTY/MODEL) | 1 | 4478 B14 | 1 | 4449 B5B12 with another band | | |
| RRH - 850 band (QTY/MODEL) | | | 1 | RRUS-32 B2 | | |
| RRH - 1900 band (QTY/MODEL) | | | | | | |
| RRH - AWS band (QTY/MODEL) | 1 | RRUS-32 B66A | | | | |
| RRH - WCS band (QTY/MODEL) | | | 1 | RRUS-32 B30 | | |
| Additional RRH #1 - any band (QTY/MODEL) | | | 1 | Integrated with: ARR6449 B77D | | |
| Additional RRH #2 - any band (QTY/MODEL) | | | 1 | Integrated with: ARR6419 B77G | | |
| RRH 7B_1 (QTY/MODEL) | | | | | | |
| RRH 7B_2 (QTY/MODEL) | | | | | | |
| RRH 7B_3 (QTY/MODEL) | | | | | | |
| Additional Component 1 (QTY/MODEL) | | | 1 | Y-Cable | | |
| Additional Component 2 (QTY/MODEL) | | | | | | |
| Additional Component 3 (QTY/MODEL) | | | | | | |
| Local Market Note 1 | Follow Antenna/RRHs positions as per PDS. | | | | | |
| Local Market Note 2 | Replace Antenna and RRHs. | | | | | |
| Local Market Note 3 | 1x6216x2xMMJ+1x630xIDLe+1x6x48xXcable. | | | | | |

| PORT SPECIFIC RELOS | PORT NUMBER | USED (CS#ng) | USED (Az#) | ATOLL TXID | ATOLL CELL ID | TXRX? | TECHNOLOGY / FREQUENCY | ANTENNA ATOLL | ANTENNA GAN | ELECTRICAL AZIMUTH | ELECTRICAL TILT | RRH LOCATION (Top/Bottom/Integrated/None) | FEEDERS TYPE | FEEDER LENGTH (feet) | RX/IT KIT MODULE? | TRIPLEXER or LLC (QTY) | TRIPLEXER or LLC (MODEL) | SCP/AMCPA MODULE? | HATCH-PLATE POWER (Watts) | ERP (Watts) | Antenna RET Name | CABLE NUMBER | CABLE ID(CS#ng) | |
|---------------------|-------------|------------------|------------|---------------------|---------------------|-------|------------------------|------------------------|-------------|--------------------|-----------------|---|--------------|----------------------|-------------------|------------------------|--------------------------|-------------------|---------------------------|-------------|------------------|--------------|-----------------|--|
| ANTENNA POSITION 2 | PORT 2 | 5775.B.700.4G.1 | | CTL02143_7B_3_F | CTL02143_7B_3_F | | LTE 700 | 80019865_777M Hz_07DT | 15.3 | 150 | 7 | TOP | FIBER | 0 | | | | | | 2951.413 | | 11 | | |
| | PORT 3 | 5775.B.AWS.4G | | CTL06143_9B_2 | CTL06143_9B_2 | | LTE AWS | 80019865_2170 MHz_03DT | 18.5 | 150 | 3 | TOP | FIBER | 0 | | | | | | 5070.2572 | | 12 | | |
| | PORT 4 | 5775.B.AWS.5G.1 | | CTCN002143.N.066B_1 | CTCN002143.N.066B_1 | | 5G AWS | 80019865_2170 MHz_03DT | 18.5 | 150 | 3 | TOP | FIBER | 0 | | | | | | 5070.2572 | | 12 | | |
| | PORT 1 | | | | | | 5G CBAND | | | 150 | 0 | Integrated | FIBER | 0 | | | | | | | | | 13 | |
| ANTENNA POSITION 4 | PORT 1 | 5775.B.700.4G.1 | | CTL02143_7B_1 | CTL02143_7B_1 | | LTE 700 | 2_722MHz_07D | 13.1 | 150 | 7 | TOP | FIBER | 0 | | | | | | 1475.7065 | | 15 | | |
| | PORT 2 | 5775.B.850.5G.1 | | CTCN002143.N.005B_1 | CTCN002143.N.005B_1 | | 5G 850 | 2_722MHz_07D | 13.1 | 150 | 7 | TOP | FIBER | 0 | | | | | | 1475.7065 | | 15 | | |
| | PORT 3 | 5775.B.1900.4G | | CTL06143_9B_1 | CTL06143_9B_1 | | LTE 1900 | 2_1930MHz_03DT | 16 | 150 | 2 | TOP | FIBER | 0 | | | | | | 4842.058 | | 16 | | |
| | PORT 4 | 5775.B.1900.4G | | CTL06143_9B_2 | CTL06143_9B_2 | | LTE 1900 | 2_1930MHz_02DT | 16 | 150 | 2 | TOP | FIBER | 0 | | | | | | | 4842.058 | | 16 | |
| | PORT 5 | 5775.B.1900.4G | | CTL06143_9B_3 | CTL06143_9B_3 | | LTE 1900 | 2_2355MHz_03DT | 16.7 | 150 | 3 | TOP | FIBER | 0 | | | | | | | 1285.2866 | | 16 | |
| | PORT 6 | 5775.B.WCS.4G | | CTL02143_3B_1 | CTL02143_3B_1 | | LTE WCS | 2_1930MHz_02DT | 16 | 150 | 2 | TOP | FIBER | 0 | | | | | | | 4842.058 | | 16 | |
| | PORT 7 | 5775.B.1900.5G.1 | | CTCN002143.N.002B_1 | CTCN002143.N.002B_1 | | 5G 1900 | 2_1930MHz_02DT | 16 | 150 | 2 | TOP | FIBER | 0 | | | | | | | 4842.058 | | 16 | |
| | PORT 8 | 5775.B.1900.5G.1 | | CTCN002143.N.002B_1 | CTCN002143.N.002B_1 | | 5G 1900 | 2_1930MHz_02DT | 16 | 150 | 2 | TOP | FIBER | 0 | | | | | | | 4842.058 | | 16 | |

Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

| ANTENNA POSITION 1 | ANTENNA POSITION 2 | ANTENNA POSITION 3 | ANTENNA POSITION 4 | ANTENNA POSITION 5 | ANTENNA POSITION 6 | ANTENNA POSITION 7 |
|--|--------------------|----------------------------------|-------------------------------|--------------------|--------------------|--------------------|
| ANTENNA MAKE - MODEL | | | | | | |
| | 800-10965 | ARR449 B77D+ARR6419 B77G STACKED | DMP6R-BU6EA-K | | | |
| ANTENNA VENDOR | | | | | | |
| | Kathrein | Ericsson | CCI | | | |
| ANTENNA SIZE (H x W x D) | | | | | | |
| | 78.7X206.9 | 30.4X15.9X8.1 | 71.2X20.7X9.7 | | | |
| ANTENNA WEIGHT | | | | | | |
| | 108.6 | 81.6 | 103.8 | | | |
| AZIMUTH | | | | | | |
| | 270 | 270 | 270 | | | |
| MAGNETIC DECLINATION | | | | | | |
| | | | | | | |
| RADIATION CENTER (feet) | | | | | | |
| | 163 | 163 | 163 | | | |
| ANTENNA TIP HEIGHT | | | | | | |
| | | | | | | |
| MECHANICAL DOWNTILT | | | | | | |
| | 0 | 0 | 0 | | | |
| FEEDER AMOUNT | | | | | | |
| | | Fiber | Fiber + 2 Coax | | | |
| VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP) | | | | | | |
| | | | | | | |
| VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP) | | | | | | |
| | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE) | | | | | | |
| | | | | | | |
| HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE) | | | | | | |
| | | | | | | |
| HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches) | | | | | | |
| | | | | | | |
| Antenna RET Motor (QTY/MODEL) | | | | | | |
| | | Built-in | Built-in | Built-in | | |
| SURGE ARRESTOR (QTY/MODEL) | | | | | | |
| | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | |
| | | | | | | |
| DUPLEXER (QTY/MODEL) | | | | | | |
| | | | | | | |
| Antenna RET CONTROL UNIT (QTY/MODEL) | | | | | | |
| | | RRH CONTROLLED | RRH CONTROLLED | RRH CONTROLLED | | |
| DC BLOCK (QTY/MODEL) | | | | | | |
| | | | | | | |
| TMALNA (QTY/MODEL) | | | | | | |
| | | | | | | |
| CURRENT INJECTORS FOR TMA (QTY/MODEL) | | | | | | |
| | | | | | | |
| PDU FOR TMA5 (QTY/MODEL) | | | | | | |
| | | | | | | |
| FILTER (QTY/MODEL) | | | | | | |
| | | | | | | |
| SOLID (QTY/MODEL) | | | | | | |
| | | | | | | |
| FIBER TRUNK (QTY/MODEL) | | | | | | |
| | | | | | | |
| DC TRUNK (QTY/MODEL) | | | | | | |
| | | | | | | |
| REPEATER (QTY/MODEL) | | | | | | |
| | | | | | | |
| RRH - 700 band (QTY/MODEL) | | | | | | |
| | 1 | 4478 B14 | 1 | 4449 B5B12 | | |
| RRH - 850 band (QTY/MODEL) | | | | | | |
| | | | | with another band | | |
| RRH - 1900 band (QTY/MODEL) | | | | | | |
| | | | 1 | RRUS-32 B2 | | |
| RRH - AWS band (QTY/MODEL) | | | | | | |
| | 1 | RRUS-32 B66A | | | | |
| RRH - WCS band (QTY/MODEL) | | | | | | |
| | | | 1 | RRUS-32 B30 | | |
| Additional RRH #1 - any band (QTY/MODEL) | | | | | | |
| | | 1 | Integrated with: ARR6449 B77D | | | |
| Additional RRH #2 - any band (QTY/MODEL) | | | | | | |
| | | 1 | Integrated with: ARR6419 B77G | | | |
| RRH 7B 1 (QTY/MODEL) | | | | | | |
| | | | | | | |
| RRH 7B 2 (QTY/MODEL) | | | | | | |
| | | | | | | |
| RRH 7B 3 (QTY/MODEL) | | | | | | |
| | | | | | | |
| Additional Component 1 (QTY/MODEL) | | | | | | |
| | | | 1 | Y-Cable | | |
| Additional Component 2 (QTY/MODEL) | | | | | | |
| | | | | | | |
| Additional Component 3 (QTY/MODEL) | | | | | | |
| | | | | | | |
| Local Market Note 1 | | | | | | |
| Follow Antenna/RRHs positions as per PDS | | | | | | |
| Replace Antenna and RRHs | | | | | | |
| Local Market Note 2 | | | | | | |
| | | | | | | |
| Local Market Note 3 | | | | | | |
| 1x216+2xMMJ+1x630+DL+1x648+Xcable | | | | | | |

| PORT SPECIFIC RELOS | PORT NUMBER | USED (CS#sg) | USED (Ant#) | ATOLL TXID | ATOLL CELL ID | TXRX? | TECHNOLOGY / FREQUENCY | ANTENNA ATOLL | ANTENNA GAN | ELECTRICAL AZIMUTH | ELECTRICAL TILT | RRH LOCATION (Top/Bottom/Integrated/None) | FEEDERS TYPE | FEEDER LENGTH (feet) | RX/IT KIT MODULE? | TRIPLEXER or LLC (QTY) | TRIPLEXER or LLC (MODEL) | SCP/MP/CPA MODULE? | HATCH/PLATE POWER (Watts) | ERP (Watts) | Antenna RET Name | CABLE NUMBER | CABLE ID(cssng) | |
|---------------------|-------------|-----------------|-------------|--------------------|--------------------|-------|------------------------|------------------------|-------------|--------------------|-----------------|---|--------------|----------------------|-------------------|------------------------|--------------------------|--------------------|---------------------------|-------------|------------------|--------------|-----------------|--|
| ANTENNA POSITION 2 | PORT 2 | 5775.C.700.4G.1 | | CTL02143_7C_3_F | CTL02143_7C_3_F | | LTE 700 | 80010965_777M Hz_06DT | 15.3 | 270 | 6 | TOP | FIBER | 0 | | | | | | 2951.413 | | 19 | | |
| | PORT 3 | 5775.C.AWS.4G | | CTL06143_2C_2_F | CTL06143_2C_2_F | | LTE AWS | 80010965_2170 MHz_03DT | 18.5 | 270 | 3 | TOP | FIBER | 0 | | | | | | 5070.2572 | | 20 | | |
| | PORT 4 | 5775.C.AWS.5G.1 | | CTCN002143_N066C_1 | CTCN002143_N066C_1 | | 5G AWS | 80010965_2170 MHz_03DT | 18.5 | 270 | 3 | TOP | FIBER | 0 | | | | | | 5070.2572 | | 20 | | |
| | PORT 1 | | | | | | 5G CBAND | | | 270 | 0 | Integrated | FIBER | 0 | | | | | | | | | 21 | |
| ANTENNA POSITION 4 | PORT 1 | 5775.C.700.4G.1 | | CTL02143_7C_1 | CTL02143_7C_1 | | LTE 700 | 2_722MHz_06D | 13.1 | 270 | 6 | TOP | FIBER | 0 | | | | | | 1475.7065 | | 23 | | |
| | PORT 2 | 5775.C.850.5G.1 | | CTCN002143_N065C_1 | CTCN002143_N065C_1 | | 5G 850 | 2_722MHz_06D | 13.1 | 270 | 6 | TOP | FIBER | 0 | | | | | | 1475.7065 | | 23 | | |
| | PORT 3 | 5775.C.1900.4G | | CTL06143_9C_1 | CTL06143_9C_1 | | LTE 1900 | 2_1930MHz_03 DT | 15.9 | 270 | 3 | TOP | FIBER | 0 | | | | | | 4842.058 | | 24 | | |
| | PORT 4 | 5775.C.1900.4G | | CTL06143_9C_2 | CTL06143_9C_2 | | LTE 1900 | 2_1930MHz_03 DT | 15.9 | 270 | 3 | TOP | FIBER | 0 | | | | | | | 4842.058 | | 24 | |
| | PORT 5 | 5775.C.WCS.4G | | CTL02143_3C_1 | CTL02143_3C_1 | | LTE WCS | 2_2355MHz_03 DT | 16.7 | 270 | 3 | TOP | FIBER | 0 | | | | | | 1285.2866 | | 24 | | |
| | PORT 6 | 5775.C.1900.5G | | CTCN002143_N062C_1 | CTCN002143_N062C_1 | | 5G 1900 | 2_1930MHz_03 DT | 15.9 | 270 | 3 | TOP | FIBER | 0 | | | | | | | 4842.058 | | 24 | |
| | PORT 7 | | | | | | | | | | | | | | | | | | | | | | | |
| | PORT 8 | | | | | | | | | | | | | | | | | | | | | | | |

Exhibit E

Mount Analysis

April 5, 2022



SAI Communications
12 Industrial Way
Salem NH, 03079

RE: Site Number: CT2143
 FA Number: 10035018
 PACE Number: MRCTB056662
 PT Number: 2051A11M8B
 Site Name: GILBERTS CORNER
 Site Address: 46 Fenwood Lane
 Wilton, CT 06897

To Whom It May Concern:

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

- (3) 800-10965 Antennas (78.7"x20.0"x6.9" – Wt. = 109 lbs. /each)
- (3) 4478 B14 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)
- (3) RRUS-32 B2 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (3) RRUS-32 B30 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (3) RRUS-32 B66A RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (2) DC6-48-60-18 Surge Arrestors (31.4"x10.2" Ø – Wt. = 29 lbs.)
- **(3) AIR6419 Antennas (31.1"x16.1"x7.3" – Wt. = 66 lbs. /each)**
- **(3) AIR6449 Antennas (30.6"x15.9"x10.6" – Wt. 82 lbs. /each)**
- **(3) DMP65R-BU6EA-K Antennas (71.2"x20.7"x9.7" – Wt. = 116 lbs. /each)**
- **(3) 4449 B5/B12 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each)**
- **(1) DC9-48-60-24-8C-EV Surge Arrestor (31.4"x10.2" Ø – Wt. = 29 lbs.)**

**Proposed equipment shown in bold*

Mount fabrication drawings prepared by SitePro1, P/N VFA14-H10-2120, dated December 7, 2020, and P/N R6, dated November 16, 2020, were used to perform this analysis. HDG's subconsultant, VTS, conducted a ground audit of the existing AT&T antenna mounts on November 10, 2021.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R16.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 120 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.17 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- HDG considers this site to have a spectral response acceleration parameter at short periods, S_s , of 0.232 and a spectral response acceleration parameter at a period of 1 second, S_1 , of 0.068.
- The mount has been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The proposed mounts are to be secured to the existing self supporting tower with threaded rods and steel plates tightened around the tower leg. HDG considers the threaded rods as the governing connection members.

Based on our evaluation, we have determined that the Proposed SitePro1 P/N VFA14-H10-2120 mounts, and Proposed SitePro1 P/N R6 mounting pipes **ARE CAPABLE** of supporting the proposed installation.

| | Component | Controlling Load Case | Stress Ratio | Pass/Fail |
|------------------------------|-----------|-----------------------|--------------|-------------|
| Proposed Mount Rating | 9 | LC87 | 94% | PASS |

Reference Documents:

- Fabrication drawings prepared by SitePro1, P/N VFA14-H10-2120, dated December 7, 2020.
- Fabrication drawings prepared by SitePro1, P/N R6, dated November 16, 2020.

This determination was based on the following limitations and assumptions:

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

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

Respectfully Submitted,
Hudson Design Group LLC



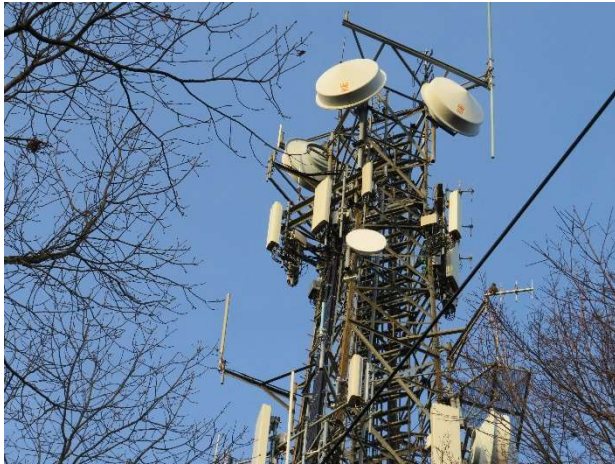
Michael Cabral
Vice President



Daniel P. Hamm, PE
Principal

FIELD PHOTOS:

Existing mounts to be removed and replaced.





HUDSON
Design Group LLC

Wind & Ice Calculations

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2.6.5.2 Velocity Pressure Coeff:

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

$K_z = 1.136$

$z = 163$ (ft)
 $z_g = 1200$ (ft)
 $\alpha = 7.0$

$K_{zmin} \leq K_z \leq 2.01$

Table 2-4

| Exposure | Z _g | α | K _{zmin} | K _c |
|----------|----------------|------|-------------------|----------------|
| B | 1200 ft | 7.0 | 0.70 | 0.9 |
| C | 900 ft | 9.5 | 0.85 | 1.0 |
| D | 700 ft | 11.5 | 1.03 | 1.1 |

2.6.6.2 Topographic Factor:

Table 2-5

| Topo. Category | K _t | f |
|----------------|----------------|------|
| 2 | 0.43 | 1.25 |
| 3 | 0.53 | 2.0 |
| 4 | 0.72 | 1.5 |

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

$K_{zt} = 1$

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

Category = 1

$K_h = e^{(fz/H)}$

$K_h = 1$
 $K_c = 0.9$ (from Table 2-4)
 $K_t = 0$ (from Table 2-5)
 $f = 0$ (from Table 2-5)
 $z = 163$
 $z_s = 374$ (Mean elevation of base of structure above sea level)
 $H = 0$ (Ht. of the crest above surrounding terrain)
 $K_{zt} = 1.00$ (from 2.6.6.2.1)
 $K_e = 0.99$ (from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness =

Importance Factor =

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

$t_i = 1.00$ in
 $I = 1.0$ (from Table 2-3)
 $K_{iz} = 1.17$ (from Sec. 2.6.10)
 $t_{iz} = 1.17$ in

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2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

$G_h = 1.0$ Latticed Structures > 600 ft

$G_h = 0.85$ Latticed Structures 450 ft or less

$G_h = 0.85 + 0.15 [h/150 - 3.0]$

h= ht. of structure

h= 182

$G_h = 0.85$

2.6.9.2 Guyed Masts

$G_h = 0.85$

2.6.9.3 Pole Structures

$G_h = 1.1$

2.6.9 Appurtenances

$G_h = 1.0$

2.6.9.4 Structures Supported on Other Structures

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

$G_h = 1.35$

$G_h = 1.00$

2.6.11.2 Design Wind Force on Appurtenances

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

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

| | |
|---------------|--------------|
| $q_z =$ | 39.26 |
| $q_z (ice) =$ | 6.82 |
| $q_z (30) =$ | 2.45 |

| | |
|-------------------|-------------------------------|
| $K_z =$ | 1.136 (from 2.6.5.2) |
| $K_{zt} =$ | 1.0 (from 2.6.6.2.1) |
| $K_s =$ | 1.0 (from 2.6.7) |
| $K_e =$ | 0.99 (from 2.6.8) |
| $K_d =$ | 0.95 (from Table 2-2) |
| $V_{max} =$ | 120 mph (Ultimate Wind Speed) |
| $V_{max (ice)} =$ | 50 mph |
| $V_{30} =$ | 30 mph |

Table 2-2

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

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Determine Ca:

Table 2-9

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

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance,
 Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **1.17 in** Angle = **0 (deg)** Equivalent Angle = **180 (deg)**

| Appurtenances | Height | Width | Depth | Flat Area | Aspect Ratio | Ca | Force (lbs) | Force (lbs) (w/ Ice) | Force (lbs) (30 mph) |
|-----------------------------------|--------|-------|-------|-----------|--------------|------|-------------|----------------------|----------------------|
| 800-10965 Antenna | 78.7 | 20.0 | 6.9 | 10.93 | 3.94 | 1.26 | 542 | 108 | 34 |
| AIR6419 Antenna | 31.1 | 16.1 | 7.3 | 3.48 | 1.93 | 1.20 | 164 | 35 | 10 |
| AIR6449 Antenna | 30.6 | 15.9 | 10.6 | 3.38 | 1.92 | 1.20 | 159 | 34 | 10 |
| DMP65R-BU6EA-K Antenna | 71.2 | 20.7 | 9.7 | 10.24 | 3.44 | 1.24 | 499 | 100 | 31 |
| 4478 B14 RRH | 18.1 | 8.3 | 13.4 | 1.04 | 2.18 | 1.20 | 49 | 12 | 3 |
| RRUS-32 B2 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 3.89 | 1.26 | 65 | 16 | 4 |
| RRUS-32 B30 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 3.89 | 1.26 | 65 | 16 | 4 |
| RRUS-32 B66A RRH | 27.2 | 7.0 | 12.1 | 1.32 | 3.89 | 1.26 | 65 | 16 | 4 |
| 4449 B5/B12 RRH | 17.9 | 13.2 | 9.4 | 1.64 | 1.36 | 1.20 | 77 | 18 | 5 |
| DC6-48-60-18 Surge Arrestor | 31.4 | 10.2 | 10.2 | 2.22 | 3.08 | 0.70 | 61 | 14 | 4 |
| DC9-48-60-24-8C-EV Surge Arrestor | 31.4 | 10.2 | 10.2 | 2.22 | 3.08 | 0.70 | 61 | 14 | 4 |
| 5/8" Round Bar | 0.6 | 12.0 | | 0.05 | 0.05 | 1.20 | 2 | | |
| 3/4" Round Bar | 0.8 | 12.0 | | 0.06 | 0.06 | 1.20 | 3 | | |
| 2" Pipe | 2.4 | 12.0 | | 0.20 | 0.20 | 1.20 | 9 | | |
| 2-1/2" Pipe | 2.9 | 12.0 | | 0.24 | 0.24 | 1.20 | 11 | | |
| 4" Pipe | 4.5 | 12.0 | | 0.38 | 0.38 | 1.20 | 18 | | |
| PL 3-1/2x5/8" | 0.6 | 12.0 | | 0.05 | 0.05 | 2.00 | 4 | | |
| PL 11-1/4x5/8" | 0.6 | 12.0 | | 0.05 | 0.05 | 2.00 | 4 | | |

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WIND LOADS

Angle = 30 (deg)

Ice Thickness = 1.17 in.

Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

| Appurtenances | Height | Width | Depth | Flat Area (normal) | Flat Area (side) | Aspect Ratio | Aspect Ratio | Ca (normal) | Ca (side) | Force (lbs) (normal) | Force (lbs) (side) | Force (lbs) (angle) |
|------------------------|--------|-------|-------|--------------------|------------------|--------------|--------------|-------------|-----------|----------------------|--------------------|---------------------|
| 800-10965 Antenna | 78.7 | 20.0 | 6.9 | 10.93 | 3.77 | 3.94 | 11.41 | 1.26 | 1.55 | 542 | 229 | 464 |
| AIR6419 Antenna | 31.1 | 16.1 | 7.3 | 3.48 | 1.58 | 1.93 | 4.26 | 1.20 | 1.28 | 164 | 79 | 143 |
| AIR6449 Antenna | 30.6 | 15.9 | 10.6 | 3.38 | 2.25 | 1.92 | 2.89 | 1.20 | 1.22 | 159 | 108 | 146 |
| DMP65R-BU6EA-K Antenna | 71.2 | 20.7 | 9.7 | 10.24 | 4.80 | 3.44 | 7.34 | 1.24 | 1.41 | 499 | 266 | 441 |
| 4478 B14 RRH | 18.1 | 8.3 | 13.4 | 1.04 | 1.68 | 2.18 | 1.35 | 1.20 | 1.20 | 49 | 79 | 57 |
| RRUS-32 B2 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 76 |
| RRUS-32 B30 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 76 |
| RRUS-32 B66A RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 76 |
| 4449 B5/B12 RRH | 17.9 | 13.2 | 9.4 | 1.64 | 1.17 | 1.36 | 1.90 | 1.20 | 1.20 | 77 | 55 | 72 |

WIND LOADS WITH ICE:

| | | | | | | | | | | | | |
|------------------------|------|------|------|-------|------|------|------|------|------|-----|----|----|
| 800-10965 Antenna | 81.0 | 22.3 | 9.2 | 12.58 | 5.20 | 3.63 | 8.77 | 1.25 | 1.46 | 107 | 52 | 93 |
| AIR6419 Antenna | 33.4 | 18.4 | 9.6 | 4.28 | 2.24 | 1.81 | 3.47 | 1.20 | 1.24 | 35 | 19 | 31 |
| AIR6449 Antenna | 32.9 | 18.2 | 12.9 | 4.17 | 2.96 | 1.81 | 2.54 | 1.20 | 1.20 | 34 | 24 | 32 |
| DMP65R-BU6EA-K Antenna | 73.5 | 23.0 | 12.0 | 11.77 | 6.15 | 3.19 | 6.11 | 1.23 | 1.36 | 99 | 57 | 88 |
| 4478 B14 RRH | 20.4 | 10.6 | 15.7 | 1.51 | 2.24 | 1.92 | 1.30 | 1.20 | 1.20 | 12 | 18 | 14 |
| RRUS-32 B2 RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 18 |
| RRUS-32 B30 RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 18 |
| RRUS-32 B66A RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 18 |
| 4449 B5/B12 RRH | 20.2 | 15.5 | 11.7 | 2.19 | 1.65 | 1.30 | 1.72 | 1.20 | 1.20 | 18 | 14 | 17 |

WIND LOADS AT 30 MPH:

| | | | | | | | | | | | | |
|------------------------|------|------|------|-------|------|------|-------|------|------|----|----|----|
| 800-10965 Antenna | 78.7 | 20.0 | 6.9 | 10.93 | 3.77 | 3.94 | 11.41 | 1.26 | 1.55 | 34 | 14 | 29 |
| AIR6419 Antenna | 31.1 | 16.1 | 7.3 | 3.48 | 1.58 | 1.93 | 4.26 | 1.20 | 1.28 | 10 | 5 | 9 |
| AIR6449 Antenna | 30.6 | 15.9 | 10.6 | 3.38 | 2.25 | 1.92 | 2.89 | 1.20 | 1.22 | 10 | 7 | 9 |
| DMP65R-BU6EA-K Antenna | 71.2 | 20.7 | 9.7 | 10.24 | 4.80 | 3.44 | 7.34 | 1.24 | 1.41 | 31 | 17 | 28 |
| 4478 B14 RRH | 18.1 | 8.3 | 13.4 | 1.04 | 1.68 | 2.18 | 1.35 | 1.20 | 1.20 | 3 | 5 | 4 |
| RRUS-32 B2 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 5 |
| RRUS-32 B30 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 5 |
| RRUS-32 B66A RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 5 |
| 4449 B5/B12 RRH | 17.9 | 13.2 | 9.4 | 1.64 | 1.17 | 1.36 | 1.90 | 1.20 | 1.20 | 5 | 3 | 4 |

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WIND LOADS

Angle = 60 (deg) Ice Thickness = 1.17 in. Equivalent Angle = 240 (deg)

WIND LOADS WITH NO ICE:

| Appurtenances | Height | Width | Depth | Flat Area (normal) | Flat Area (side) | Ratio (normal) | Ratio (side) | Ca (normal) | Ca (side) | Force (lbs) (normal) | Force (lbs) (side) | Force (lbs) (angle) |
|------------------------|--------|-------|-------|--------------------|------------------|----------------|--------------|-------------|-----------|----------------------|--------------------|---------------------|
| 800-10965 Antenna | 78.7 | 20.0 | 6.9 | 10.93 | 3.77 | 3.94 | 11.41 | 1.26 | 1.55 | 542 | 229 | 307 |
| AIR6419 Antenna | 31.1 | 16.1 | 7.3 | 3.48 | 1.58 | 1.93 | 4.26 | 1.20 | 1.28 | 164 | 79 | 100 |
| AIR6449 Antenna | 30.6 | 15.9 | 10.6 | 3.38 | 2.25 | 1.92 | 2.89 | 1.20 | 1.22 | 159 | 108 | 121 |
| DMP65R-BU6EA-K Antenna | 71.2 | 20.7 | 9.7 | 10.24 | 4.80 | 3.44 | 7.34 | 1.24 | 1.41 | 499 | 266 | 324 |
| 4478 B14 RRH | 18.1 | 8.3 | 13.4 | 1.04 | 1.68 | 2.18 | 1.35 | 1.20 | 1.20 | 49 | 79 | 72 |
| RRUS-32 B2 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 97 |
| RRUS-32 B30 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 97 |
| RRUS-32 B66A RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 97 |
| 4449 B5/B12 RRH | 17.9 | 13.2 | 9.4 | 1.64 | 1.17 | 1.36 | 1.90 | 1.20 | 1.20 | 77 | 55 | 61 |

WIND LOADS WITH ICE:

| | | | | | | | | | | | | |
|------------------------|------|------|------|-------|------|------|------|------|------|-----|----|----|
| 800-10965 Antenna | 81.0 | 22.3 | 9.2 | 12.58 | 5.20 | 3.63 | 8.77 | 1.25 | 1.46 | 107 | 52 | 66 |
| AIR6419 Antenna | 33.4 | 18.4 | 9.6 | 4.28 | 2.24 | 1.81 | 3.47 | 1.20 | 1.24 | 35 | 19 | 23 |
| AIR6449 Antenna | 32.9 | 18.2 | 12.9 | 4.17 | 2.96 | 1.81 | 2.54 | 1.20 | 1.20 | 34 | 24 | 27 |
| DMP65R-BU6EA-K Antenna | 73.5 | 23.0 | 12.0 | 11.77 | 6.15 | 3.19 | 6.11 | 1.23 | 1.36 | 99 | 57 | 67 |
| 4478 B14 RRH | 20.4 | 10.6 | 15.7 | 1.51 | 2.24 | 1.92 | 1.30 | 1.20 | 1.20 | 12 | 18 | 17 |
| RRUS-32 B2 RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 22 |
| RRUS-32 B30 RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 22 |
| RRUS-32 B66A RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 22 |
| 4449 B5/B12 RRH | 20.2 | 15.5 | 11.7 | 2.19 | 1.65 | 1.30 | 1.72 | 1.20 | 1.20 | 18 | 14 | 15 |

WIND LOADS AT 30 MPH:

| | | | | | | | | | | | | |
|------------------------|------|------|------|-------|------|------|-------|------|------|----|----|----|
| 800-10965 Antenna | 78.7 | 20.0 | 6.9 | 10.93 | 3.77 | 3.94 | 11.41 | 1.26 | 1.55 | 34 | 14 | 19 |
| AIR6419 Antenna | 31.1 | 16.1 | 7.3 | 3.48 | 1.58 | 1.93 | 4.26 | 1.20 | 1.28 | 10 | 5 | 6 |
| AIR6449 Antenna | 30.6 | 15.9 | 10.6 | 3.38 | 2.25 | 1.92 | 2.89 | 1.20 | 1.22 | 10 | 7 | 8 |
| DMP65R-BU6EA-K Antenna | 71.2 | 20.7 | 9.7 | 10.24 | 4.80 | 3.44 | 7.34 | 1.24 | 1.41 | 31 | 17 | 20 |
| 4478 B14 RRH | 18.1 | 8.3 | 13.4 | 1.04 | 1.68 | 2.18 | 1.35 | 1.20 | 1.20 | 3 | 5 | 4 |
| RRUS-32 B2 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 6 |
| RRUS-32 B30 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 6 |
| RRUS-32 B66A RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 6 |
| 4449 B5/B12 RRH | 17.9 | 13.2 | 9.4 | 1.64 | 1.17 | 1.36 | 1.90 | 1.20 | 1.20 | 5 | 3 | 4 |

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WIND LOADS

Angle = 90 (deg) Ice Thickness = 1.17 in. Equivalent Angle = 270 (deg)

WIND LOADS WITH NO ICE:

| Appurtenances | Height | Width | Depth | Flat Area (normal) | Flat Area (side) | Ratio (normal) | Ratio (side) | Ca (normal) | Ca (side) | Force (lbs) (normal) | Force (lbs) (side) | Force (lbs) (angle) |
|------------------------|--------|-------|-------|-----------------------|---------------------|-------------------|-----------------|----------------|--------------|-------------------------|-----------------------|------------------------|
| 800-10965 Antenna | 78.7 | 20.0 | 6.9 | 10.93 | 3.77 | 3.94 | 11.41 | 1.26 | 1.55 | 542 | 229 | 229 |
| AIR6419 Antenna | 31.1 | 16.1 | 7.3 | 3.48 | 1.58 | 1.93 | 4.26 | 1.20 | 1.28 | 164 | 79 | 79 |
| AIR6449 Antenna | 30.6 | 15.9 | 10.6 | 3.38 | 2.25 | 1.92 | 2.89 | 1.20 | 1.22 | 159 | 108 | 108 |
| DMP65R-BU6EA-K Antenna | 71.2 | 20.7 | 9.7 | 10.24 | 4.80 | 3.44 | 7.34 | 1.24 | 1.41 | 499 | 266 | 266 |
| 4478 B14 RRH | 18.1 | 8.3 | 13.4 | 1.04 | 1.68 | 2.18 | 1.35 | 1.20 | 1.20 | 49 | 79 | 79 |
| RRUS-32 B2 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 108 |
| RRUS-32 B30 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 108 |
| RRUS-32 B66A RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 108 |
| 4449 B5/B12 RRH | 17.9 | 13.2 | 9.4 | 1.64 | 1.17 | 1.36 | 1.90 | 1.20 | 1.20 | 77 | 55 | 55 |

WIND LOADS WITH ICE:

| | | | | | | | | | | | | |
|------------------------|------|------|------|-------|------|------|------|------|------|-----|----|----|
| 800-10965 Antenna | 81.0 | 22.3 | 9.2 | 12.58 | 5.20 | 3.63 | 8.77 | 1.25 | 1.46 | 107 | 52 | 52 |
| AIR6419 Antenna | 33.4 | 18.4 | 9.6 | 4.28 | 2.24 | 1.81 | 3.47 | 1.20 | 1.24 | 35 | 19 | 19 |
| AIR6449 Antenna | 32.9 | 18.2 | 12.9 | 4.17 | 2.96 | 1.81 | 2.54 | 1.20 | 1.20 | 34 | 24 | 24 |
| DMP65R-BU6EA-K Antenna | 73.5 | 23.0 | 12.0 | 11.77 | 6.15 | 3.19 | 6.11 | 1.23 | 1.36 | 99 | 57 | 57 |
| 4478 B14 RRH | 20.4 | 10.6 | 15.7 | 1.51 | 2.24 | 1.92 | 1.30 | 1.20 | 1.20 | 12 | 18 | 18 |
| RRUS-32 B2 RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 24 |
| RRUS-32 B30 RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 24 |
| RRUS-32 B66A RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 24 |
| 4449 B5/B12 RRH | 20.2 | 15.5 | 11.7 | 2.19 | 1.65 | 1.30 | 1.72 | 1.20 | 1.20 | 18 | 14 | 14 |

WIND LOADS AT 30 MPH:

| | | | | | | | | | | | | |
|------------------------|------|------|------|-------|------|------|-------|------|------|----|----|----|
| 800-10965 Antenna | 78.7 | 20.0 | 6.9 | 10.93 | 3.77 | 3.94 | 11.41 | 1.26 | 1.55 | 34 | 14 | 14 |
| AIR6419 Antenna | 31.1 | 16.1 | 7.3 | 3.48 | 1.58 | 1.93 | 4.26 | 1.20 | 1.28 | 10 | 5 | 5 |
| AIR6449 Antenna | 30.6 | 15.9 | 10.6 | 3.38 | 2.25 | 1.92 | 2.89 | 1.20 | 1.22 | 10 | 7 | 7 |
| DMP65R-BU6EA-K Antenna | 71.2 | 20.7 | 9.7 | 10.24 | 4.80 | 3.44 | 7.34 | 1.24 | 1.41 | 31 | 17 | 17 |
| 4478 B14 RRH | 18.1 | 8.3 | 13.4 | 1.04 | 1.68 | 2.18 | 1.35 | 1.20 | 1.20 | 3 | 5 | 5 |
| RRUS-32 B2 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 7 |
| RRUS-32 B30 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 7 |
| RRUS-32 B66A RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 7 |
| 4449 B5/B12 RRH | 17.9 | 13.2 | 9.4 | 1.64 | 1.17 | 1.36 | 1.90 | 1.20 | 1.20 | 5 | 3 | 3 |

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 Designed By: CL Checked By: MSC



WIND LOADS

Angle = 120 (deg) Ice Thickness = 1.17 in. Equivalent Angle = 300 (deg)

WIND LOADS WITH NO ICE:

| Appurtenances | Height | Width | Depth | Flat Area (normal) | Flat Area (side) | Ratio (normal) | Ratio (side) | Ca (normal) | Ca (side) | Force (lbs) (normal) | Force (lbs) (side) | Force (lbs) (angle) |
|------------------------|--------|-------|-------|--------------------|------------------|----------------|--------------|-------------|-----------|----------------------|--------------------|---------------------|
| 800-10965 Antenna | 78.7 | 20.0 | 6.9 | 10.93 | 3.77 | 3.94 | 11.41 | 1.26 | 1.55 | 542 | 229 | 307 |
| AIR6419 Antenna | 31.1 | 16.1 | 7.3 | 3.48 | 1.58 | 1.93 | 4.26 | 1.20 | 1.28 | 164 | 79 | 100 |
| AIR6449 Antenna | 30.6 | 15.9 | 10.6 | 3.38 | 2.25 | 1.92 | 2.89 | 1.20 | 1.22 | 159 | 108 | 121 |
| DMP65R-BU6EA-K Antenna | 71.2 | 20.7 | 9.7 | 10.24 | 4.80 | 3.44 | 7.34 | 1.24 | 1.41 | 499 | 266 | 324 |
| 4478 B14 RRH | 18.1 | 8.3 | 13.4 | 1.04 | 1.68 | 2.18 | 1.35 | 1.20 | 1.20 | 49 | 79 | 72 |
| RRUS-32 B2 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 97 |
| RRUS-32 B30 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 97 |
| RRUS-32 B66A RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 97 |
| 4449 B5/B12 RRH | 17.9 | 13.2 | 9.4 | 1.64 | 1.17 | 1.36 | 1.90 | 1.20 | 1.20 | 77 | 55 | 61 |

WIND LOADS WITH ICE:

| | | | | | | | | | | | | |
|------------------------|------|------|------|-------|------|------|------|------|------|-----|----|----|
| 800-10965 Antenna | 81.0 | 22.3 | 9.2 | 12.58 | 5.20 | 3.63 | 8.77 | 1.25 | 1.46 | 107 | 52 | 66 |
| AIR6419 Antenna | 33.4 | 18.4 | 9.6 | 4.28 | 2.24 | 1.81 | 3.47 | 1.20 | 1.24 | 35 | 19 | 23 |
| AIR6449 Antenna | 32.9 | 18.2 | 12.9 | 4.17 | 2.96 | 1.81 | 2.54 | 1.20 | 1.20 | 34 | 24 | 27 |
| DMP65R-BU6EA-K Antenna | 73.5 | 23.0 | 12.0 | 11.77 | 6.15 | 3.19 | 6.11 | 1.23 | 1.36 | 99 | 57 | 67 |
| 4478 B14 RRH | 20.4 | 10.6 | 15.7 | 1.51 | 2.24 | 1.92 | 1.30 | 1.20 | 1.20 | 12 | 18 | 17 |
| RRUS-32 B2 RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 22 |
| RRUS-32 B30 RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 22 |
| RRUS-32 B66A RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 22 |
| 4449 B5/B12 RRH | 20.2 | 15.5 | 11.7 | 2.19 | 1.65 | 1.30 | 1.72 | 1.20 | 1.20 | 18 | 14 | 15 |

WIND LOADS AT 30 MPH:

| | | | | | | | | | | | | |
|------------------------|------|------|------|-------|------|------|-------|------|------|----|----|----|
| 800-10965 Antenna | 78.7 | 20.0 | 6.9 | 10.93 | 3.77 | 3.94 | 11.41 | 1.26 | 1.55 | 34 | 14 | 19 |
| AIR6419 Antenna | 31.1 | 16.1 | 7.3 | 3.48 | 1.58 | 1.93 | 4.26 | 1.20 | 1.28 | 10 | 5 | 6 |
| AIR6449 Antenna | 30.6 | 15.9 | 10.6 | 3.38 | 2.25 | 1.92 | 2.89 | 1.20 | 1.22 | 10 | 7 | 8 |
| DMP65R-BU6EA-K Antenna | 71.2 | 20.7 | 9.7 | 10.24 | 4.80 | 3.44 | 7.34 | 1.24 | 1.41 | 31 | 17 | 20 |
| 4478 B14 RRH | 18.1 | 8.3 | 13.4 | 1.04 | 1.68 | 2.18 | 1.35 | 1.20 | 1.20 | 3 | 5 | 4 |
| RRUS-32 B2 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 6 |
| RRUS-32 B30 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 6 |
| RRUS-32 B66A RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 6 |
| 4449 B5/B12 RRH | 17.9 | 13.2 | 9.4 | 1.64 | 1.17 | 1.36 | 1.90 | 1.20 | 1.20 | 5 | 3 | 4 |

Date: 4/5/2022
 Project Name: GILBERTS CORNER
 Project No.: CT2143
 Designed By: CL Checked By: MSC



WIND LOADS

Angle = 150 (deg) Ice Thickness = 1.17 in. Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

| Appurtenances | Height | Width | Depth | Flat Area (normal) | Flat Area (side) | Ratio (normal) | Ratio (side) | Ca (normal) | Ca (side) | Force (lbs) (normal) | Force (lbs) (side) | Force (lbs) (angle) |
|------------------------|--------|-------|-------|--------------------|------------------|----------------|--------------|-------------|-----------|----------------------|--------------------|---------------------|
| 800-10965 Antenna | 78.7 | 20.0 | 6.9 | 10.93 | 3.77 | 3.94 | 11.41 | 1.26 | 1.55 | 542 | 229 | 464 |
| AIR6419 Antenna | 31.1 | 16.1 | 7.3 | 3.48 | 1.58 | 1.93 | 4.26 | 1.20 | 1.28 | 164 | 79 | 143 |
| AIR6449 Antenna | 30.6 | 15.9 | 10.6 | 3.38 | 2.25 | 1.92 | 2.89 | 1.20 | 1.22 | 159 | 108 | 146 |
| DMP65R-BU6EA-K Antenna | 71.2 | 20.7 | 9.7 | 10.24 | 4.80 | 3.44 | 7.34 | 1.24 | 1.41 | 499 | 266 | 441 |
| 4478 B14 RRH | 18.1 | 8.3 | 13.4 | 1.04 | 1.68 | 2.18 | 1.35 | 1.20 | 1.20 | 49 | 79 | 57 |
| RRUS-32 B2 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 76 |
| RRUS-32 B30 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 76 |
| RRUS-32 B66A RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 65 | 108 | 76 |
| 4449 B5/B12 RRH | 17.9 | 13.2 | 9.4 | 1.64 | 1.17 | 1.36 | 1.90 | 1.20 | 1.20 | 77 | 55 | 72 |

WIND LOADS WITH ICE:

| | | | | | | | | | | | | |
|------------------------|------|------|------|-------|------|------|------|------|------|-----|----|----|
| 800-10965 Antenna | 81.0 | 22.3 | 9.2 | 12.58 | 5.20 | 3.63 | 8.77 | 1.25 | 1.46 | 107 | 52 | 93 |
| AIR6419 Antenna | 33.4 | 18.4 | 9.6 | 4.28 | 2.24 | 1.81 | 3.47 | 1.20 | 1.24 | 35 | 19 | 31 |
| AIR6449 Antenna | 32.9 | 18.2 | 12.9 | 4.17 | 2.96 | 1.81 | 2.54 | 1.20 | 1.20 | 34 | 24 | 32 |
| DMP65R-BU6EA-K Antenna | 73.5 | 23.0 | 12.0 | 11.77 | 6.15 | 3.19 | 6.11 | 1.23 | 1.36 | 99 | 57 | 88 |
| 4478 B14 RRH | 20.4 | 10.6 | 15.7 | 1.51 | 2.24 | 1.92 | 1.30 | 1.20 | 1.20 | 12 | 18 | 14 |
| RRUS-32 B2 RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 18 |
| RRUS-32 B30 RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 18 |
| RRUS-32 B66A RRH | 29.5 | 9.3 | 14.4 | 1.92 | 2.96 | 3.16 | 2.05 | 1.23 | 1.20 | 16 | 24 | 18 |
| 4449 B5/B12 RRH | 20.2 | 15.5 | 11.7 | 2.19 | 1.65 | 1.30 | 1.72 | 1.20 | 1.20 | 18 | 14 | 17 |

WIND LOADS AT 30 MPH:

| | | | | | | | | | | | | |
|------------------------|------|------|------|-------|------|------|-------|------|------|----|----|----|
| 800-10965 Antenna | 78.7 | 20.0 | 6.9 | 10.93 | 3.77 | 3.94 | 11.41 | 1.26 | 1.55 | 34 | 14 | 29 |
| AIR6419 Antenna | 31.1 | 16.1 | 7.3 | 3.48 | 1.58 | 1.93 | 4.26 | 1.20 | 1.28 | 10 | 5 | 9 |
| AIR6449 Antenna | 30.6 | 15.9 | 10.6 | 3.38 | 2.25 | 1.92 | 2.89 | 1.20 | 1.22 | 10 | 7 | 9 |
| DMP65R-BU6EA-K Antenna | 71.2 | 20.7 | 9.7 | 10.24 | 4.80 | 3.44 | 7.34 | 1.24 | 1.41 | 31 | 17 | 28 |
| 4478 B14 RRH | 18.1 | 8.3 | 13.4 | 1.04 | 1.68 | 2.18 | 1.35 | 1.20 | 1.20 | 3 | 5 | 4 |
| RRUS-32 B2 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 5 |
| RRUS-32 B30 RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 5 |
| RRUS-32 B66A RRH | 27.2 | 7.0 | 12.1 | 1.32 | 2.29 | 3.89 | 2.25 | 1.26 | 1.20 | 4 | 7 | 5 |
| 4449 B5/B12 RRH | 17.9 | 13.2 | 9.4 | 1.64 | 1.17 | 1.36 | 1.90 | 1.20 | 1.20 | 5 | 3 | 4 |

Date: 4/5/2022

Project Name: GILBERTS CORNER

Project No.: CT2143

Designed By: CL Checked By: MSC



ICE WEIGHT CALCULATIONS

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

800-10965 Antenna

Weight of ice based on total radial SF area:
Height (in): 78.7
Width (in): 20.0
Depth (in): 6.9
Total weight of ice on object: 209 lbs
Weight of object: 109.0 lbs

Combined weight of ice and object: 318 lbs

AIR6449 Antenna

Weight of ice based on total radial SF area:
Height (in): 30.6
Width (in): 15.9
Depth (in): 10.6
Total weight of ice on object: 74 lbs
Weight of object: 82.0 lbs

Combined weight of ice and object: 156 lbs

4478 B14 RRH

Weight of ice based on total radial SF area:
Height (in): 18.1
Width (in): 13.4
Depth (in): 8.3
Total weight of ice on object: 37 lbs
Weight of object: 60.0 lbs

Combined weight of ice and object: 97 lbs

RRUS-32 B30 RRH

Weight of ice based on total radial SF area:
Height (in): 27.2
Width (in): 12.1
Depth (in): 7.0
Total weight of ice on object: 49 lbs
Weight of object: 60.0 lbs

Combined weight of ice and object: 109 lbs

4449 B5/B12 RRH

Weight of ice based on total radial SF area:
Height (in): 17.9
Width (in): 13.2
Depth (in): 9.4
Total weight of ice on object: 37 lbs
Weight of object: 73.0 lbs

Combined weight of ice and object: 110 lbs

DC9-48-60-24-8C-EV Surge Arrestor

Weight of ice based on total radial SF area:
Depth (in): 31.4
Diameter(in): 10.2
Total weight of ice on object: 43 lbs
Weight of object: 29 lbs

Combined weight of ice and object: 72 lbs

3/4" Round Bar

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

2-1/2" Pipe

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

PL 3-1/2x5/8"

Weight of ice based on total radial SF area:
Height (in): 3.5
Width (in): 0.625
Per foot weight of ice on object: 7 plf

AIR6419 Antenna

Weight of ice based on total radial SF area:
Height (in): 31.1
Width (in): 16.1
Depth (in): 7.3
Total weight of ice on object: 70 lbs
Weight of object: 66.0 lbs

Combined weight of ice and object: 136 lbs

DMP65R-BU6EA-K Antenna

Weight of ice based on total radial SF area:
Height (in): 71.2
Width (in): 20.7
Depth (in): 9.7
Total weight of ice on object: 204 lbs
Weight of object: 116.0 lbs

Combined weight of ice and object: 320 lbs

RRUS-32 B2 RRH

Weight of ice based on total radial SF area:
Height (in): 27.2
Width (in): 12.1
Depth (in): 7.0
Total weight of ice on object: 49 lbs
Weight of object: 60.0 lbs

Combined weight of ice and object: 109 lbs

RRUS-32 B66A RRH

Weight of ice based on total radial SF area:
Height (in): 27.2
Width (in): 12.1
Depth (in): 7.0
Total weight of ice on object: 49 lbs
Weight of object: 60.0 lbs

Combined weight of ice and object: 109 lbs

DC6-48-60-18 Surge Arrestor

Weight of ice based on total radial SF area:
Depth (in): 31.4
Diameter(in): 10.2
Total weight of ice on object: 43 lbs
Weight of object: 29 lbs

Combined weight of ice and object: 72 lbs

5/8" Round Bar

Per foot weight of ice:
diameter (in): 0.625
Per foot weight of ice on object: 3 plf

2" Pipe

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

4" Pipe

Per foot weight of ice:
diameter (in): 4.5
Per foot weight of ice on object: 8 plf

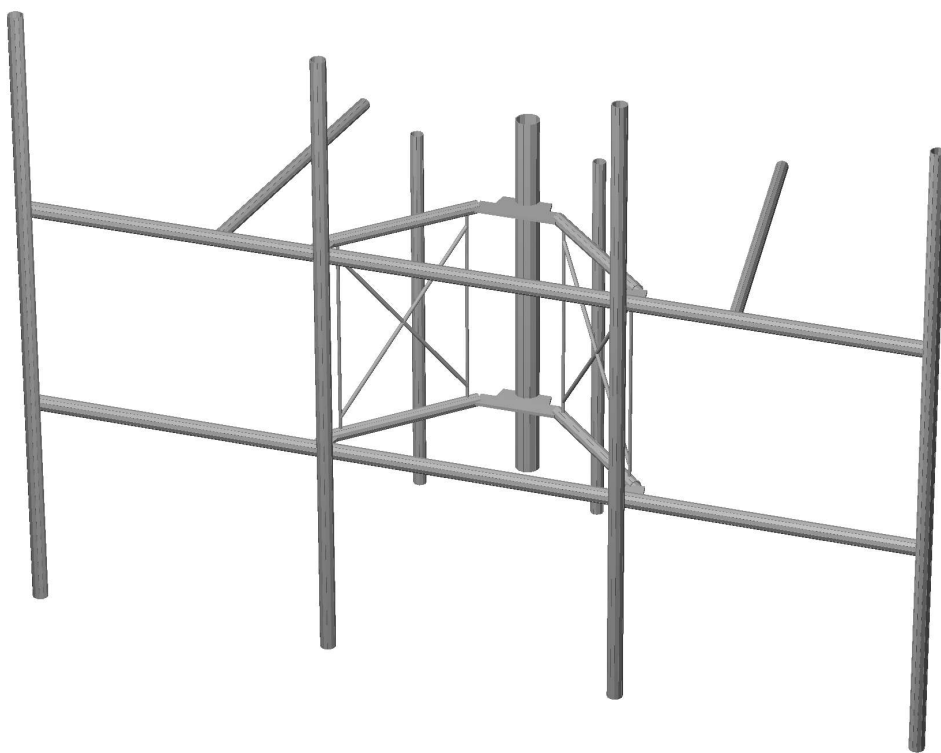
PL 11-1/4x5/8"

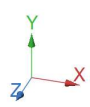
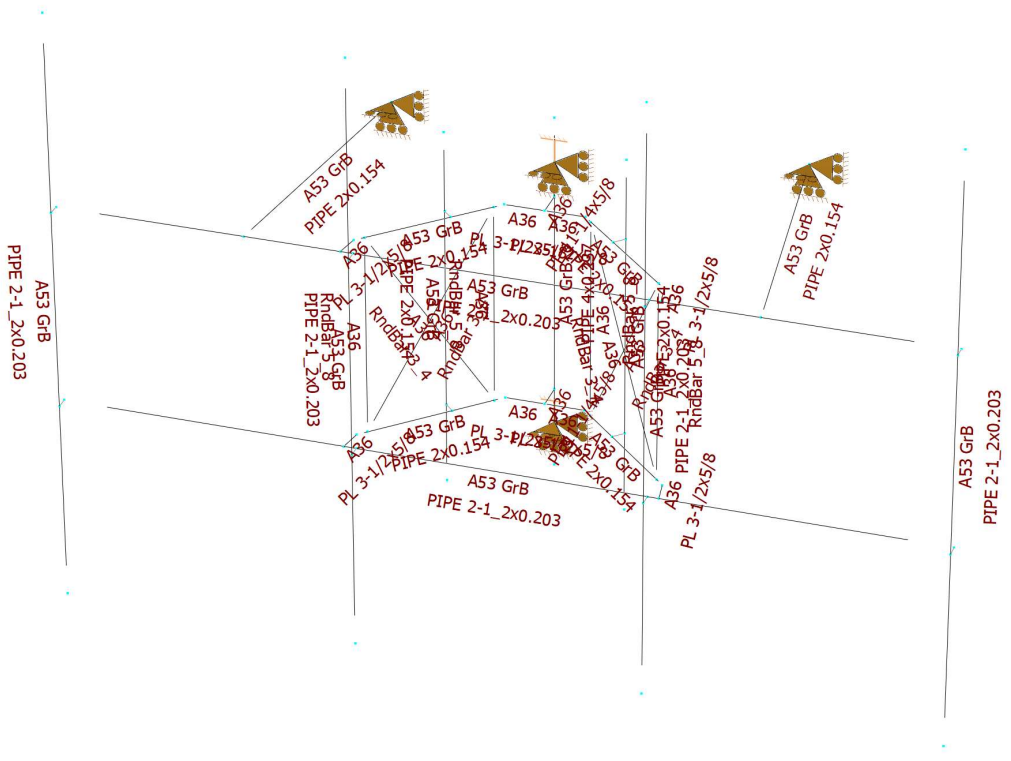
Weight of ice based on total radial SF area:
Height (in): 11.25
Width (in): 0.625
Per foot weight of ice on object: 18 plf



HUDSON
Design Group LLC

**Mount Calculations
(Proposed Conditions)**

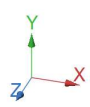
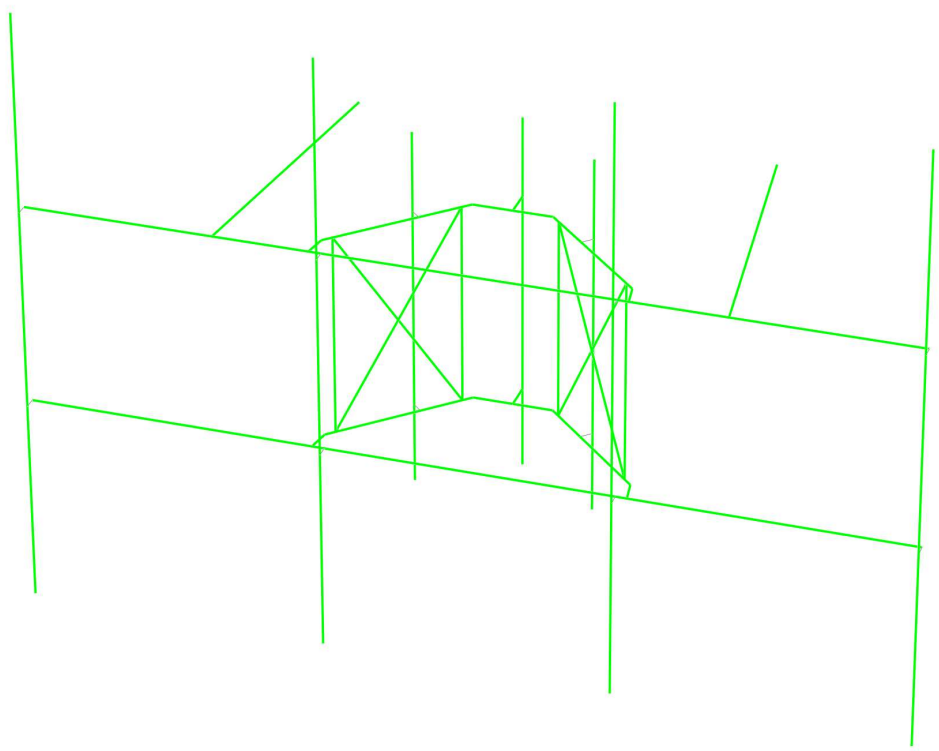


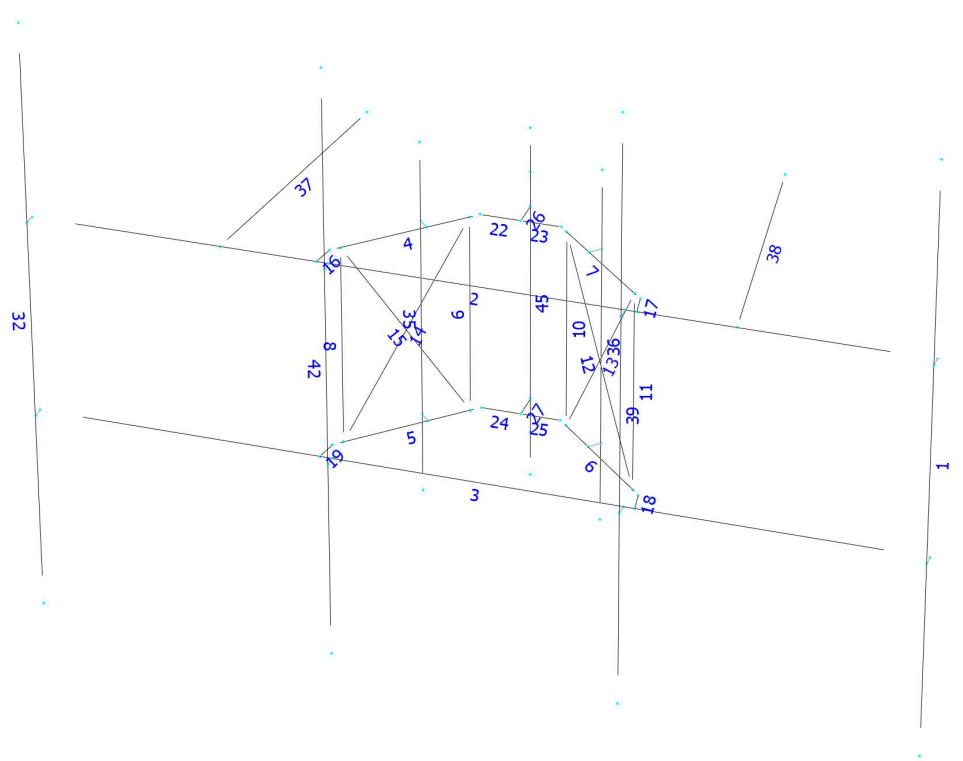




Design status

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





Load data

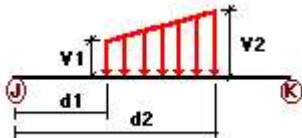
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

| Condition | Description | Comb. | Category | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|-------------------------------------|-------------|----------|-----------|----|------|------|-----------|----|------|----|----------|----|----|-----|-------------|----|------|------|--------------|----|------|------|--------------|----|------|------|--------------|----|------|-------|---------------|----|------|-------|---------------|----|------|-----|----------------|----|------|------|-----------------|----|------|------|-----------------|----|------|------|-----------------|----|------|-------|------------------|----|------|-------|------------------|----|------|-----|----------------------------------|----|----|-----|-------------------------------------|----|----|-----|------------------------------------|----|----|------|----------------------------|----|----|------|----------------------------|----|----|------|----------------------------|----|----|------|----------------------------|----|----|
| D | Dead Load | No | DL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wo | Wind Load (NO ICE) | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W30 | WL 30deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W60 | WL 60deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W90 | WL 90deg | No <td WIND | W120 | WL 120deg | No | WIND | W150 | WL 150deg | No | WIND | Di | Ice Load | No | LL | WI0 | WL ICE 0deg | No | WIND | WI30 | WL ICE 30deg | No | WIND | WI60 | WL ICE 60deg | No | WIND | WI90 | WL ICE 90deg | No | WIND | WI120 | WL ICE 120deg | No | WIND | WI150 | WL ICE 150deg | No | WIND | WL0 | WL 30 mph 0deg | No | WIND | WL30 | WL 30 mph 30deg | No | WIND | WL60 | WL 30 mph 60deg | No | WIND | WL90 | WL 30 mph 90deg | No | WIND | WL120 | WL 30 mph 120deg | No | WIND | WL150 | WL 30 mph 150deg | No | WIND | LL1 | 250 lb Live Load Center of Mount | No | LL | LL2 | 250 lb Live Load Right End of Mount | No | LL | LL3 | 250 lb Live Load Left End of Mount | No | LL | LLa1 | 500 lb Live Load Antenna 1 | No | LL | LLa2 | 500 lb Live Load Antenna 2 | No | LL | LLa3 | 500 lb Live Load Antenna 3 | No | LL | LLa4 | 500 lb Live Load Antenna 4 | No | LL |
| W120 | WL 120deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W150 | WL 150deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Di | Ice Load | No | LL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WI0 | WL ICE 0deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WI30 | WL ICE 30deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WI60 | WL ICE 60deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WI90 | WL ICE 90deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WI120 | WL ICE 120deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WI150 | WL ICE 150deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WL0 | WL 30 mph 0deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WL30 | WL 30 mph 30deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WL60 | WL 30 mph 60deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WL90 | WL 30 mph 90deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WL120 | WL 30 mph 120deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WL150 | WL 30 mph 150deg | No | WIND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LL1 | 250 lb Live Load Center of Mount | No | LL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LL2 | 250 lb Live Load Right End of Mount | No | LL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LL3 | 250 lb Live Load Left End of Mount | No | LL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LLa1 | 500 lb Live Load Antenna 1 | No | LL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LLa2 | 500 lb Live Load Antenna 2 | No | LL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LLa3 | 500 lb Live Load Antenna 3 | No | LL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LLa4 | 500 lb Live Load Antenna 4 | No | LL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Distributed force on members

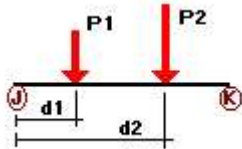


| Condition | Member | Dir1 | Val1 [Kip/ft] | Val2 [Kip/ft] | Dist1 [ft] | % | Dist2 [ft] | % | |
|-----------|--------|------|------------------|------------------|---------------|------|---------------|--------|-----|
| Wo | 2 | z | -0.011 | -0.011 | 0.00 | No | 100.00 | Yes | |
| | 3 | z | -0.011 | -0.011 | 0.00 | No | 100.00 | Yes | |
| | 4 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| | 5 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| | 6 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| | 7 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| | 8 | z | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes | |
| | 9 | z | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes | |
| | 10 | z | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes | |
| | 11 | z | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes | |
| | 12 | z | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes | |
| | 13 | z | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes | |
| | 14 | z | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes | |
| | 15 | z | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes | |
| | 22 | z | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes | |
| | 23 | z | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes | |
| | 24 | z | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes | |
| | 25 | z | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes | |
| | 35 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| | 36 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| | 37 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| | 38 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| | 45 | z | -0.018 | -0.018 | 0.00 | No | 100.00 | Yes | |
| | W30 | 2 | z | -0.011 | -0.011 | 0.00 | No | 100.00 | Yes |
| | | 3 | z | -0.011 | -0.011 | 0.00 | No | 100.00 | Yes |
| | | 4 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | | 5 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | | 6 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | | 7 | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | | 8 | z | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes |
| | | 9 | z | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes |
| | | 10 | z | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes |
| | | 11 | z | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes |
| | | 12 | z | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| | | 13 | z | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| | | 14 | z | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| | | 15 | z | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| | | 22 | z | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |
| 23 | | z | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes | |
| 24 | | z | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes | |
| 25 | | z | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes | |
| 35 | | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| 36 | | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| 37 | | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| 38 | | z | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes | |
| 45 | | z | -0.018 | -0.018 | 0.00 | No | 100.00 | Yes | |
| W60 | | 1 | x | -0.011 | -0.011 | 0.00 | No | 100.00 | Yes |
| | | 4 | x | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | | 5 | x | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | | 6 | x | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | | 7 | x | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | | 8 | x | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes |
| | | 9 | x | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes |
| | | 10 | x | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes |
| | | 11 | x | -0.002 | -0.002 | 0.00 | No | 100.00 | Yes |
| | | 12 | x | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| | | 13 | x | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| | | 14 | x | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| | | 15 | x | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| | | 16 | x | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |

| | | | | | | | | |
|------|----|---|--------|--------|------|----|--------|-----|
| | 15 | x | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| | 16 | x | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |
| | 17 | x | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |
| | 18 | x | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |
| | 19 | x | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |
| | 22 | x | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |
| | 23 | x | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |
| | 24 | x | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |
| | 25 | x | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |
| | 26 | x | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |
| | 27 | x | -0.004 | -0.004 | 0.00 | No | 100.00 | Yes |
| | 32 | x | -0.011 | -0.011 | 0.00 | No | 100.00 | Yes |
| | 35 | x | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | 36 | x | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | 37 | x | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | 38 | x | -0.009 | -0.009 | 0.00 | No | 100.00 | Yes |
| | 39 | x | -0.011 | -0.011 | 0.00 | No | 100.00 | Yes |
| | 42 | x | -0.011 | -0.011 | 0.00 | No | 100.00 | Yes |
| | 45 | x | -0.018 | -0.018 | 0.00 | No | 100.00 | Yes |
| W150 | 1 | z | 0.011 | 0.011 | 0.00 | No | 100.00 | Yes |
| | 2 | z | 0.011 | 0.011 | 0.00 | No | 100.00 | Yes |
| | 3 | z | 0.011 | 0.011 | 0.00 | No | 100.00 | Yes |
| | 4 | z | 0.009 | 0.009 | 0.00 | No | 100.00 | Yes |
| | 5 | z | 0.009 | 0.009 | 0.00 | No | 100.00 | Yes |
| | 6 | z | 0.009 | 0.009 | 0.00 | No | 100.00 | Yes |
| | 7 | z | 0.009 | 0.009 | 0.00 | No | 100.00 | Yes |
| | 8 | z | 0.002 | 0.002 | 0.00 | No | 100.00 | Yes |
| | 9 | z | 0.002 | 0.002 | 0.00 | No | 100.00 | Yes |
| | 10 | z | 0.002 | 0.002 | 0.00 | No | 100.00 | Yes |
| | 11 | z | 0.002 | 0.002 | 0.00 | No | 100.00 | Yes |
| | 12 | z | 0.003 | 0.003 | 0.00 | No | 100.00 | Yes |
| | 13 | z | 0.003 | 0.003 | 0.00 | No | 100.00 | Yes |
| | 14 | z | 0.003 | 0.003 | 0.00 | No | 100.00 | Yes |
| | 15 | z | 0.003 | 0.003 | 0.00 | No | 100.00 | Yes |
| | 16 | z | 0.004 | 0.004 | 0.00 | No | 100.00 | Yes |
| | 17 | z | 0.004 | 0.004 | 0.00 | No | 100.00 | Yes |
| | 18 | z | 0.004 | 0.004 | 0.00 | No | 100.00 | Yes |
| | 19 | z | 0.004 | 0.004 | 0.00 | No | 100.00 | Yes |
| | 22 | z | 0.004 | 0.004 | 0.00 | No | 100.00 | Yes |
| | 23 | z | 0.004 | 0.004 | 0.00 | No | 100.00 | Yes |
| | 24 | z | 0.004 | 0.004 | 0.00 | No | 100.00 | Yes |
| | 25 | z | 0.004 | 0.004 | 0.00 | No | 100.00 | Yes |
| | 26 | z | 0.004 | 0.004 | 0.00 | No | 100.00 | Yes |
| | 27 | z | 0.004 | 0.004 | 0.00 | No | 100.00 | Yes |
| | 32 | z | 0.011 | 0.011 | 0.00 | No | 100.00 | Yes |
| | 35 | z | 0.009 | 0.009 | 0.00 | No | 100.00 | Yes |
| | 36 | z | 0.009 | 0.009 | 0.00 | No | 100.00 | Yes |
| | 37 | z | 0.009 | 0.009 | 0.00 | No | 100.00 | Yes |
| | 38 | z | 0.009 | 0.009 | 0.00 | No | 100.00 | Yes |
| | 39 | z | 0.011 | 0.011 | 0.00 | No | 100.00 | Yes |
| | 42 | z | 0.011 | 0.011 | 0.00 | No | 100.00 | Yes |
| | 45 | z | 0.018 | 0.018 | 0.00 | No | 100.00 | Yes |
| Di | 1 | y | -0.006 | -0.006 | 0.00 | No | 100.00 | Yes |
| | 2 | y | -0.006 | -0.006 | 0.00 | No | 100.00 | Yes |
| | 3 | y | -0.006 | -0.006 | 0.00 | No | 100.00 | Yes |
| | 4 | y | -0.005 | -0.005 | 0.00 | No | 100.00 | Yes |
| | 5 | y | -0.005 | -0.005 | 0.00 | No | 100.00 | Yes |
| | 6 | y | -0.005 | -0.005 | 0.00 | No | 100.00 | Yes |
| | 7 | y | -0.005 | -0.005 | 0.00 | No | 100.00 | Yes |
| | 8 | y | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |

| | | | | | | | |
|----|---|--------|--------|------|----|--------|-----|
| 9 | y | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| 10 | y | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| 11 | y | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| 12 | y | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| 13 | y | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| 14 | y | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| 15 | y | -0.003 | -0.003 | 0.00 | No | 100.00 | Yes |
| 16 | y | -0.007 | -0.007 | 0.00 | No | 100.00 | Yes |
| 17 | y | -0.007 | -0.007 | 0.00 | No | 100.00 | Yes |
| 18 | y | -0.007 | -0.007 | 0.00 | No | 100.00 | Yes |
| 19 | y | -0.007 | -0.007 | 0.00 | No | 100.00 | Yes |
| 22 | y | -0.007 | -0.007 | 0.00 | No | 100.00 | Yes |
| 23 | y | -0.007 | -0.007 | 0.00 | No | 100.00 | Yes |
| 24 | y | -0.007 | -0.007 | 0.00 | No | 100.00 | Yes |
| 25 | y | -0.007 | -0.007 | 0.00 | No | 100.00 | Yes |
| 26 | y | -0.018 | -0.018 | 0.00 | No | 100.00 | Yes |
| 27 | y | -0.018 | -0.018 | 0.00 | No | 100.00 | Yes |
| 32 | y | -0.006 | -0.006 | 0.00 | No | 100.00 | Yes |
| 35 | y | -0.005 | -0.005 | 0.00 | No | 100.00 | Yes |
| 36 | y | -0.005 | -0.005 | 0.00 | No | 100.00 | Yes |
| 37 | y | -0.005 | -0.005 | 0.00 | No | 100.00 | Yes |
| 38 | y | -0.005 | -0.005 | 0.00 | No | 100.00 | Yes |
| 39 | y | -0.006 | -0.006 | 0.00 | No | 100.00 | Yes |
| 42 | y | -0.006 | -0.006 | 0.00 | No | 100.00 | Yes |
| 45 | y | -0.008 | -0.008 | 0.00 | No | 100.00 | Yes |

Concentrated forces on members



| Condition | Member | Dir1 | Value1 [Kip] | Dist1 [ft] | % | |
|-----------|--------|------|-----------------|---------------|------|----|
| D | 32 | y | -0.058 | 2.50 | No | |
| | | y | -0.058 | 7.50 | No | |
| | 35 | y | -0.073 | 2.00 | No | |
| | | y | -0.06 | 4.00 | No | |
| | 36 | y | -0.06 | 4.00 | No | |
| | | y | -0.029 | 2.00 | No | |
| | | y | -0.06 | 4.00 | No | |
| | 39 | y | -0.055 | 2.50 | No | |
| | | y | -0.055 | 7.50 | No | |
| | 42 | y | -0.033 | 2.00 | No | |
| | | y | -0.033 | 4.50 | No | |
| | | y | -0.041 | 5.50 | No | |
| | Wo | 32 | z | -0.25 | 2.50 | No |
| | | | z | -0.25 | 7.50 | No |
| 35 | | z | -0.077 | 2.00 | No | |
| | | z | -0.065 | 4.00 | No | |
| 36 | | z | -0.065 | 4.00 | No | |
| | | z | -0.061 | 2.00 | No | |

| | | | | | |
|------|----|---|--------|------|----|
| | | z | -0.065 | 4.00 | No |
| | | z | -0.049 | 4.00 | No |
| | 39 | z | -0.271 | 2.50 | No |
| | | z | -0.271 | 7.50 | No |
| | 42 | z | -0.082 | 2.00 | No |
| | | z | -0.082 | 4.50 | No |
| | | z | -0.08 | 5.50 | No |
| | | z | -0.08 | 8.00 | No |
| W30 | 32 | 3 | -0.221 | 2.50 | No |
| | | 3 | -0.221 | 7.50 | No |
| | 35 | 3 | -0.072 | 2.00 | No |
| | | 3 | -0.076 | 4.00 | No |
| | 36 | 3 | -0.061 | 2.00 | No |
| | | 3 | -0.076 | 4.00 | No |
| | 39 | 3 | -0.232 | 2.50 | No |
| | | 3 | -0.232 | 7.50 | No |
| | 42 | 3 | -0.072 | 2.00 | No |
| | | 3 | -0.072 | 4.50 | No |
| | | 3 | -0.073 | 5.50 | No |
| | | 3 | -0.073 | 8.00 | No |
| W60 | 32 | 3 | -0.162 | 2.50 | No |
| | | 3 | -0.162 | 7.50 | No |
| | 35 | 3 | -0.061 | 2.00 | No |
| | | 3 | -0.097 | 4.00 | No |
| | 36 | 3 | -0.061 | 2.00 | No |
| | | 3 | -0.097 | 4.00 | No |
| | 39 | 3 | -0.162 | 2.50 | No |
| | | 3 | -0.162 | 7.50 | No |
| | 42 | 3 | -0.05 | 2.00 | No |
| | | 3 | -0.05 | 4.50 | No |
| | | 3 | -0.061 | 5.50 | No |
| | | 3 | -0.061 | 8.00 | No |
| W90 | 32 | x | -0.133 | 2.50 | No |
| | | x | -0.133 | 7.50 | No |
| | 35 | x | -0.055 | 2.00 | No |
| | | x | -0.108 | 4.00 | No |
| | 36 | x | -0.061 | 2.00 | No |
| | | x | -0.108 | 4.00 | No |
| | 39 | x | -0.115 | 2.50 | No |
| | | x | -0.115 | 7.50 | No |
| | 42 | x | -0.04 | 2.00 | No |
| | | x | -0.04 | 4.50 | No |
| | | x | -0.054 | 5.50 | No |
| | | x | -0.054 | 8.00 | No |
| W120 | 32 | 2 | -0.162 | 2.50 | No |
| | | 2 | -0.162 | 7.50 | No |
| | 35 | 2 | -0.061 | 2.00 | No |
| | | 2 | -0.097 | 4.00 | No |
| | 36 | 2 | -0.061 | 2.00 | No |
| | | 2 | -0.097 | 4.00 | No |
| | 39 | 2 | -0.162 | 2.50 | No |
| | | 2 | -0.162 | 7.50 | No |
| | 42 | 2 | -0.05 | 2.00 | No |
| | | 2 | -0.05 | 4.50 | No |
| | | 2 | -0.061 | 5.50 | No |
| | | 2 | -0.061 | 8.00 | No |
| W150 | 32 | 2 | -0.221 | 2.50 | No |
| | | 2 | -0.221 | 7.50 | No |
| | 35 | 2 | -0.072 | 2.00 | No |
| | | 2 | -0.076 | 4.00 | No |

| | | | | | |
|------|----|---|--------|------|----|
| | 36 | 2 | -0.061 | 2.00 | No |
| | | 2 | -0.076 | 4.00 | No |
| | 39 | 2 | -0.232 | 2.50 | No |
| | | 2 | -0.232 | 7.50 | No |
| | 42 | 2 | -0.072 | 2.00 | No |
| | | 2 | -0.072 | 4.50 | No |
| | | 2 | -0.073 | 5.50 | No |
| | | 2 | -0.073 | 8.00 | No |
| Di | 32 | y | -0.102 | 2.50 | No |
| | | y | -0.102 | 7.50 | No |
| | 35 | y | -0.037 | 2.00 | No |
| | | y | -0.049 | 4.00 | No |
| | | y | -0.049 | 4.00 | No |
| | 36 | y | -0.043 | 2.00 | No |
| | | y | -0.049 | 4.00 | No |
| | | y | -0.037 | 4.00 | No |
| | 39 | y | -0.105 | 2.50 | No |
| | | y | -0.105 | 7.50 | No |
| | 42 | y | -0.035 | 2.00 | No |
| | | y | -0.035 | 4.50 | No |
| | | y | -0.037 | 5.50 | No |
| | | y | -0.037 | 8.00 | No |
| W10 | 32 | z | -0.05 | 2.50 | No |
| | | z | -0.05 | 7.50 | No |
| | 35 | z | -0.018 | 2.00 | No |
| | | z | -0.016 | 4.00 | No |
| | | z | -0.016 | 4.00 | No |
| | 36 | z | -0.014 | 2.00 | No |
| | | z | -0.016 | 4.00 | No |
| | | z | -0.012 | 4.00 | No |
| | 39 | z | -0.054 | 2.50 | No |
| | | z | -0.054 | 7.50 | No |
| | 42 | z | -0.018 | 2.00 | No |
| | | z | -0.018 | 4.50 | No |
| | | z | -0.017 | 5.50 | No |
| | | z | -0.017 | 8.00 | No |
| W130 | 32 | 3 | -0.044 | 2.50 | No |
| | | 3 | -0.044 | 7.50 | No |
| | 35 | 3 | -0.017 | 2.00 | No |
| | | 3 | -0.018 | 4.00 | No |
| | 36 | 3 | -0.014 | 2.00 | No |
| | | 3 | -0.018 | 4.00 | No |
| | 39 | 3 | -0.047 | 2.50 | No |
| | | 3 | -0.047 | 7.50 | No |
| | 42 | 3 | -0.016 | 2.00 | No |
| | | 3 | -0.016 | 4.50 | No |
| | | 3 | -0.016 | 5.50 | No |
| | | 3 | -0.016 | 8.00 | No |
| W160 | 32 | 3 | -0.033 | 2.50 | No |
| | | 3 | -0.033 | 7.50 | No |
| | 35 | 3 | -0.015 | 2.00 | No |
| | | 3 | -0.022 | 4.00 | No |
| | 36 | 3 | -0.014 | 2.00 | No |
| | | 3 | -0.022 | 4.00 | No |
| | 39 | 3 | -0.034 | 2.50 | No |
| | | 3 | -0.034 | 7.50 | No |
| | 42 | 3 | -0.012 | 2.00 | No |
| | | 3 | -0.012 | 4.50 | No |
| | | 3 | -0.014 | 5.50 | No |
| | | 3 | -0.014 | 8.00 | No |

| | | | | | |
|-------|----|--------|--------|------|----|
| WI90 | 32 | x | -0.029 | 2.50 | No |
| | | x | -0.029 | 7.50 | No |
| | 35 | x | -0.014 | 2.00 | No |
| | | x | -0.024 | 4.00 | No |
| | 36 | x | -0.014 | 2.00 | No |
| | | x | -0.024 | 4.00 | No |
| | 39 | x | -0.026 | 2.50 | No |
| | | x | -0.026 | 7.50 | No |
| | 42 | x | -0.01 | 2.00 | No |
| | | x | -0.01 | 4.50 | No |
| x | | -0.012 | 5.50 | No | |
| x | | -0.012 | 8.00 | No | |
| WI120 | 32 | 2 | -0.033 | 2.50 | No |
| | | 2 | -0.033 | 7.50 | No |
| | 35 | 2 | -0.015 | 2.00 | No |
| | | 2 | -0.022 | 4.00 | No |
| | 36 | 2 | -0.014 | 2.00 | No |
| | | 2 | -0.022 | 4.00 | No |
| | 39 | 2 | -0.034 | 2.50 | No |
| | | 2 | -0.034 | 7.50 | No |
| | 42 | 2 | -0.012 | 2.00 | No |
| | | 2 | -0.012 | 4.50 | No |
| 2 | | -0.014 | 5.50 | No | |
| 2 | | -0.014 | 8.00 | No | |
| WI150 | 32 | 2 | -0.044 | 2.50 | No |
| | | 2 | -0.044 | 7.50 | No |
| | 35 | 2 | -0.017 | 2.00 | No |
| | | 2 | -0.018 | 4.00 | No |
| | 36 | 2 | -0.014 | 2.00 | No |
| | | 2 | -0.018 | 4.00 | No |
| | 39 | 2 | -0.047 | 2.50 | No |
| | | 2 | -0.047 | 7.50 | No |
| | 42 | 2 | -0.016 | 2.00 | No |
| | | 2 | -0.016 | 4.50 | No |
| 2 | | -0.016 | 5.50 | No | |
| 2 | | -0.016 | 8.00 | No | |
| WL0 | 32 | z | -0.016 | 2.50 | No |
| | | z | -0.016 | 7.50 | No |
| | 35 | z | -0.005 | 2.00 | No |
| | | z | -0.004 | 4.00 | No |
| | 36 | z | -0.004 | 4.00 | No |
| | | z | -0.004 | 2.00 | No |
| | | z | -0.004 | 4.00 | No |
| | | z | -0.003 | 4.00 | No |
| | 39 | z | -0.017 | 2.50 | No |
| | | z | -0.017 | 7.50 | No |
| 42 | z | -0.005 | 2.00 | No | |
| | z | -0.005 | 4.50 | No | |
| | z | -0.005 | 5.50 | No | |
| | z | -0.005 | 8.00 | No | |
| WL30 | 32 | 3 | -0.014 | 2.50 | No |
| | | 3 | -0.014 | 7.50 | No |
| | 35 | 3 | -0.004 | 2.00 | No |
| | | 3 | -0.005 | 4.00 | No |
| | 36 | 3 | -0.004 | 2.00 | No |
| | | 3 | -0.005 | 4.00 | No |
| | 39 | 3 | -0.015 | 2.50 | No |
| | | 3 | -0.015 | 7.50 | No |
| | 42 | 3 | -0.005 | 2.00 | No |
| | | 3 | -0.005 | 4.50 | No |

| | | | | | |
|-------|----|---|--------|--------|-----|
| | | 3 | -0.005 | 5.50 | No |
| | | 3 | -0.005 | 8.00 | No |
| WL60 | 32 | 3 | -0.01 | 2.50 | No |
| | | 3 | -0.01 | 7.50 | No |
| | 35 | 3 | -0.004 | 2.00 | No |
| | | 3 | -0.006 | 4.00 | No |
| | 36 | 3 | -0.004 | 2.00 | No |
| | | 3 | -0.006 | 4.00 | No |
| | 39 | 3 | -0.01 | 2.50 | No |
| | | 3 | -0.01 | 7.50 | No |
| | 42 | 3 | -0.003 | 2.00 | No |
| | | 3 | -0.003 | 4.50 | No |
| | | 3 | -0.004 | 5.50 | No |
| | | 3 | -0.004 | 8.00 | No |
| WL90 | 32 | x | -0.009 | 2.50 | No |
| | | x | -0.009 | 7.50 | No |
| | 35 | x | -0.003 | 2.00 | No |
| | | x | -0.007 | 4.00 | No |
| | 36 | x | -0.004 | 2.00 | No |
| | | x | -0.007 | 4.00 | No |
| | 39 | x | -0.007 | 2.50 | No |
| | | x | -0.007 | 7.50 | No |
| | 42 | x | -0.003 | 2.00 | No |
| | | x | -0.003 | 4.50 | No |
| | | x | -0.004 | 5.50 | No |
| | | x | -0.004 | 8.00 | No |
| WL120 | 32 | 2 | -0.01 | 2.50 | No |
| | | 2 | -0.01 | 7.50 | No |
| | 35 | 2 | -0.004 | 2.00 | No |
| | | 2 | -0.006 | 4.00 | No |
| | 36 | 2 | -0.004 | 2.00 | No |
| | | 2 | -0.006 | 4.00 | No |
| | 39 | 2 | -0.01 | 2.50 | No |
| | | 2 | -0.01 | 7.50 | No |
| | 42 | 2 | -0.003 | 2.00 | No |
| | | 2 | -0.003 | 4.50 | No |
| | | 2 | -0.004 | 5.50 | No |
| | | 2 | -0.004 | 8.00 | No |
| WL150 | 32 | 2 | -0.014 | 2.50 | No |
| | | 2 | -0.014 | 7.50 | No |
| | 35 | 2 | -0.004 | 2.00 | No |
| | | 2 | -0.005 | 4.00 | No |
| | 36 | 2 | -0.004 | 2.00 | No |
| | | 2 | -0.005 | 4.00 | No |
| | 39 | 2 | -0.015 | 2.50 | No |
| | | 2 | -0.015 | 7.50 | No |
| | 42 | 2 | -0.005 | 2.00 | No |
| | | 2 | -0.005 | 4.50 | No |
| | | 2 | -0.005 | 5.50 | No |
| | | 2 | -0.005 | 8.00 | No |
| LL1 | 2 | y | -0.25 | 50.00 | Yes |
| LL2 | 2 | y | -0.25 | 100.00 | Yes |
| LL3 | 2 | y | -0.25 | 0.00 | Yes |
| LLa1 | 1 | y | -0.50 | 50.00 | Yes |
| LLa2 | 39 | y | -0.50 | 50.00 | Yes |
| LLa3 | 42 | y | -0.50 | 50.00 | Yes |
| LLa4 | 32 | y | -0.50 | 50.00 | Yes |

Self weight multipliers for load conditions

| Condition | Description | Self weight multiplier | | | |
|-----------|-------------------------------------|------------------------|-------|-------|-------|
| | | Comb. | MultX | MultY | MultZ |
| D | Dead Load | No | 0.00 | -1.00 | 0.00 |
| Wo | Wind Load (NO ICE) | No | 0.00 | 0.00 | 0.00 |
| W30 | WL 30deg | No | 0.00 | 0.00 | 0.00 |
| W60 | WL 60deg | No | 0.00 | 0.00 | 0.00 |
| W90 | WL 90deg | No | 0.00 | 0.00 | 0.00 |
| W120 | WL 120deg | No | 0.00 | 0.00 | 0.00 |
| W150 | WL 150deg | No | 0.00 | 0.00 | 0.00 |
| Di | Ice Load | No | 0.00 | 0.00 | 0.00 |
| W10 | WL ICE 0deg | No | 0.00 | 0.00 | 0.00 |
| W130 | WL ICE 30deg | No | 0.00 | 0.00 | 0.00 |
| W160 | WL ICE 60deg | No | 0.00 | 0.00 | 0.00 |
| W190 | WL ICE 90deg | No | 0.00 | 0.00 | 0.00 |
| W1120 | WL ICE 120deg | No | 0.00 | 0.00 | 0.00 |
| W1150 | WL ICE 150deg | No | 0.00 | 0.00 | 0.00 |
| WL0 | WL 30 mph 0deg | No | 0.00 | 0.00 | 0.00 |
| WL30 | WL 30 mph 30deg | No | 0.00 | 0.00 | 0.00 |
| WL60 | WL 30 mph 60deg | No | 0.00 | 0.00 | 0.00 |
| WL90 | WL 30 mph 90deg | No | 0.00 | 0.00 | 0.00 |
| WL120 | WL 30 mph 120deg | No | 0.00 | 0.00 | 0.00 |
| WL150 | WL 30 mph 150deg | No | 0.00 | 0.00 | 0.00 |
| LL1 | 250 lb Live Load Center of Mount | No | 0.00 | 0.00 | 0.00 |
| LL2 | 250 lb Live Load Right End of Mount | No | 0.00 | 0.00 | 0.00 |
| LL3 | 250 lb Live Load Left End of Mount | No | 0.00 | 0.00 | 0.00 |
| LLa1 | 500 lb Live Load Antenna 1 | No | 0.00 | 0.00 | 0.00 |
| LLa2 | 500 lb Live Load Antenna 2 | No | 0.00 | 0.00 | 0.00 |
| LLa3 | 500 lb Live Load Antenna 3 | No | 0.00 | 0.00 | 0.00 |
| LLa4 | 500 lb Live Load Antenna 4 | No | 0.00 | 0.00 | 0.00 |

Earthquake (Dynamic analysis only)

| Condition | a/g | Ang. [Deg] | Damp. [%] |
|-----------|------|---------------|--------------|
| D | 0.00 | 0.00 | 0.00 |
| Wo | 0.00 | 0.00 | 0.00 |
| W30 | 0.00 | 0.00 | 0.00 |
| W60 | 0.00 | 0.00 | 0.00 |
| W90 | 0.00 | 0.00 | 0.00 |
| W120 | 0.00 | 0.00 | 0.00 |
| W150 | 0.00 | 0.00 | 0.00 |
| Di | 0.00 | 0.00 | 0.00 |
| W10 | 0.00 | 0.00 | 0.00 |
| W130 | 0.00 | 0.00 | 0.00 |
| W160 | 0.00 | 0.00 | 0.00 |
| W190 | 0.00 | 0.00 | 0.00 |
| W1120 | 0.00 | 0.00 | 0.00 |
| W1150 | 0.00 | 0.00 | 0.00 |
| WL0 | 0.00 | 0.00 | 0.00 |
| WL30 | 0.00 | 0.00 | 0.00 |
| WL60 | 0.00 | 0.00 | 0.00 |
| WL90 | 0.00 | 0.00 | 0.00 |
| WL120 | 0.00 | 0.00 | 0.00 |
| WL150 | 0.00 | 0.00 | 0.00 |
| LL1 | 0.00 | 0.00 | 0.00 |
| LL2 | 0.00 | 0.00 | 0.00 |
| LL3 | 0.00 | 0.00 | 0.00 |

| | | | |
|------|------|------|------|
| LLa1 | 0.00 | 0.00 | 0.00 |
| LLa2 | 0.00 | 0.00 | 0.00 |
| LLa3 | 0.00 | 0.00 | 0.00 |
| LLa4 | 0.00 | 0.00 | 0.00 |

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+W10
LC26=1.2D+Di+W130
LC27=1.2D+Di+W160
LC28=1.2D+Di+W190
LC29=1.2D+Di+W120
LC30=1.2D+Di+W1150
LC31=1.2D+Di-W10
LC32=1.2D+Di-W130
LC33=1.2D+Di-W160
LC34=1.2D+Di-W190
LC35=1.2D+Di-W120
LC36=1.2D+Di-W1150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+W10+1.6LLa1
LC41=1.2D+W130+1.6LLa1
LC42=1.2D+W160+1.6LLa1
LC43=1.2D+W190+1.6LLa1
LC44=1.2D+W120+1.6LLa1
LC45=1.2D+W150+1.6LLa1
LC46=1.2D-W10+1.6LLa1
LC47=1.2D-W130+1.6LLa1
LC48=1.2D-W160+1.6LLa1
LC49=1.2D-W190+1.6LLa1
LC50=1.2D-W120+1.6LLa1
LC51=1.2D-W150+1.6LLa1
LC52=1.2D+W10+1.6LLa2
LC53=1.2D+W130+1.6LLa2
LC54=1.2D+W160+1.6LLa2

LC55=1.2D+WL90+1.6LLa2
 LC56=1.2D+WL120+1.6LLa2
 LC57=1.2D+WL150+1.6LLa2
 LC58=1.2D-WL0+1.6LLa2
 LC59=1.2D-WL30+1.6LLa2
 LC60=1.2D-WL60+1.6LLa2
 LC61=1.2D-WL90+1.6LLa2
 LC62=1.2D-WL120+1.6LLa2
 LC63=1.2D-WL150+1.6LLa2
 LC64=1.2D+WL0+1.6LLa3
 LC65=1.2D+WL30+1.6LLa3
 LC66=1.2D+WL60+1.6LLa3
 LC67=1.2D+WL90+1.6LLa3
 LC68=1.2D+WL120+1.6LLa3
 LC69=1.2D+WL150+1.6LLa3
 LC70=1.2D-WL0+1.6LLa3
 LC71=1.2D-WL30+1.6LLa3
 LC72=1.2D-WL60+1.6LLa3
 LC73=1.2D-WL90+1.6LLa3
 LC74=1.2D-WL120+1.6LLa3
 LC75=1.2D-WL150+1.6LLa3
 LC76=1.2D+WL0+1.6LLa4
 LC77=1.2D+WL30+1.6LLa4
 LC78=1.2D+WL60+1.6LLa4
 LC79=1.2D+WL90+1.6LLa4
 LC80=1.2D+WL120+1.6LLa4
 LC81=1.2D+WL150+1.6LLa4
 LC82=1.2D-WL0+1.6LLa4
 LC83=1.2D-WL30+1.6LLa4
 LC84=1.2D-WL60+1.6LLa4
 LC85=1.2D-WL90+1.6LLa4
 LC86=1.2D-WL120+1.6LLa4
 LC87=1.2D-WL150+1.6LLa4

| Description | Section | Member | Ctrl Eq. | Ratio | Status | Reference |
|-------------|-------------------------|-----------|-----------------|-------------|-----------|-----------|
| | PIPE 2-1_2x0.203 | 1 | LC47 at 33.33% | 0.52 | OK | Eq. H1-1b |
| | | 2 | LC77 at 32.14% | 0.66 | OK | Eq. H1-1b |
| | | 3 | LC76 at 31.25% | 0.71 | OK | Eq. H1-1b |
| | | 32 | LC77 at 33.33% | 0.60 | OK | Eq. H1-1b |
| | | 39 | LC47 at 33.33% | 0.27 | OK | Eq. H1-1b |
| | | 42 | LC77 at 33.33% | 0.30 | OK | Eq. H1-1b |
| | PIPE 2x0.154 | 4 | LC81 at 93.75% | 0.54 | OK | Eq. H1-1b |
| | | 5 | LC83 at 93.75% | 0.57 | OK | Eq. H1-1b |
| | | 6 | LC41 at 93.75% | 0.46 | OK | Eq. H1-1b |
| | | 7 | LC51 at 93.75% | 0.45 | OK | Eq. H1-1b |
| | | 35 | LC80 at 22.92% | 0.26 | OK | Eq. H1-1b |
| | | 36 | LC49 at 22.92% | 0.21 | OK | Eq. H1-1b |
| | | 37 | LC7 at 0.00% | 0.24 | OK | Eq. H1-1b |
| | | 38 | LC82 at 100.00% | 0.13 | OK | Eq. H1-1b |
| | PIPE 4x0.237 | 45 | LC87 at 21.25% | 0.22 | OK | Eq. H1-1b |
| | PL 11-1/4x5/8 | 26 | LC30 at 100.00% | 0.36 | OK | Eq. H1-1b |
| | | 27 | LC32 at 100.00% | 0.30 | OK | Eq. H1-1b |
| | PL 3-1/2x5/8 | 16 | LC76 at 100.00% | 0.52 | OK | Eq. H1-1b |
| | | 17 | LC40 at 100.00% | 0.43 | OK | Eq. H1-1b |
| | | 18 | LC45 at 100.00% | 0.58 | OK | Eq. H1-1b |
| | | 19 | LC83 at 100.00% | 0.70 | OK | Eq. H1-1b |
| | | 22 | LC77 at 100.00% | 0.82 | OK | Eq. H1-1b |
| | | 23 | LC47 at 0.00% | 0.70 | OK | Eq. H1-1b |
| | | 24 | LC76 at 100.00% | 0.78 | OK | Eq. H1-1b |
| | | 25 | LC40 at 0.00% | 0.66 | OK | Eq. H1-1b |

RndBar 3_4

| | | | | |
|-----------|-----------------|-------------|-----------|-----------|
| 12 | LC41 at 100.00% | 0.35 | OK | Eq. H1-1a |
| 13 | LC41 at 0.00% | 0.27 | OK | Eq. H1-1b |
| 14 | LC83 at 0.00% | 0.43 | OK | Eq. H1-1a |
| 15 | LC83 at 100.00% | 0.34 | OK | Eq. H1-1b |

RndBar 5_8

| | | | | |
|-----------|----------------|-------------|-----------|-----------|
| 8 | LC87 at 87.50% | 0.81 | OK | Eq. H1-1a |
| 9 | LC87 at 87.50% | 0.94 | OK | Eq. H1-1a |
| 10 | LC41 at 87.50% | 0.79 | OK | Eq. H1-1a |
| 11 | LC40 at 87.50% | 0.70 | OK | Eq. H1-1a |

Geometry data

GLOSSARY

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

Nodes

| Node | X [ft] | Y [ft] | Z [ft] | Rigid Floor |
|------|-----------|-----------|-----------|-------------|
| 1 | 0.00 | 0.00 | 2.00 | 0 |
| 2 | -0.6362 | 0.00 | 2.4783 | 0 |
| 3 | 0.00 | -3.3333 | 2.00 | 0 |
| 4 | -0.6362 | -3.3333 | 2.4783 | 0 |
| 5 | 0.6362 | -3.3333 | 2.4783 | 0 |
| 6 | 0.6362 | 0.00 | 2.4783 | 0 |
| 7 | 7.00 | -6.6667 | 4.83 | 0 |
| 8 | 7.00 | 3.3333 | 4.83 | 0 |
| 9 | -7.00 | 0.00 | 4.63 | 0 |
| 10 | 7.00 | 0.00 | 4.63 | 0 |
| 11 | -7.00 | -3.3333 | 4.63 | 0 |
| 12 | 7.00 | -3.3333 | 4.63 | 0 |
| 13 | -2.4126 | 0.00 | 4.2374 | 0 |
| 14 | -2.4126 | -3.3333 | 4.2374 | 0 |
| 15 | 2.4126 | -3.3333 | 4.2374 | 0 |
| 16 | 2.4126 | 0.00 | 4.2374 | 0 |
| 17 | -2.2835 | 0.00 | 4.1096 | 0 |
| 18 | -2.2835 | -3.3333 | 4.1096 | 0 |
| 19 | -0.7653 | 0.00 | 2.6062 | 0 |
| 20 | -0.7653 | -3.3333 | 2.6062 | 0 |
| 21 | 0.7653 | 0.00 | 2.6062 | 0 |
| 22 | 0.7653 | -3.3333 | 2.6062 | 0 |
| 23 | 2.2835 | 0.00 | 4.1096 | 0 |

| | | | | |
|----|---------|----------|---------|---|
| 24 | 2.2835 | -3.3333 | 4.1096 | 0 |
| 25 | -2.4792 | 0.00 | 4.63 | 0 |
| 26 | 2.4792 | 0.00 | 4.63 | 0 |
| 27 | 2.4792 | -3.3333 | 4.63 | 0 |
| 28 | -2.4792 | -3.3333 | 4.63 | 0 |
| 29 | 7.00 | 3.33E-06 | 4.83 | 0 |
| 30 | 7.00 | -3.3333 | 4.83 | 0 |
| 31 | 0.00 | 0.00 | 2.4783 | 0 |
| 32 | 0.00 | -3.3333 | 2.4783 | 0 |
| 33 | -1.2713 | 0.00 | 3.1073 | 0 |
| 34 | -1.2713 | -3.3333 | 3.1073 | 0 |
| 35 | -1.4213 | 0.00 | 2.9573 | 0 |
| 36 | -1.4213 | -3.3333 | 2.9573 | 0 |
| 37 | 1.2713 | 0.00 | 3.1073 | 0 |
| 38 | 1.2713 | -3.3333 | 3.1073 | 0 |
| 39 | 1.4213 | 0.00 | 2.9573 | 0 |
| 40 | 1.4213 | -3.3333 | 2.9573 | 0 |
| 41 | -7.00 | -6.6667 | 4.83 | 0 |
| 42 | -7.00 | 3.3333 | 4.83 | 0 |
| 43 | -7.00 | 3.33E-06 | 4.83 | 0 |
| 44 | -7.00 | -3.3333 | 4.83 | 0 |
| 45 | -1.4213 | -4.6667 | 2.9573 | 0 |
| 46 | 1.4213 | -4.6667 | 2.9573 | 0 |
| 47 | -1.4213 | 1.3333 | 2.9573 | 0 |
| 48 | 1.4213 | 1.3333 | 2.9573 | 0 |
| 49 | -4.00 | 0.00 | 4.63 | 0 |
| 50 | -3.3572 | 0.00 | -0.1711 | 0 |
| 51 | 4.00 | 0.00 | 4.63 | 0 |
| 52 | 3.3572 | 0.00 | -0.1711 | 0 |
| 53 | 2.30 | -6.6667 | 4.83 | 0 |
| 54 | 2.30 | 3.3333 | 4.83 | 0 |
| 55 | 2.30 | 0.00 | 4.63 | 0 |
| 56 | 2.30 | -3.3333 | 4.63 | 0 |
| 57 | 2.30 | 3.33E-06 | 4.83 | 0 |
| 58 | 2.30 | -3.3333 | 4.83 | 0 |
| 59 | -2.28 | -6.6667 | 4.83 | 0 |
| 60 | -2.28 | 3.3333 | 4.83 | 0 |
| 61 | -2.28 | 0.00 | 4.63 | 0 |
| 62 | -2.28 | -3.3333 | 4.63 | 0 |
| 63 | -2.28 | 3.33E-06 | 4.83 | 0 |
| 64 | -2.28 | -3.3333 | 4.83 | 0 |
| 65 | 0.00 | 1.3334 | 2.00 | 0 |
| 66 | 0.00 | -4.6667 | 2.00 | 0 |
| 67 | 0.00 | 0.5834 | 2.00 | 0 |
| 68 | 0.00 | -3.9167 | 2.00 | 0 |

Restraints

| Node | TX | TY | TZ | RX | RY | RZ |
|------|----|----|----|----|----|----|
| 50 | 1 | 1 | 1 | 0 | 0 | 0 |
| 52 | 1 | 1 | 1 | 0 | 0 | 0 |
| 67 | 1 | 1 | 1 | 0 | 1 | 0 |
| 68 | 1 | 1 | 1 | 0 | 1 | 0 |

Members

| Member | NJ | NK | Description | Section | Material | d0 [in] | dL [in] | Ig factor |
|--------|----|----|-------------|------------------|----------|------------|------------|-----------|
| 1 | 8 | 7 | | PIPE 2-1_2x0.203 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 2 | 9 | 10 | | PIPE 2-1_2x0.203 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 3 | 11 | 12 | | PIPE 2-1_2x0.203 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 4 | 13 | 2 | | PIPE 2x0.154 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 5 | 14 | 4 | | PIPE 2x0.154 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 6 | 15 | 5 | | PIPE 2x0.154 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 7 | 16 | 6 | | PIPE 2x0.154 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 8 | 17 | 18 | | RndBar 5_8 | A36 | 0.00 | 0.00 | 0.00 |
| 9 | 19 | 20 | | RndBar 5_8 | A36 | 0.00 | 0.00 | 0.00 |
| 10 | 21 | 22 | | RndBar 5_8 | A36 | 0.00 | 0.00 | 0.00 |
| 11 | 23 | 24 | | RndBar 5_8 | A36 | 0.00 | 0.00 | 0.00 |
| 12 | 21 | 24 | | RndBar 3_4 | A36 | 0.00 | 0.00 | 0.00 |
| 13 | 22 | 23 | | RndBar 3_4 | A36 | 0.00 | 0.00 | 0.00 |
| 14 | 18 | 19 | | RndBar 3_4 | A36 | 0.00 | 0.00 | 0.00 |
| 15 | 17 | 20 | | RndBar 3_4 | A36 | 0.00 | 0.00 | 0.00 |
| 16 | 13 | 25 | | PL 3-1/2x5/8 | A36 | 0.00 | 0.00 | 0.00 |
| 17 | 16 | 26 | | PL 3-1/2x5/8 | A36 | 0.00 | 0.00 | 0.00 |
| 18 | 15 | 27 | | PL 3-1/2x5/8 | A36 | 0.00 | 0.00 | 0.00 |
| 19 | 14 | 28 | | PL 3-1/2x5/8 | A36 | 0.00 | 0.00 | 0.00 |
| 22 | 2 | 31 | | PL 3-1/2x5/8 | A36 | 0.00 | 0.00 | 0.00 |
| 23 | 31 | 6 | | PL 3-1/2x5/8 | A36 | 0.00 | 0.00 | 0.00 |
| 24 | 4 | 32 | | PL 3-1/2x5/8 | A36 | 0.00 | 0.00 | 0.00 |
| 25 | 32 | 5 | | PL 3-1/2x5/8 | A36 | 0.00 | 0.00 | 0.00 |
| 26 | 31 | 1 | | PL 11-1/4x5/8 | A36 | 11.25 | 9.25 | 0.00 |
| 27 | 32 | 3 | | PL 11-1/4x5/8 | A36 | 11.25 | 9.25 | 0.00 |
| 32 | 42 | 41 | | PIPE 2-1_2x0.203 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 35 | 47 | 45 | | PIPE 2x0.154 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 36 | 48 | 46 | | PIPE 2x0.154 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 37 | 49 | 50 | | PIPE 2x0.154 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 38 | 52 | 51 | | PIPE 2x0.154 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 39 | 54 | 53 | | PIPE 2-1_2x0.203 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 42 | 60 | 59 | | PIPE 2-1_2x0.203 | A53 GrB | 0.00 | 0.00 | 0.00 |
| 45 | 66 | 65 | | PIPE 4x0.237 | A53 GrB | 0.00 | 0.00 | 0.00 |

Orientation of local axes

| Member | Rotation [Deg] | Axes23 | NX | NY | NZ |
|--------|-------------------|--------|------|------|------|
| 1 | 315.00 | 0 | 0.00 | 0.00 | 0.00 |
| 8 | 0.00 | 2 | 0.00 | 0.00 | 1.00 |
| 9 | 0.00 | 2 | 0.00 | 0.00 | 1.00 |
| 10 | 0.00 | 2 | 0.00 | 0.00 | 1.00 |
| 11 | 0.00 | 2 | 0.00 | 0.00 | 1.00 |
| 16 | 90.00 | 0 | 0.00 | 0.00 | 0.00 |
| 17 | 90.00 | 0 | 0.00 | 0.00 | 0.00 |
| 18 | 90.00 | 0 | 0.00 | 0.00 | 0.00 |
| 19 | 90.00 | 0 | 0.00 | 0.00 | 0.00 |
| 22 | 90.00 | 0 | 0.00 | 0.00 | 0.00 |
| 23 | 90.00 | 0 | 0.00 | 0.00 | 0.00 |
| 24 | 90.00 | 0 | 0.00 | 0.00 | 0.00 |
| 25 | 90.00 | 0 | 0.00 | 0.00 | 0.00 |
| 26 | 90.00 | 0 | 0.00 | 0.00 | 0.00 |
| 27 | 90.00 | 0 | 0.00 | 0.00 | 0.00 |
| 32 | 315.00 | 0 | 0.00 | 0.00 | 0.00 |
| 35 | 315.00 | 0 | 0.00 | 0.00 | 0.00 |

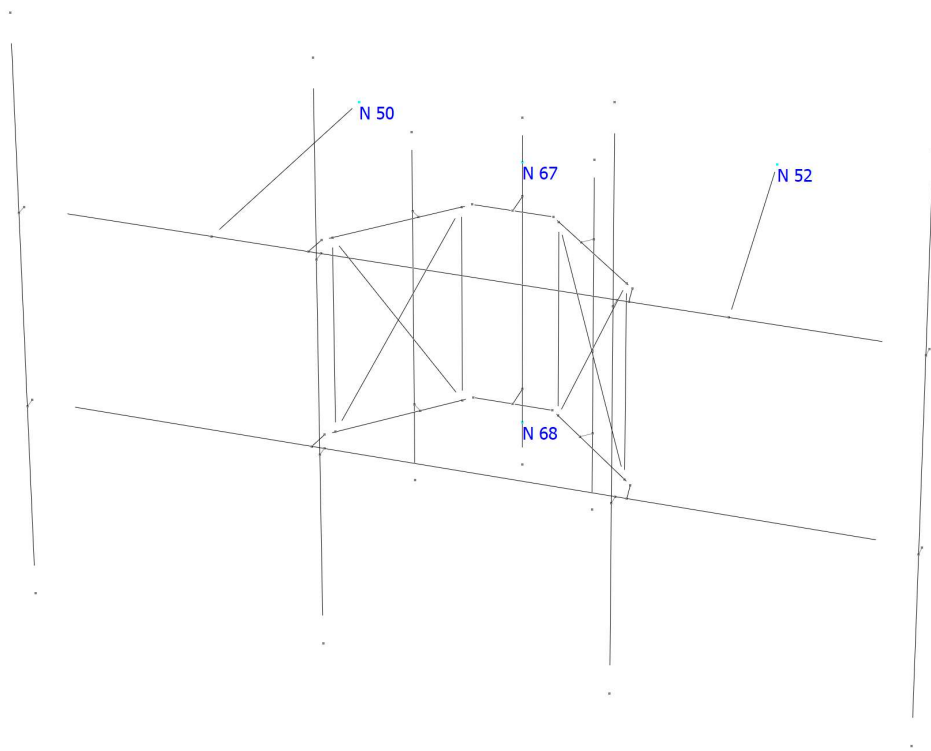
| | | | | | |
|----|--------|---|------|------|------|
| 36 | 315.00 | 0 | 0.00 | 0.00 | 0.00 |
| 39 | 315.00 | 0 | 0.00 | 0.00 | 0.00 |
| 42 | 315.00 | 0 | 0.00 | 0.00 | 0.00 |

Rigid end offsets

| Member | DJX [in] | DJY [in] | DJZ [in] | DKX [in] | DKY [in] | DKZ [in] |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| 12 | 0.00 | -3.50 | 0.00 | 0.00 | 3.50 | 0.00 |
| 13 | 0.00 | 3.50 | 0.00 | 0.00 | -3.50 | 0.00 |
| 14 | 0.00 | 3.50 | 0.00 | 0.00 | -3.50 | 0.00 |
| 15 | 0.00 | -3.50 | 0.00 | 0.00 | 3.50 | 0.00 |
| 26 | 0.00 | -0.625 | 0.00 | 0.00 | -0.625 | 0.00 |
| 27 | 0.00 | -0.625 | 0.00 | 0.00 | -0.625 | 0.00 |

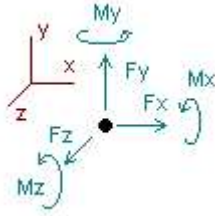
Hinges

| Member | Node-J | | | | Node-K | | | | TOR | AXL | Axial rigidity |
|--------|--------|-----|----|----|--------|-----|----|----|-----|-----|----------------|
| | M33 | M22 | V3 | V2 | M33 | M22 | V3 | V2 | | | |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Tension only |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Tension only |
| 16 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Full |
| 17 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Full |
| 18 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Full |
| 19 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Full |



Analysis result

Reactions



Direction of positive forces and moments

| Node | Forces [Kip] | | | Moments [Kip*ft] | | |
|--------------------------------|--------------|----------|----------|------------------|----------|---------|
| | FX | FY | FZ | MX | MY | MZ |
| Condition LC1=1.2D+Wo | | | | | | |
| 50 | -0.16675 | -0.00264 | 0.98271 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.01732 | 0.01407 | 0.18889 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.39795 | 0.77604 | -0.52828 | 0.00000 | -0.08032 | 0.00000 |
| 68 | -0.24852 | 0.83298 | 1.77873 | 0.00000 | 0.13318 | 0.00000 |
| SUM | 0.00000 | 1.62045 | 2.42206 | 0.00000 | 0.05286 | 0.00000 |
| Condition LC2=1.2D+W30 | | | | | | |
| 50 | -0.13932 | -0.00516 | 0.93754 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01190 | 0.01878 | -0.13606 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.92456 | 0.79557 | -0.53851 | 0.00000 | 0.11496 | 0.00000 |
| 68 | 0.27388 | 0.81126 | 1.45832 | 0.00000 | 0.45150 | 0.00000 |
| SUM | 1.04723 | 1.62045 | 1.72129 | 0.00000 | 0.56646 | 0.00000 |
| Condition LC3=1.2D+W60 | | | | | | |
| 50 | -0.09154 | -0.00435 | 0.78662 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01940 | 0.02151 | -0.36422 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.24471 | 0.81916 | -0.66920 | 0.00000 | 0.23390 | 0.00000 |
| 68 | 0.58498 | 0.78412 | 1.08543 | 0.00000 | 0.61031 | 0.00000 |
| SUM | 1.71876 | 1.62045 | 0.83863 | 0.00000 | 0.84421 | 0.00000 |
| Condition LC4=1.2D+W90 | | | | | | |
| 50 | -0.02218 | 0.00185 | 0.39467 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.02376 | 0.01863 | -0.44532 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.25420 | 0.84095 | -0.66036 | 0.00000 | 0.31247 | 0.00000 |
| 68 | 0.68788 | 0.75901 | 0.71101 | 0.00000 | 0.57989 | 0.00000 |
| SUM | 1.89613 | 1.62045 | 0.00000 | 0.00000 | 0.89236 | 0.00000 |
| Condition LC5=1.2D+W120 | | | | | | |
| 50 | 0.05389 | 0.01002 | -0.05618 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.02361 | 0.01401 | -0.47889 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.10540 | 0.86224 | -0.64174 | 0.00000 | 0.32394 | 0.00000 |
| 68 | 0.58308 | 0.73418 | 0.33818 | 0.00000 | 0.40218 | 0.00000 |
| SUM | 1.71876 | 1.62045 | -0.83863 | 0.00000 | 0.72612 | 0.00000 |

| | | | | | | |
|---------------------------------|----------|----------|----------|---------|----------|---------|
| Condition LC6=1.2D+W150 | | | | | | |
| 50 | 0.12363 | 0.01785 | -0.63626 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.08423 | 0.01276 | -0.73583 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.73691 | 0.88935 | -0.59548 | 0.00000 | 0.23623 | 0.00000 |
| 68 | 0.27091 | 0.70048 | -0.19478 | 0.00000 | 0.19437 | 0.00000 |
| ----- | | | | | | |
| SUM | 1.04723 | 1.62045 | -2.16235 | 0.00000 | 0.43060 | 0.00000 |
| Condition LC7=1.2D-W0 | | | | | | |
| 50 | 0.17577 | 0.03024 | -1.03660 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.02161 | 0.00078 | -0.28137 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.09933 | 0.90347 | -0.75390 | 0.00000 | 0.11250 | 0.00000 |
| 68 | -0.25349 | 0.68596 | -0.35018 | 0.00000 | -0.28078 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.00000 | 1.62045 | -2.42206 | 0.00000 | -0.16827 | 0.00000 |
| Condition LC8=1.2D-W30 | | | | | | |
| 50 | 0.14821 | 0.03307 | -0.99614 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00733 | -0.00377 | 0.04173 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.42667 | 0.88347 | -0.73797 | 0.00000 | -0.08140 | 0.00000 |
| 68 | -0.77609 | 0.70768 | -0.02890 | 0.00000 | -0.60030 | 0.00000 |
| ----- | | | | | | |
| SUM | -1.04723 | 1.62045 | -1.72129 | 0.00000 | -0.68170 | 0.00000 |
| Condition LC9=1.2D-W60 | | | | | | |
| 50 | 0.09990 | 0.03221 | -0.84514 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.01508 | -0.00640 | 0.27008 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.74653 | 0.85987 | -0.60751 | 0.00000 | -0.20030 | 0.00000 |
| 68 | -1.08721 | 0.73477 | 0.34393 | 0.00000 | -0.75903 | 0.00000 |
| ----- | | | | | | |
| SUM | -1.71876 | 1.62045 | -0.83863 | 0.00000 | -0.95933 | 0.00000 |
| Condition LC10=1.2D-W90 | | | | | | |
| 50 | 0.03015 | 0.02573 | -0.45150 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.01978 | -0.00358 | 0.35242 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.75584 | 0.83842 | -0.61879 | 0.00000 | -0.27933 | 0.00000 |
| 68 | -1.19023 | 0.75988 | 0.71787 | 0.00000 | -0.72852 | 0.00000 |
| ----- | | | | | | |
| SUM | -1.89613 | 1.62045 | 0.00000 | 0.00000 | -1.00785 | 0.00000 |
| Condition LC11=1.2D-W120 | | | | | | |
| 50 | -0.04599 | 0.01730 | 0.00223 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.01989 | 0.00093 | 0.38733 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.60723 | 0.81748 | -0.64103 | 0.00000 | -0.29163 | 0.00000 |
| 68 | -1.08542 | 0.78473 | 1.09011 | 0.00000 | -0.55023 | 0.00000 |
| ----- | | | | | | |
| SUM | -1.71876 | 1.62045 | 0.83863 | 0.00000 | -0.84186 | 0.00000 |
| Condition LC12=1.2D-W150 | | | | | | |
| 50 | -0.11547 | 0.00931 | 0.58538 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.08067 | 0.00205 | 0.64561 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.23913 | 0.79066 | -0.69126 | 0.00000 | -0.20498 | 0.00000 |
| 68 | -0.77330 | 0.81843 | 1.62262 | 0.00000 | -0.34189 | 0.00000 |
| ----- | | | | | | |
| SUM | -1.04723 | 1.62045 | 2.16235 | 0.00000 | -0.54687 | 0.00000 |

| | | | | | | |
|---------------------------------|----------|----------|----------|---------|----------|---------|
| Condition LC13=0.9D+Wo | | | | | | |
| 50 | -0.16776 | -0.00568 | 0.98963 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.01787 | 0.01223 | 0.20047 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.33540 | 0.56550 | -0.36796 | 0.00000 | -0.08460 | 0.00000 |
| 68 | -0.18551 | 0.64329 | 1.59993 | 0.00000 | 0.15160 | 0.00000 |
| SUM | 0.00000 | 1.21533 | 2.42206 | 0.00000 | 0.06700 | 0.00000 |
| Condition LC14=0.9D+W30 | | | | | | |
| 50 | -0.14033 | -0.00821 | 0.94448 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01135 | 0.01688 | -0.12446 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.86213 | 0.58512 | -0.37833 | 0.00000 | 0.11060 | 0.00000 |
| 68 | 0.33678 | 0.62154 | 1.27959 | 0.00000 | 0.46985 | 0.00000 |
| SUM | 1.04723 | 1.21533 | 1.72129 | 0.00000 | 0.58045 | 0.00000 |
| Condition LC15=0.9D+W60 | | | | | | |
| 50 | -0.09256 | -0.00746 | 0.79356 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01885 | 0.01958 | -0.35261 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.18231 | 0.60880 | -0.50911 | 0.00000 | 0.22953 | 0.00000 |
| 68 | 0.64786 | 0.59441 | 0.90678 | 0.00000 | 0.62865 | 0.00000 |
| SUM | 1.71876 | 1.21533 | 0.83863 | 0.00000 | 0.85818 | 0.00000 |
| Condition LC16=0.9D+W90 | | | | | | |
| 50 | -0.02321 | -0.00141 | 0.40167 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.02322 | 0.01668 | -0.43371 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.19194 | 0.63076 | -0.50040 | 0.00000 | 0.30816 | 0.00000 |
| 68 | 0.75063 | 0.56930 | 0.53245 | 0.00000 | 0.59826 | 0.00000 |
| SUM | 1.89613 | 1.21533 | 0.00000 | 0.00000 | 0.90642 | 0.00000 |
| Condition LC17=0.9D+W120 | | | | | | |
| 50 | 0.05285 | 0.00659 | -0.04913 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.02307 | 0.01206 | -0.46728 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.04325 | 0.65221 | -0.48192 | 0.00000 | 0.31971 | 0.00000 |
| 68 | 0.64572 | 0.54448 | 0.15971 | 0.00000 | 0.42063 | 0.00000 |
| SUM | 1.71876 | 1.21533 | -0.83863 | 0.00000 | 0.74034 | 0.00000 |
| Condition LC18=0.9D+W150 | | | | | | |
| 50 | 0.12257 | 0.01420 | -0.62914 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.08368 | 0.01077 | -0.72418 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.67488 | 0.67959 | -0.43590 | 0.00000 | 0.23207 | 0.00000 |
| 68 | 0.33346 | 0.51077 | -0.37313 | 0.00000 | 0.21286 | 0.00000 |
| SUM | 1.04723 | 1.21533 | -2.16235 | 0.00000 | 0.44493 | 0.00000 |
| Condition LC19=0.9D-Wo | | | | | | |
| 50 | 0.17470 | 0.02643 | -1.02944 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.02106 | -0.00112 | -0.26977 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.03733 | 0.69373 | -0.59431 | 0.00000 | 0.10850 | 0.00000 |
| 68 | -0.19097 | 0.49630 | -0.52853 | 0.00000 | -0.26212 | 0.00000 |
| SUM | 0.00000 | 1.21533 | -2.42206 | 0.00000 | -0.15362 | 0.00000 |

| | | | | | | |
|------------------------------------|----------|----------|----------|---------|----------|---------|
| Condition LC20=0.9D-W30 | | | | | | |
| 50 | 0.14713 | 0.02927 | -0.98900 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00788 | -0.00562 | 0.05331 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.48878 | 0.67369 | -0.57826 | 0.00000 | -0.08534 | 0.00000 |
| 68 | -0.71346 | 0.51799 | -0.20733 | 0.00000 | -0.58156 | 0.00000 |
| SUM | -1.04723 | 1.21533 | -1.72129 | 0.00000 | -0.66690 | 0.00000 |
| Condition LC21=0.9D-W60 | | | | | | |
| 50 | 0.09883 | 0.02846 | -0.83801 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.01564 | -0.00820 | 0.28165 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.80868 | 0.64994 | -0.44770 | 0.00000 | -0.20421 | 0.00000 |
| 68 | -1.02455 | 0.54513 | 0.16542 | 0.00000 | -0.74029 | 0.00000 |
| SUM | -1.71876 | 1.21533 | -0.83863 | 0.00000 | -0.94450 | 0.00000 |
| Condition LC22=0.9D-W90 | | | | | | |
| 50 | 0.02910 | 0.02213 | -0.44443 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.02034 | -0.00537 | 0.36398 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.81812 | 0.62833 | -0.45884 | 0.00000 | -0.28330 | 0.00000 |
| 68 | -1.12744 | 0.57024 | 0.53928 | 0.00000 | -0.70980 | 0.00000 |
| SUM | -1.89613 | 1.21533 | 0.00000 | 0.00000 | -0.99310 | 0.00000 |
| Condition LC23=0.9D-W120 | | | | | | |
| 50 | -0.04704 | 0.01388 | 0.00925 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.02045 | -0.00086 | 0.39890 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.66963 | 0.60723 | -0.48094 | 0.00000 | -0.29568 | 0.00000 |
| 68 | -1.02253 | 0.59508 | 0.91142 | 0.00000 | -0.53160 | 0.00000 |
| SUM | -1.71876 | 1.21533 | 0.83863 | 0.00000 | -0.82727 | 0.00000 |
| Condition LC24=0.9D-W150 | | | | | | |
| 50 | -0.11649 | 0.00611 | 0.59233 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.08123 | 0.00030 | 0.65713 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.30164 | 0.58015 | -0.53093 | 0.00000 | -0.20909 | 0.00000 |
| 68 | -0.71031 | 0.62877 | 1.44382 | 0.00000 | -0.32330 | 0.00000 |
| SUM | -1.04723 | 1.21533 | 2.16235 | 0.00000 | -0.53240 | 0.00000 |
| Condition LC25=1.2D+Di+W10 | | | | | | |
| 50 | -0.02372 | 0.02624 | 0.13933 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00243 | 0.01688 | -0.06298 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.55612 | 1.43157 | -1.14200 | 0.00000 | 0.01604 | 0.00000 |
| 68 | -0.52997 | 1.30602 | 1.43565 | 0.00000 | -0.13013 | 0.00000 |
| SUM | 0.00000 | 2.78071 | 0.37000 | 0.00000 | -0.11410 | 0.00000 |
| Condition LC26=1.2D+Di+W130 | | | | | | |
| 50 | -0.01828 | 0.02569 | 0.13131 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00835 | 0.01788 | -0.12913 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.66733 | 1.43589 | -1.14715 | 0.00000 | 0.05699 | 0.00000 |
| 68 | -0.41938 | 1.30125 | 1.36631 | 0.00000 | -0.06327 | 0.00000 |
| SUM | 0.22132 | 2.78071 | 0.22132 | 0.00000 | -0.00628 | 0.00000 |

| | | | | | | |
|-------------------------------------|----------|---------|----------|---------|----------|---------|
| Condition LC27=1.2D+Di+W160 | | | | | | |
| 50 | -0.01194 | 0.02652 | 0.08972 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00731 | 0.01732 | -0.12043 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.63817 | 1.43625 | -1.14034 | 0.00000 | 0.05517 | 0.00000 |
| 68 | -0.43578 | 1.30061 | 1.35419 | 0.00000 | -0.08078 | 0.00000 |
| SUM | 0.18314 | 2.78071 | 0.18314 | 0.00000 | -0.02561 | 0.00000 |
| Condition LC28=1.2D+Di+W190 | | | | | | |
| 50 | 0.00191 | 0.02786 | 0.01203 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00833 | 0.01678 | -0.13872 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.64644 | 1.44115 | -1.14503 | 0.00000 | 0.07208 | 0.00000 |
| 68 | -0.41002 | 1.29492 | 1.27172 | 0.00000 | -0.08479 | 0.00000 |
| SUM | 0.23000 | 2.78071 | 0.00000 | 0.00000 | -0.01271 | 0.00000 |
| Condition LC29=1.2D+Di+W1120 | | | | | | |
| 50 | 0.01772 | 0.02975 | -0.08380 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00788 | 0.01575 | -0.14171 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.60926 | 1.44592 | -1.14727 | 0.00000 | 0.07178 | 0.00000 |
| 68 | -0.43596 | 1.28929 | 1.18964 | 0.00000 | -0.12588 | 0.00000 |
| SUM | 0.18314 | 2.78071 | -0.18314 | 0.00000 | -0.05410 | 0.00000 |
| Condition LC30=1.2D+Di+W1150 | | | | | | |
| 50 | 0.02109 | 0.02982 | -0.09702 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00946 | 0.01587 | -0.15951 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.62945 | 1.44639 | -1.14205 | 0.00000 | 0.07965 | 0.00000 |
| 68 | -0.41976 | 1.28862 | 1.17726 | 0.00000 | -0.11718 | 0.00000 |
| SUM | 0.22132 | 2.78071 | -0.22132 | 0.00000 | -0.03753 | 0.00000 |
| Condition LC31=1.2D+Di-W10 | | | | | | |
| 50 | 0.03946 | 0.03287 | -0.22722 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00431 | 0.01371 | -0.11323 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.49547 | 1.45014 | -1.13886 | 0.00000 | 0.05150 | 0.00000 |
| 68 | -0.53062 | 1.28399 | 1.10931 | 0.00000 | -0.21779 | 0.00000 |
| SUM | 0.00000 | 2.78071 | -0.37000 | 0.00000 | -0.16629 | 0.00000 |
| Condition LC32=1.2D+Di-W130 | | | | | | |
| 50 | 0.03401 | 0.03343 | -0.21938 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00161 | 0.01271 | -0.04713 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.38428 | 1.44581 | -1.13350 | 0.00000 | 0.01059 | 0.00000 |
| 68 | -0.64122 | 1.28876 | 1.17869 | 0.00000 | -0.28470 | 0.00000 |
| SUM | -0.22132 | 2.78071 | -0.22132 | 0.00000 | -0.27410 | 0.00000 |
| Condition LC33=1.2D+Di-W160 | | | | | | |
| 50 | 0.02766 | 0.03259 | -0.17775 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00057 | 0.01326 | -0.05582 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.41344 | 1.44545 | -1.14036 | 0.00000 | 0.01241 | 0.00000 |
| 68 | -0.62482 | 1.28940 | 1.19079 | 0.00000 | -0.26718 | 0.00000 |
| SUM | -0.18314 | 2.78071 | -0.18314 | 0.00000 | -0.25477 | 0.00000 |

| | | | | | | |
|--|----------|----------|----------|---------|----------|---------|
| Condition LC34=1.2D+Di-WI90 | | | | | | |
| 50 | 0.01380 | 0.03125 | -0.10003 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00160 | 0.01381 | -0.03750 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.40519 | 1.44056 | -1.13573 | 0.00000 | -0.00451 | 0.00000 |
| 68 | -0.65058 | 1.29509 | 1.27325 | 0.00000 | -0.26317 | 0.00000 |
| ----- | | | | | | |
| SUM | -0.23000 | 2.78071 | 0.00000 | 0.00000 | -0.26768 | 0.00000 |
| Condition LC35=1.2D+Di-WI120 | | | | | | |
| 50 | -0.00202 | 0.02935 | -0.00411 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00116 | 0.01483 | -0.03448 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.44236 | 1.43580 | -1.13358 | 0.00000 | -0.00423 | 0.00000 |
| 68 | -0.62463 | 1.30072 | 1.35531 | 0.00000 | -0.22205 | 0.00000 |
| ----- | | | | | | |
| SUM | -0.18314 | 2.78071 | 0.18314 | 0.00000 | -0.22629 | 0.00000 |
| Condition LC36=1.2D+Di-WI150 | | | | | | |
| 50 | -0.00539 | 0.02928 | 0.00917 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00274 | 0.01472 | -0.01664 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.42217 | 1.43533 | -1.13889 | 0.00000 | -0.01212 | 0.00000 |
| 68 | -0.64084 | 1.30138 | 1.36768 | 0.00000 | -0.23075 | 0.00000 |
| ----- | | | | | | |
| SUM | -0.22132 | 2.78071 | 0.22132 | 0.00000 | -0.24287 | 0.00000 |
| Condition LC37=1.2D+1.6LL1 | | | | | | |
| 50 | 0.00518 | 0.01307 | -0.04125 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00320 | 0.00684 | -0.05948 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.24913 | 1.05380 | -0.85020 | 0.00000 | 0.01655 | 0.00000 |
| 68 | -0.25110 | 0.94673 | 0.95093 | 0.00000 | -0.07395 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.00000 | 2.02045 | 0.00000 | 0.00000 | -0.05740 | 0.00000 |
| Condition LC38=1.2D+1.6LL2 | | | | | | |
| 50 | 0.00309 | 0.00680 | -0.06517 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00452 | 0.02046 | -0.02734 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.35544 | 1.05152 | -0.86079 | 0.00000 | -0.01383 | 0.00000 |
| 68 | 0.35687 | 0.94167 | 0.95329 | 0.00000 | 0.13949 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.00000 | 2.02045 | 0.00000 | 0.00000 | 0.12566 | 0.00000 |
| Condition LC39=1.2D+1.6LL3 | | | | | | |
| 50 | 0.00648 | 0.02659 | -0.00900 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00109 | 0.00050 | -0.08319 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.85373 | 1.05232 | -0.86107 | 0.00000 | 0.04708 | 0.00000 |
| 68 | -0.85911 | 0.94103 | 0.95326 | 0.00000 | -0.28781 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.00000 | 2.02045 | 0.00000 | 0.00000 | -0.24072 | 0.00000 |
| Condition LC40=1.2D+WLO+1.6LLa1 | | | | | | |
| 50 | -0.00715 | -0.00051 | -0.05480 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01093 | 0.02674 | -0.02248 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.95308 | 1.26310 | -1.08930 | 0.00000 | -0.05913 | 0.00000 |
| 68 | 0.97116 | 1.13111 | 1.27658 | 0.00000 | 0.32761 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.00000 | 2.42045 | 0.11000 | 0.00000 | 0.26848 | 0.00000 |

| | | | | | | |
|--|----------|----------|----------|---------|----------|---------|
| Condition LC41=1.2D+WL30+1.6LLa1 | | | | | | |
| 50 | -0.00532 | -0.00068 | -0.05763 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01289 | 0.02713 | -0.04394 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.91893 | 1.26416 | -1.08823 | 0.00000 | -0.04667 | 0.00000 |
| 68 | 1.00503 | 1.12984 | 1.25769 | 0.00000 | 0.34843 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.06788 | 2.42045 | 0.06788 | 0.00000 | 0.30176 | 0.00000 |
| Condition LC42=1.2D+WL60+1.6LLa1 | | | | | | |
| 50 | -0.00298 | -0.00040 | -0.07337 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01243 | 0.02690 | -0.04004 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.93039 | 1.26440 | -1.08659 | 0.00000 | -0.04733 | 0.00000 |
| 68 | 0.99813 | 1.12955 | 1.25232 | 0.00000 | 0.34131 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.05233 | 2.42045 | 0.05233 | 0.00000 | 0.29398 | 0.00000 |
| Condition LC43=1.2D+WL90+1.6LLa1 | | | | | | |
| 50 | 0.00116 | -0.00005 | -0.09633 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01280 | 0.02676 | -0.04603 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.92786 | 1.26577 | -1.08642 | 0.00000 | -0.04215 | 0.00000 |
| 68 | 1.00650 | 1.12796 | 1.22879 | 0.00000 | 0.34075 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.06700 | 2.42045 | 0.00000 | 0.00000 | 0.29860 | 0.00000 |
| Condition LC44=1.2D+WL120+1.6LLa1 | | | | | | |
| 50 | 0.00601 | 0.00049 | -0.12565 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01270 | 0.02645 | -0.04711 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.93899 | 1.26708 | -1.08501 | 0.00000 | -0.04177 | 0.00000 |
| 68 | 0.99801 | 1.12642 | 1.20544 | 0.00000 | 0.32799 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.05233 | 2.42045 | -0.05233 | 0.00000 | 0.28622 | 0.00000 |
| Condition LC45=1.2D+WL150+1.6LLa1 | | | | | | |
| 50 | 0.00717 | 0.00049 | -0.12998 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01329 | 0.02652 | -0.05383 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.93080 | 1.26734 | -1.08405 | 0.00000 | -0.03872 | 0.00000 |
| 68 | 1.00480 | 1.12610 | 1.19997 | 0.00000 | 0.33179 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.06788 | 2.42045 | -0.06788 | 0.00000 | 0.29307 | 0.00000 |
| Condition LC46=1.2D-WL0+1.6LLa1 | | | | | | |
| 50 | 0.01304 | 0.00139 | -0.17129 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01173 | 0.02580 | -0.03978 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.97209 | 1.26832 | -1.08041 | 0.00000 | -0.04675 | 0.00000 |
| 68 | 0.97078 | 1.12494 | 1.18148 | 0.00000 | 0.30097 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.00000 | 2.42045 | -0.11000 | 0.00000 | 0.25422 | 0.00000 |
| Condition LC47=1.2D-WL30+1.6LLa1 | | | | | | |
| 50 | 0.01121 | 0.00156 | -0.16848 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00977 | 0.02542 | -0.01832 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -1.00624 | 1.26726 | -1.08145 | 0.00000 | -0.05921 | 0.00000 |
| 68 | 0.93691 | 1.12621 | 1.20037 | 0.00000 | 0.28014 | 0.00000 |
| ----- | | | | | | |
| SUM | -0.06788 | 2.42045 | -0.06788 | 0.00000 | 0.22093 | 0.00000 |

Condition **LC48=1.2D-WL60+1.6LLa1**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | 0.00887 | 0.00127 | -0.15274 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.01022 | 0.02565 | -0.02222 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.99477 | 1.26702 | -1.08310 | 0.00000 | -0.05855 | 0.00000 |
| 68 | 0.94380 | 1.12651 | 1.20574 | 0.00000 | 0.28727 | 0.00000 |

SUM -0.05233 2.42045 -0.05233 0.00000 0.22871 0.00000

Condition **LC49=1.2D-WL90+1.6LLa1**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | 0.00472 | 0.00092 | -0.12978 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00986 | 0.02578 | -0.01622 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.99730 | 1.26566 | -1.08327 | 0.00000 | -0.06373 | 0.00000 |
| 68 | 0.93544 | 1.12809 | 1.22927 | 0.00000 | 0.28782 | 0.00000 |

SUM -0.06700 2.42045 0.00000 0.00000 0.22409 0.00000

Condition **LC50=1.2D-WL120+1.6LLa1**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | -0.00012 | 0.00038 | -0.10045 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00996 | 0.02609 | -0.01515 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.98618 | 1.26434 | -1.08470 | 0.00000 | -0.06411 | 0.00000 |
| 68 | 0.94393 | 1.12963 | 1.25262 | 0.00000 | 0.30059 | 0.00000 |

SUM -0.05233 2.42045 0.05233 0.00000 0.23648 0.00000

Condition **LC51=1.2D-WL150+1.6LLa1**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | -0.00128 | 0.00038 | -0.09611 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00937 | 0.02603 | -0.00842 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.99437 | 1.26409 | -1.08567 | 0.00000 | -0.06717 | 0.00000 |
| 68 | 0.93714 | 1.12996 | 1.25809 | 0.00000 | 0.29679 | 0.00000 |

SUM -0.06788 2.42045 0.06788 0.00000 0.22962 0.00000

Condition **LC52=1.2D+WL0+1.6LLa2**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | -0.00484 | 0.01028 | 0.00569 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00469 | 0.00772 | -0.06539 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.14719 | 1.26470 | -1.10066 | 0.00000 | -0.00168 | 0.00000 |
| 68 | 0.15672 | 1.13775 | 1.27036 | 0.00000 | -0.06350 | 0.00000 |

SUM 0.00000 2.42045 0.11000 0.00000 -0.06518 0.00000

Condition **LC53=1.2D+WL30+1.6LLa2**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | -0.00302 | 0.01012 | 0.00290 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00663 | 0.00805 | -0.08683 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.11310 | 1.26579 | -1.09966 | 0.00000 | 0.01078 | 0.00000 |
| 68 | 0.19064 | 1.13650 | 1.25147 | 0.00000 | -0.04269 | 0.00000 |

SUM 0.06788 2.42045 0.06788 0.00000 -0.03191 0.00000

Condition **LC54=1.2D+WL60+1.6LLa2**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | -0.00067 | 0.01041 | -0.01283 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00618 | 0.00783 | -0.08293 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.12456 | 1.26602 | -1.09801 | 0.00000 | 0.01013 | 0.00000 |
| 68 | 0.18374 | 1.13619 | 1.24610 | 0.00000 | -0.04981 | 0.00000 |

SUM 0.05233 2.42045 0.05233 0.00000 -0.03968 0.00000

| | | | | | | |
|--|----------|---------|----------|---------|----------|---------|
| Condition LC55=1.2D+WL90+1.6LLa2 | | | | | | |
| 50 | 0.00347 | 0.01077 | -0.03576 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00654 | 0.00768 | -0.08893 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.12206 | 1.26739 | -1.09788 | 0.00000 | 0.01530 | 0.00000 |
| 68 | 0.19213 | 1.13461 | 1.22257 | 0.00000 | -0.05035 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.06700 | 2.42045 | 0.00000 | 0.00000 | -0.03505 | 0.00000 |
| Condition LC56=1.2D+WL120+1.6LLa2 | | | | | | |
| 50 | 0.00832 | 0.01132 | -0.06506 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00644 | 0.00736 | -0.09001 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.13319 | 1.26870 | -1.09648 | 0.00000 | 0.01568 | 0.00000 |
| 68 | 0.18364 | 1.13307 | 1.19922 | 0.00000 | -0.06310 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.05233 | 2.42045 | -0.05233 | 0.00000 | -0.04742 | 0.00000 |
| Condition LC57=1.2D+WL150+1.6LLa2 | | | | | | |
| 50 | 0.00948 | 0.01132 | -0.06937 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00703 | 0.00741 | -0.09672 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.12502 | 1.26897 | -1.09554 | 0.00000 | 0.01874 | 0.00000 |
| 68 | 0.19045 | 1.13274 | 1.19375 | 0.00000 | -0.05930 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.06788 | 2.42045 | -0.06788 | 0.00000 | -0.04056 | 0.00000 |
| Condition LC58=1.2D-WL0+1.6LLa2 | | | | | | |
| 50 | 0.01536 | 0.01223 | -0.11067 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00547 | 0.00673 | -0.08271 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.16628 | 1.26992 | -1.09188 | 0.00000 | 0.01070 | 0.00000 |
| 68 | 0.15639 | 1.13156 | 1.17526 | 0.00000 | -0.09009 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.00000 | 2.42045 | -0.11000 | 0.00000 | -0.07939 | 0.00000 |
| Condition LC59=1.2D-WL30+1.6LLa2 | | | | | | |
| 50 | 0.01354 | 0.01240 | -0.10789 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00353 | 0.00640 | -0.06128 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.20037 | 1.26883 | -1.09287 | 0.00000 | -0.00175 | 0.00000 |
| 68 | 0.12247 | 1.13281 | 1.19416 | 0.00000 | -0.11090 | 0.00000 |
| ----- | | | | | | |
| SUM | -0.06788 | 2.42045 | -0.06788 | 0.00000 | -0.11265 | 0.00000 |
| Condition LC60=1.2D-WL60+1.6LLa2 | | | | | | |
| 50 | 0.01119 | 0.01211 | -0.09216 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00398 | 0.00662 | -0.06518 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.18891 | 1.26860 | -1.09452 | 0.00000 | -0.00109 | 0.00000 |
| 68 | 0.12937 | 1.13312 | 1.19953 | 0.00000 | -0.10379 | 0.00000 |
| ----- | | | | | | |
| SUM | -0.05233 | 2.42045 | -0.05233 | 0.00000 | -0.10488 | 0.00000 |
| Condition LC61=1.2D-WL90+1.6LLa2 | | | | | | |
| 50 | 0.00705 | 0.01175 | -0.06922 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00362 | 0.00677 | -0.05918 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.19141 | 1.26723 | -1.09466 | 0.00000 | -0.00627 | 0.00000 |
| 68 | 0.12098 | 1.13470 | 1.22306 | 0.00000 | -0.10324 | 0.00000 |
| ----- | | | | | | |
| SUM | -0.06700 | 2.42045 | 0.00000 | 0.00000 | -0.10951 | 0.00000 |

| | | | | | | |
|--|----------|---------|----------|---------|----------|---------|
| Condition LC62=1.2D-WL120+1.6LLa2 | | | | | | |
| 50 | 0.00220 | 0.01120 | -0.03992 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00372 | 0.00709 | -0.05809 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.18028 | 1.26592 | -1.09606 | 0.00000 | -0.00665 | 0.00000 |
| 68 | 0.12947 | 1.13624 | 1.24640 | 0.00000 | -0.09049 | 0.00000 |
| ----- | | | | | | |
| SUM | -0.05233 | 2.42045 | 0.05233 | 0.00000 | -0.09715 | 0.00000 |
| Condition LC63=1.2D-WL150+1.6LLa2 | | | | | | |
| 50 | 0.00104 | 0.01119 | -0.03560 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00313 | 0.00704 | -0.05138 | 0.00000 | 0.00000 | 0.00000 |
| 67 | -0.18845 | 1.26565 | -1.09701 | 0.00000 | -0.00971 | 0.00000 |
| 68 | 0.12266 | 1.13657 | 1.25188 | 0.00000 | -0.09429 | 0.00000 |
| ----- | | | | | | |
| SUM | -0.06788 | 2.42045 | 0.06788 | 0.00000 | -0.10400 | 0.00000 |
| Condition LC64=1.2D+WL0+1.6LLa3 | | | | | | |
| 50 | -0.00307 | 0.01231 | 0.00241 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00289 | 0.00553 | -0.06191 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.66105 | 1.26531 | -1.10082 | 0.00000 | 0.02217 | 0.00000 |
| 68 | -0.65509 | 1.13729 | 1.27031 | 0.00000 | -0.05751 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.00000 | 2.42045 | 0.11000 | 0.00000 | -0.03534 | 0.00000 |
| Condition LC65=1.2D+WL30+1.6LLa3 | | | | | | |
| 50 | -0.00125 | 0.01215 | -0.00038 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00483 | 0.00584 | -0.08334 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.69510 | 1.26641 | -1.09978 | 0.00000 | 0.03463 | 0.00000 |
| 68 | -0.62114 | 1.13604 | 1.25139 | 0.00000 | -0.03670 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.06788 | 2.42045 | 0.06788 | 0.00000 | -0.00208 | 0.00000 |
| Condition LC66=1.2D+WL60+1.6LLa3 | | | | | | |
| 50 | 0.00110 | 0.01245 | -0.01611 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00438 | 0.00562 | -0.07944 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.68364 | 1.26663 | -1.09814 | 0.00000 | 0.03397 | 0.00000 |
| 68 | -0.62804 | 1.13574 | 1.24602 | 0.00000 | -0.04382 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.05233 | 2.42045 | 0.05233 | 0.00000 | -0.00985 | 0.00000 |
| Condition LC67=1.2D+WL90+1.6LLa3 | | | | | | |
| 50 | 0.00525 | 0.01283 | -0.03904 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00474 | 0.00547 | -0.08543 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.68612 | 1.26799 | -1.09799 | 0.00000 | 0.03915 | 0.00000 |
| 68 | -0.61963 | 1.13415 | 1.22247 | 0.00000 | -0.04437 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.06700 | 2.42045 | 0.00000 | 0.00000 | -0.00522 | 0.00000 |
| Condition LC68=1.2D+WL120+1.6LLa3 | | | | | | |
| 50 | 0.01010 | 0.01341 | -0.06834 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00464 | 0.00515 | -0.08652 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.67497 | 1.26929 | -1.09659 | 0.00000 | 0.03953 | 0.00000 |
| 68 | -0.62811 | 1.13259 | 1.19912 | 0.00000 | -0.05712 | 0.00000 |
| ----- | | | | | | |
| SUM | 0.05233 | 2.42045 | -0.05233 | 0.00000 | -0.01759 | 0.00000 |

Condition **LC69=1.2D+WL150+1.6LLa3**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | 0.01126 | 0.01342 | -0.07265 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00522 | 0.00520 | -0.09323 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.68313 | 1.26956 | -1.09564 | 0.00000 | 0.04258 | 0.00000 |
| 68 | -0.62129 | 1.13227 | 1.19364 | 0.00000 | -0.05331 | 0.00000 |

| | | | | | | |
|-----|---------|---------|----------|---------|----------|---------|
| SUM | 0.06788 | 2.42045 | -0.06788 | 0.00000 | -0.01073 | 0.00000 |
|-----|---------|---------|----------|---------|----------|---------|

Condition **LC70=1.2D-WL0+1.6LLa3**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | 0.01715 | 0.01436 | -0.11395 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00367 | 0.00453 | -0.07922 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.64187 | 1.27048 | -1.09200 | 0.00000 | 0.03455 | 0.00000 |
| 68 | -0.65535 | 1.13107 | 1.17517 | 0.00000 | -0.08411 | 0.00000 |

| | | | | | | |
|-----|---------|---------|----------|---------|----------|---------|
| SUM | 0.00000 | 2.42045 | -0.11000 | 0.00000 | -0.04956 | 0.00000 |
|-----|---------|---------|----------|---------|----------|---------|

Condition **LC71=1.2D-WL30+1.6LLa3**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | 0.01533 | 0.01453 | -0.11117 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00173 | 0.00422 | -0.05780 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.60782 | 1.26938 | -1.09301 | 0.00000 | 0.02210 | 0.00000 |
| 68 | -0.68931 | 1.13232 | 1.19410 | 0.00000 | -0.10493 | 0.00000 |

| | | | | | | |
|-----|----------|---------|----------|---------|----------|---------|
| SUM | -0.06788 | 2.42045 | -0.06788 | 0.00000 | -0.08283 | 0.00000 |
|-----|----------|---------|----------|---------|----------|---------|

Condition **LC72=1.2D-WL60+1.6LLa3**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | 0.01298 | 0.01423 | -0.09544 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00218 | 0.00444 | -0.06169 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.61928 | 1.26916 | -1.09466 | 0.00000 | 0.02275 | 0.00000 |
| 68 | -0.68240 | 1.13263 | 1.19946 | 0.00000 | -0.09781 | 0.00000 |

| | | | | | | |
|-----|----------|---------|----------|---------|----------|---------|
| SUM | -0.05233 | 2.42045 | -0.05233 | 0.00000 | -0.07506 | 0.00000 |
|-----|----------|---------|----------|---------|----------|---------|

Condition **LC73=1.2D-WL90+1.6LLa3**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | 0.00883 | 0.01384 | -0.07251 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00182 | 0.00459 | -0.05569 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.61681 | 1.26780 | -1.09481 | 0.00000 | 0.01757 | 0.00000 |
| 68 | -0.69081 | 1.13421 | 1.22301 | 0.00000 | -0.09726 | 0.00000 |

| | | | | | | |
|-----|----------|---------|---------|---------|----------|---------|
| SUM | -0.06700 | 2.42045 | 0.00000 | 0.00000 | -0.07969 | 0.00000 |
|-----|----------|---------|---------|---------|----------|---------|

Condition **LC74=1.2D-WL120+1.6LLa3**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | 0.00398 | 0.01327 | -0.04320 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00192 | 0.00490 | -0.05461 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.62795 | 1.26651 | -1.09622 | 0.00000 | 0.01719 | 0.00000 |
| 68 | -0.68233 | 1.13577 | 1.24636 | 0.00000 | -0.08451 | 0.00000 |

| | | | | | | |
|-----|----------|---------|---------|---------|----------|---------|
| SUM | -0.05233 | 2.42045 | 0.05233 | 0.00000 | -0.06732 | 0.00000 |
|-----|----------|---------|---------|---------|----------|---------|

Condition **LC75=1.2D-WL150+1.6LLa3**

| | | | | | | |
|----|----------|---------|----------|---------|----------|---------|
| 50 | 0.00282 | 0.01326 | -0.03889 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00133 | 0.00486 | -0.04789 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 0.61979 | 1.26623 | -1.09718 | 0.00000 | 0.01414 | 0.00000 |
| 68 | -0.68915 | 1.13609 | 1.25184 | 0.00000 | -0.08831 | 0.00000 |

| | | | | | | |
|-----|----------|---------|---------|---------|----------|---------|
| SUM | -0.06788 | 2.42045 | 0.06788 | 0.00000 | -0.07417 | 0.00000 |
|-----|----------|---------|---------|---------|----------|---------|

Condition **LC76=1.2D+WL0+1.6LLa4**

| | | | | | | |
|----|----------|----------|----------|---------|----------|---------|
| 50 | 0.00314 | 0.03112 | 0.04550 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00052 | -0.00544 | -0.12217 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.47054 | 1.26482 | -1.08999 | 0.00000 | 0.08019 | 0.00000 |
| 68 | -1.47317 | 1.12994 | 1.27666 | 0.00000 | -0.44921 | 0.00000 |

SUM 0.00000 2.42045 0.11000 0.00000 -0.36902 0.00000

Condition **LC77=1.2D+WL30+1.6LLa4**

| | | | | | | |
|----|----------|----------|----------|---------|----------|---------|
| 50 | 0.00496 | 0.03096 | 0.04272 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00246 | -0.00513 | -0.14360 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.50443 | 1.26592 | -1.08894 | 0.00000 | 0.09262 | 0.00000 |
| 68 | -1.43905 | 1.12869 | 1.25771 | 0.00000 | -0.42830 | 0.00000 |

SUM 0.06788 2.42045 0.06788 0.00000 -0.33568 0.00000

Condition **LC78=1.2D+WL60+1.6LLa4**

| | | | | | | |
|----|----------|----------|----------|---------|----------|---------|
| 50 | 0.00731 | 0.03131 | 0.02697 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00200 | -0.00534 | -0.13971 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.49298 | 1.26611 | -1.08726 | 0.00000 | 0.09196 | 0.00000 |
| 68 | -1.44596 | 1.12836 | 1.25233 | 0.00000 | -0.43545 | 0.00000 |

SUM 0.05233 2.42045 0.05233 0.00000 -0.34350 0.00000

Condition **LC79=1.2D+WL90+1.6LLa4**

| | | | | | | |
|----|----------|----------|----------|---------|----------|---------|
| 50 | 0.01147 | 0.03176 | 0.00401 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00237 | -0.00550 | -0.14571 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.49537 | 1.26744 | -1.08706 | 0.00000 | 0.09711 | 0.00000 |
| 68 | -1.43748 | 1.12675 | 1.22876 | 0.00000 | -0.43600 | 0.00000 |

SUM 0.06700 2.42045 0.00000 0.00000 -0.33889 0.00000

Condition **LC80=1.2D+WL120+1.6LLa4**

| | | | | | | |
|----|----------|----------|----------|---------|----------|---------|
| 50 | 0.01634 | 0.03242 | -0.02532 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00227 | -0.00581 | -0.14680 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.48419 | 1.26869 | -1.08559 | 0.00000 | 0.09747 | 0.00000 |
| 68 | -1.44593 | 1.12515 | 1.20539 | 0.00000 | -0.44881 | 0.00000 |

SUM 0.05233 2.42045 -0.05233 0.00000 -0.35133 0.00000

Condition **LC81=1.2D+WL150+1.6LLa4**

| | | | | | | |
|----|----------|----------|----------|---------|----------|---------|
| 50 | 0.01749 | 0.03244 | -0.02964 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00285 | -0.00577 | -0.15351 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.49230 | 1.26896 | -1.08463 | 0.00000 | 0.10052 | 0.00000 |
| 68 | -1.43906 | 1.12482 | 1.19989 | 0.00000 | -0.44498 | 0.00000 |

SUM 0.06788 2.42045 -0.06788 0.00000 -0.34447 0.00000

Condition **LC82=1.2D-WL0+1.6LLa4**

| | | | | | | |
|----|----------|----------|----------|---------|----------|---------|
| 50 | 0.02341 | 0.03350 | -0.07100 | 0.00000 | 0.00000 | 0.00000 |
| 52 | -0.00130 | -0.00644 | -0.13951 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.45109 | 1.26981 | -1.08090 | 0.00000 | 0.09248 | 0.00000 |
| 68 | -1.47320 | 1.12357 | 1.18141 | 0.00000 | -0.47593 | 0.00000 |

SUM 0.00000 2.42045 -0.11000 0.00000 -0.38345 0.00000

Condition **LC83=1.2D-WL30+1.6LLa4**

| | | | | | | |
|-----|----------|----------|----------|---------|----------|---------|
| 50 | 0.02159 | 0.03366 | -0.06823 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00064 | -0.00674 | -0.11808 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.41720 | 1.26870 | -1.08193 | 0.00000 | 0.08005 | 0.00000 |
| 68 | -1.50732 | 1.12482 | 1.20036 | 0.00000 | -0.49684 | 0.00000 |
| SUM | -0.06788 | 2.42045 | -0.06788 | 0.00000 | -0.41679 | 0.00000 |

Condition **LC84=1.2D-WL60+1.6LLa4**

| | | | | | | |
|-----|----------|----------|----------|---------|----------|---------|
| 50 | 0.01923 | 0.03331 | -0.05248 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00018 | -0.00653 | -0.12197 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.42866 | 1.26851 | -1.08361 | 0.00000 | 0.08071 | 0.00000 |
| 68 | -1.50040 | 1.12515 | 1.20573 | 0.00000 | -0.48969 | 0.00000 |
| SUM | -0.05233 | 2.42045 | -0.05233 | 0.00000 | -0.40898 | 0.00000 |

Condition **LC85=1.2D-WL90+1.6LLa4**

| | | | | | | |
|-----|----------|----------|----------|---------|----------|---------|
| 50 | 0.01508 | 0.03287 | -0.02952 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00055 | -0.00637 | -0.11597 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.42626 | 1.26719 | -1.08382 | 0.00000 | 0.07555 | 0.00000 |
| 68 | -1.50889 | 1.12677 | 1.22931 | 0.00000 | -0.48914 | 0.00000 |
| SUM | -0.06700 | 2.42045 | 0.00000 | 0.00000 | -0.41358 | 0.00000 |

Condition **LC86=1.2D-WL120+1.6LLa4**

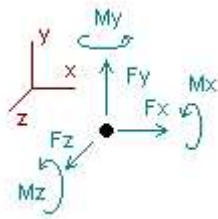
| | | | | | | |
|-----|----------|----------|----------|---------|----------|---------|
| 50 | 0.01021 | 0.03221 | -0.00018 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00045 | -0.00606 | -0.11488 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.43745 | 1.26594 | -1.08530 | 0.00000 | 0.07519 | 0.00000 |
| 68 | -1.50043 | 1.12836 | 1.25268 | 0.00000 | -0.47633 | 0.00000 |
| SUM | -0.05233 | 2.42045 | 0.05233 | 0.00000 | -0.40114 | 0.00000 |

Condition **LC87=1.2D-WL150+1.6LLa4**

| | | | | | | |
|-----|----------|----------|----------|---------|----------|---------|
| 50 | 0.00905 | 0.03219 | 0.00414 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00103 | -0.00610 | -0.10816 | 0.00000 | 0.00000 | 0.00000 |
| 67 | 1.42934 | 1.26567 | -1.08627 | 0.00000 | 0.07215 | 0.00000 |
| 68 | -1.50730 | 1.12869 | 1.25817 | 0.00000 | -0.48015 | 0.00000 |
| SUM | -0.06788 | 2.42045 | 0.06788 | 0.00000 | -0.40801 | 0.00000 |

Envelope for nodal reactions

Note.- **Ic** is the controlling load condition



Direction of positive forces and moments

Envelope of nodal reactions for :

LC1=1.2D+W0
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-W0
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+W0
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-W0
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+W10
LC26=1.2D+Di+W130
LC27=1.2D+Di+W160
LC28=1.2D+Di+W190
LC29=1.2D+Di+W120
LC30=1.2D+Di+W150
LC31=1.2D+Di-W10
LC32=1.2D+Di-W130
LC33=1.2D+Di-W160
LC34=1.2D+Di-W190
LC35=1.2D+Di-W120
LC36=1.2D+Di-W150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+W10+1.6LLa1
LC41=1.2D+W130+1.6LLa1
LC42=1.2D+W160+1.6LLa1
LC43=1.2D+W190+1.6LLa1
LC44=1.2D+W120+1.6LLa1
LC45=1.2D+W150+1.6LLa1
LC46=1.2D-W10+1.6LLa1
LC47=1.2D-W130+1.6LLa1
LC48=1.2D-W160+1.6LLa1
LC49=1.2D-W190+1.6LLa1
LC50=1.2D-W120+1.6LLa1
LC51=1.2D-W150+1.6LLa1
LC52=1.2D+W10+1.6LLa2
LC53=1.2D+W130+1.6LLa2
LC54=1.2D+W160+1.6LLa2
LC55=1.2D+W190+1.6LLa2
LC56=1.2D+W120+1.6LLa2
LC57=1.2D+W150+1.6LLa2
LC58=1.2D-W10+1.6LLa2
LC59=1.2D-W130+1.6LLa2
LC60=1.2D-W160+1.6LLa2
LC61=1.2D-W190+1.6LLa2
LC62=1.2D-W120+1.6LLa2
LC63=1.2D-W150+1.6LLa2

LC64=1.2D+WL0+1.6LLa3
 LC65=1.2D+WL30+1.6LLa3
 LC66=1.2D+WL60+1.6LLa3
 LC67=1.2D+WL90+1.6LLa3
 LC68=1.2D+WL120+1.6LLa3
 LC69=1.2D+WL150+1.6LLa3
 LC70=1.2D-WL0+1.6LLa3
 LC71=1.2D-WL30+1.6LLa3
 LC72=1.2D-WL60+1.6LLa3
 LC73=1.2D-WL90+1.6LLa3
 LC74=1.2D-WL120+1.6LLa3
 LC75=1.2D-WL150+1.6LLa3
 LC76=1.2D+WL0+1.6LLa4
 LC77=1.2D+WL30+1.6LLa4
 LC78=1.2D+WL60+1.6LLa4
 LC79=1.2D+WL90+1.6LLa4
 LC80=1.2D+WL120+1.6LLa4
 LC81=1.2D+WL150+1.6LLa4
 LC82=1.2D-WL0+1.6LLa4
 LC83=1.2D-WL30+1.6LLa4
 LC84=1.2D-WL60+1.6LLa4
 LC85=1.2D-WL90+1.6LLa4
 LC86=1.2D-WL120+1.6LLa4
 LC87=1.2D-WL150+1.6LLa4

| Node | | Forces | | | | | | Moments | | | | | |
|------|-----|--------|------|--------|------|--------|------|----------|-----|----------|------|----------|-----|
| | | Fx | lc | Fy | lc | Fz | lc | Mx | lc | My | lc | Mz | lc |
| | | [Kip] | | [Kip] | | [Kip] | | [Kip*ft] | | [Kip*ft] | | [Kip*ft] | |
| 50 | Max | 0.176 | LC7 | 0.034 | LC83 | 0.990 | LC13 | 0.00000 | LC1 | 0.00000 | LC1 | 0.00000 | LC1 |
| | Min | -0.168 | LC13 | -0.008 | LC14 | -1.037 | LC7 | 0.00000 | LC1 | 0.00000 | LC1 | 0.00000 | LC1 |
| 52 | Max | 0.081 | LC24 | 0.027 | LC41 | 0.657 | LC24 | 0.00000 | LC1 | 0.00000 | LC1 | 0.00000 | LC1 |
| | Min | -0.084 | LC6 | -0.008 | LC21 | -0.736 | LC6 | 0.00000 | LC1 | 0.00000 | LC1 | 0.00000 | LC1 |
| 67 | Max | 1.504 | LC77 | 1.450 | LC31 | -0.368 | LC13 | 0.00000 | LC1 | 0.32394 | LC5 | 0.00000 | LC1 |
| | Min | -1.006 | LC47 | 0.565 | LC13 | -1.147 | LC29 | 0.00000 | LC1 | -0.29568 | LC23 | 0.00000 | LC1 |
| 68 | Max | 1.006 | LC43 | 1.306 | LC25 | 1.779 | LC1 | 0.00000 | LC1 | 0.62865 | LC15 | 0.00000 | LC1 |
| | Min | -1.509 | LC85 | 0.496 | LC19 | -0.529 | LC19 | 0.00000 | LC1 | -0.75903 | LC9 | 0.00000 | LC1 |



HUDSON
Design Group LLC

Connection Check

Date: 4/5/2022
Project Name: GILBERTS CORNER
Project No.: CT2143
Designed By: CL Checked By: MSC



CHECK CONNECTION CAPACITY (Worst Case)

Reference: AISC Steel Construction Manual 14th Edition (ASD)

Bolt Type = A36 5/8" Threaded Rod

Allowable Tensile Load =

$F_{Tall} = 6673$ lbs.

Allowable Shear Load =

$F_{Vall} = 4004$ lbs.

TENSILE FORCES

Reaction $F = 1779$ lbs. (See Bentley Output)

SHEAR FORCES

Reactions in X direction: 1509 lbs. (See Bentley Output)

Reactions in Y direction: 1306 lbs. (See Bentley Output)

Resultant: 1996 lbs.

No. of Supports = 1

No. of Bolts / Support = 4

Tension Design Load /Bolts =

$f_t = 444.75$ lbs. < 6673 lbs. **Therefore, OK !**

Shear Design Load / Bolts=

$f_v = 498.92$ lbs. < 4004 lbs. **Therefore, OK !**

CHECK COMBINED TENSION AND SHEAR

$f_t / F_T + f_v / F_V \leq 1.0$
0.067 + 0.125 = 0.191 < 1.0 **Therefore, OK !**

Exhibit F

Power Density/RF Emissions Report

Calculated Radio Frequency Exposure



CT2143

46 Fenwood Lane, Wilton, CT

June 21, 2022

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of AT&T antenna arrays on the existing lattice tower located at 46 Fenwood Lane in Wilton, CT. The coordinates of the existing monopole are 41-10-21.17 N, 73-26-2.09 W

AT&T is proposing the following:

- 1) Install twelve (12) multi-band antennas (four (4) per sector) to support its commercial LTE network and the FirstNet National Public Safety Broadband Network (“NPSBN”).

This report considers the planned antenna configuration for AT&T¹ to derive the resulting % Maximum Permissible Exposure of its proposed installation.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm²). The general population exposure limits for the various frequency ranges are defined in the attached “FCC Limits for Maximum Permissible Exposure (MPE)” in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

¹ As referenced to AT&T’s Radio Frequency Design Sheet dated 05/31/22.

3. RF Exposure Calculation Methods

The power density calculation results were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times 1.64 \times \text{ERP}}{4\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

ERP = Effective Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna

V = Vertical Distance from radiation center of antenna

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all antenna channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not consider actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

4. Calculation Results

Table 1 below outlines the cumulative power density information for the AT&T modification to the existing lattice tower facility at the site. The proposed antennas are directional in nature; therefore, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

| Carrier | Antenna Height (Feet) | Operating Frequency (MHz) | Number of Trans. | ERP Per Transmitter (Watts) | Power Density (mw/cm ²) | Limit | % MPE |
|--------------|-----------------------|---------------------------|------------------|-----------------------------|-------------------------------------|--------------|---------------|
| T-Mobile | 122 | 1900 | 4 | 1028 | 0.1099 | 1.0000 | 1.10% |
| T-Mobile | 122 | 1900 | 2 | 2057 | 0.1099 | 1.0000 | 1.10% |
| T-Mobile | 122 | 2100 | 2 | 2308 | 0.1234 | 1.0000 | 1.23% |
| T-Mobile | 122 | 2100 | 2 | 1295 | 0.0692 | 1.0000 | 0.69% |
| T-Mobile | 122 | 600 | 2 | 592 | 0.0316 | 0.4000 | 0.79% |
| T-Mobile | 122 | 700 | 2 | 649 | 0.0347 | 0.4667 | 0.74% |
| Sprint | 106 | 850 | 1 | 377 | 0.0136 | 0.5667 | 0.24% |
| Sprint | 106 | 850 | 2 | 942 | 0.0678 | 0.5667 | 1.20% |
| Sprint | 106 | 1900 | 5 | 512 | 0.0921 | 1.0000 | 0.92% |
| Sprint | 106 | 1900 | 2 | 1280 | 0.0921 | 1.0000 | 0.92% |
| Sprint | 106 | 2500 | 8 | 640 | 0.1841 | 1.0000 | 1.84% |
| Eversource | 217 | 869 | 4 | 124 | 0.0147 | 0.2000 | 0.74% |
| Eversource | 470 | 1970 | 1 | 100 | 0.0018 | 0.3133 | 0.06% |
| State Police | 176 | 6700 | 1 | 5591 | 0.0696 | 1.0000 | 0.70% |
| State Police | 130 | 6700 | 1 | 5591 | 0.1308 | 1.0000 | 1.31% |
| NEU | 80 | 48 | 1 | 100 | 0.0066 | 0.2000 | 0.33% |
| WPD | 95 | 45 | 1 | 100 | 0.0045 | 0.2000 | 0.23% |
| DEA | 100 | 48 | 1 | 631 | 0.0257 | 0.2000 | 1.28% |
| NEU | 120 | 37.44 | 1 | 100 | 0.0028 | 0.2000 | 0.14% |
| NEU | 120 | 925 | 1 | 50 | 0.0014 | 0.6167 | 0.02% |
| WTR | 135 | 170 | 1 | 100 | 0.0022 | 0.2000 | 0.11% |
| USS | 85 | 165 | 1 | 398 | 0.0229 | 0.2000 | 1.15% |
| State Police | 169 | 954.4 | 1 | 227 | 0.0031 | 0.6363 | 0.05% |
| FCP | 170 | 154.1 | 2 | 199.5 | 0.0053 | 0.2000 | 0.27% |
| State Police | 170 | 154.665 | 1 | 330 | 0.0044 | 0.2000 | 0.22% |
| DHS | 112 | 153.815 | 1 | 200 | 0.0064 | 0.2000 | 0.32% |
| State Police | 120 | 42.04 | 1 | 300 | 0.0083 | 0.2000 | 0.42% |
| State Police | 180 | 42.04 | 1 | 300 | 0.0036 | 0.2000 | 0.18% |
| State Police | 175 | 822.5 | 1 | 199 | 0.0025 | 0.5483 | 0.05% |
| State Police | 176 | 6700 | 1 | 5591 | 0.0696 | 1.0000 | 0.70% |
| DOE | 180 | 2668 | 1 | 76 | 0.0009 | 1.0000 | 0.01% |
| AT&T | 163 | 739 | 2 | 2085 | 0.0061 | 0.4927 | 1.24% |
| AT&T | 163 | 763 | 2 | 2945 | 0.0086 | 0.5087 | 1.69% |
| AT&T | 163 | 885 | 1 | 2339 | 0.0034 | 0.5900 | 0.58% |
| AT&T | 163 | 1900 | 3 | 5002 | 0.0219 | 1.0000 | 2.19% |
| AT&T | 163 | 2100 | 2 | 9890 | 0.0289 | 1.0000 | 2.89% |
| AT&T | 163 | 2300 | 1 | 8039 | 0.0117 | 1.0000 | 1.17% |
| AT&T | 164.6 | 3500 | 1 | 24286 | 0.0347 | 1.0000 | 3.47% |
| AT&T | 161.4 | 3500 | 1 | 24286 | 0.0362 | 1.0000 | 3.62% |
| | | | | | | Total | 35.88% |

Table 1: Carrier Information²

² The existing record in the CSC Power Density Table for AT&T should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for T-Mobile, Sprint, Eversource, NEU, WPD, DEA, WTR, USS, State Police, FCP, DOE and DHS was taken directly from the CSC database dated 01/21/2022. Please note that % MPE values listed are rounded to two

5. Conclusion

The above analysis concludes that RF exposure at ground level from the proposed facility will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using conservative calculation methods, the highest expected percent of Maximum Permissible Exposure at ground level for AT&T's equipment is **35.88% of the FCC General Population/Uncontrolled limit**.

As noted previously, the calculated % MPE levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in FCC OET Bulletin 65 Edition 97-01, ANSI/IEEE Std. C95.1 and ANSI/IEEE Std. C95.3.



June 21, 2022

Date

Reviewed/Approved By: Martin J. Lavin
Senior RF Engineer
C Squared Systems, LLC

decimal points and the total % MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not identically match the total value reflected in the table.

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure³

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

(B) Limits for General Population/Uncontrolled Exposure⁴

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (E) (A/m) | Power Density (S) (mW/cm ²) | Averaging Time E ² , H ² or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|---|---|
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f ²)* | 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

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

³ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

⁴ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

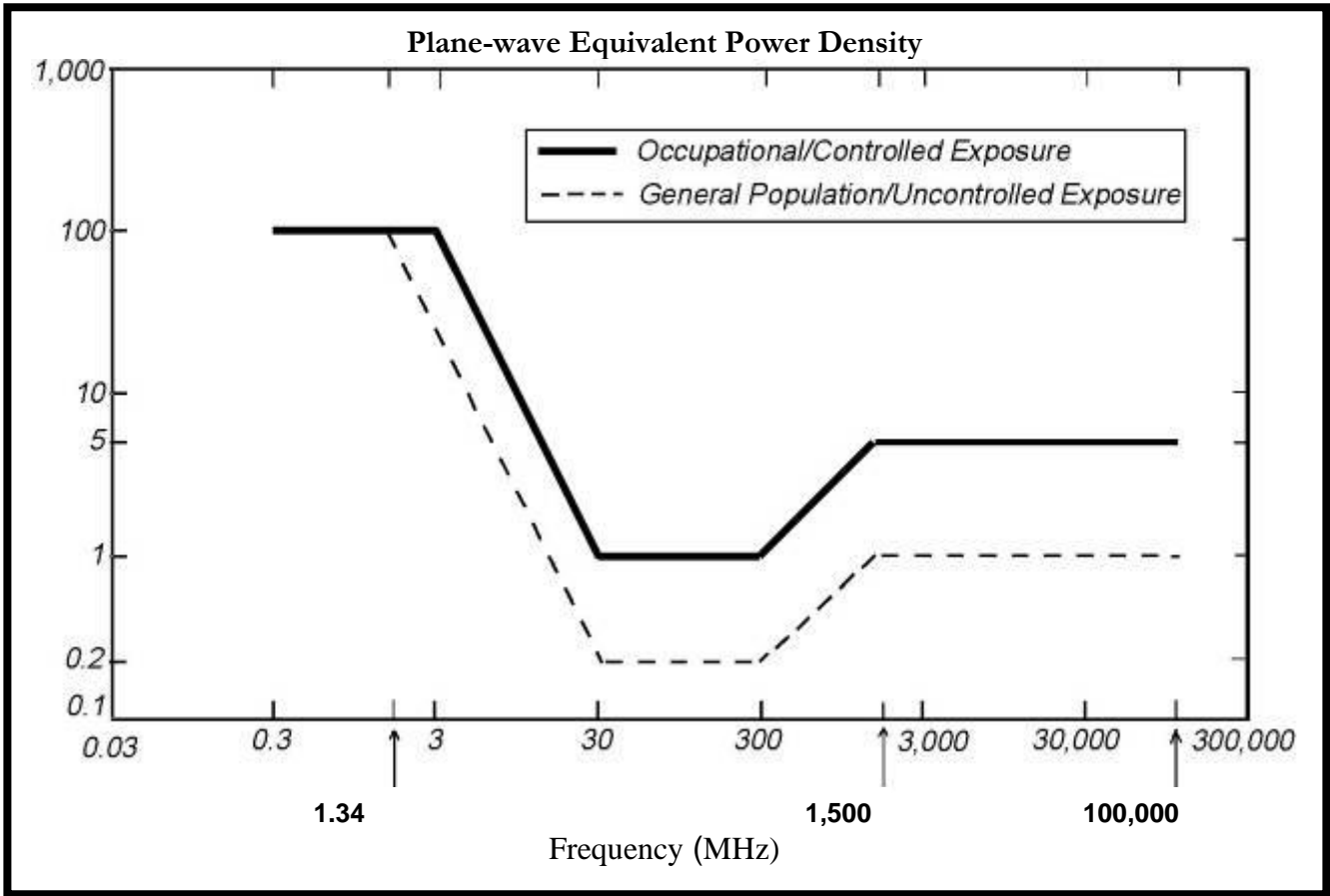
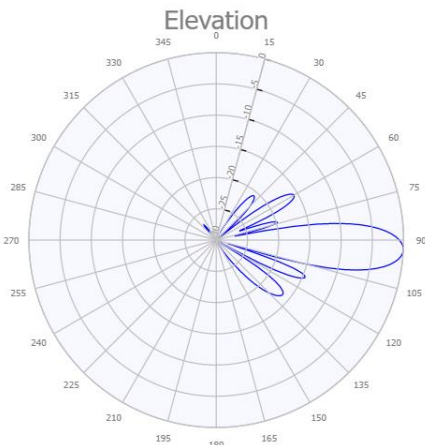
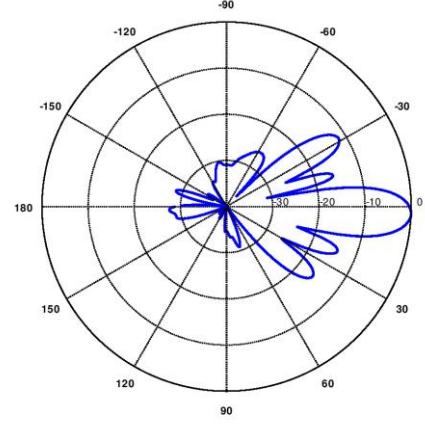
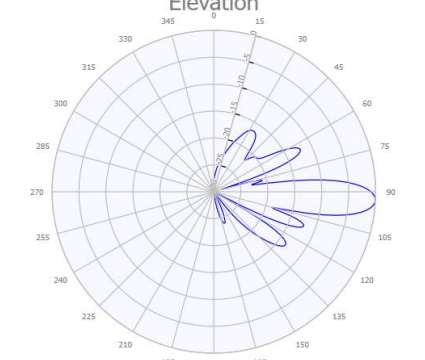


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

| | |
|---|--|
| <p>700 MHz</p> <p>Manufacturer: CCI Model #: DMP65R-BU6EA-K Frequency Band: 698-978 MHz Gain: 13.3 dBi Vertical Beamwidth: 12.8° Horizontal Beamwidth: 73° Polarization: Dual Linear 45° Size L x W x D: 71.2" x 20.7" x 9.7"</p> |  |
| <p>700 MHz</p> <p>Manufacturer: Kathrein Model #: 80010965 Frequency Band: 698-806 MHz Gain: 14.8 dBi Vertical Beamwidth: 11.9° Horizontal Beamwidth: 62° Polarization: 45° Size L x W x D: 78.7" x 20" x 6.9"</p> |  |
| <p>885 MHz</p> <p>Manufacturer: CCI Model #: DMP65R-BU6EA-K Frequency Band: 824-896 MHz Gain: 13.8 dBi Vertical Beamwidth: 11.1° Horizontal Beamwidth: 62° Polarization: Dual Linear 45° Size L x W x D: 71.2" x 20.7" x 9.7"</p> |  |

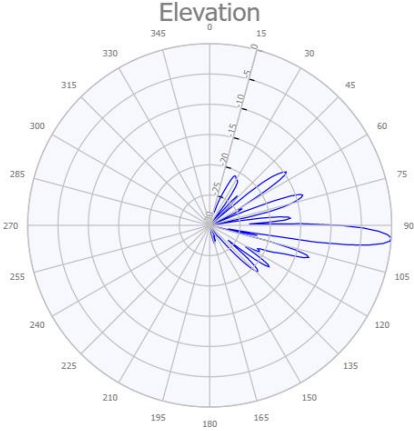
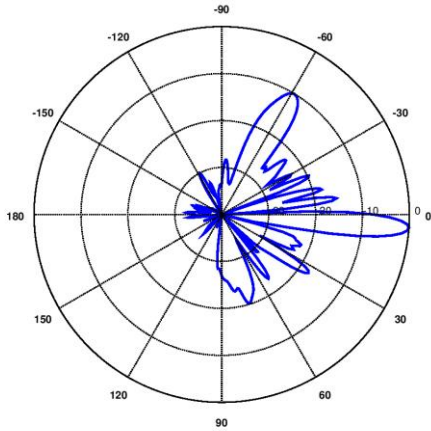
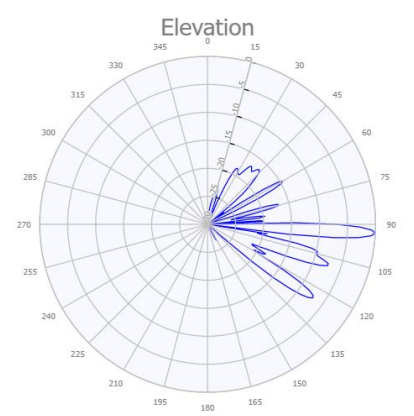
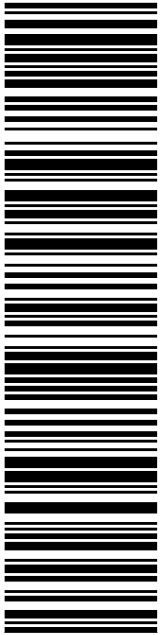
| | |
|---|--|
| <p>1900 MHz</p> <p>Manufacturer: CCI Model #: DMP65R-BU6EA-K Frequency Band: 1850-1990 MHz Gain: 17.1 dBi Vertical Beamwidth: 5.1° Horizontal Beamwidth: 71° Polarization: Dual Linear 45° Size L x W x D: 71.2" x 20.7" x 9.7"</p> |  <p>The plot shows a very narrow main lobe centered at 90 degrees elevation, with a beamwidth of 5.1 degrees. There are several smaller side lobes extending outwards from the center.</p> |
| <p>2100 MHz</p> <p>Manufacturer: Kathrein Model #: 80010965 Frequency Band: 1920-2180 MHz Gain: 18.3 dBi Vertical Beamwidth: 5.5° Horizontal Beamwidth: 62° Polarization: 45° Size L x W x D: 78.7" x 20" x 6.9"</p> |  <p>The plot shows a narrow main lobe centered at 0 degrees elevation, with a beamwidth of 5.5 degrees. The plot includes a scale from -180 to 180 degrees.</p> |
| <p>2300 MHz</p> <p>Manufacturer: CCI Model #: DMP65R-BU6EA-K Frequency Band: 2300-2400 MHz Gain: 17.4 dBi Vertical Beamwidth: 4.1° Horizontal Beamwidth: 52° Polarization: Dual Linear 45° Size L x W x D: 71.2" x 20.7" x 9.7"</p> |  <p>The plot shows a very narrow main lobe centered at 90 degrees elevation, with a beamwidth of 4.1 degrees. There are several smaller side lobes extending outwards from the center.</p> |

Exhibit G


Recipient Mailings



9405 5036 9930 0282 9762 52

Electronic Rate Approved #038555749

USPS TRACKING #



LYNNE VANDERSLICE
TOWN OF WILTON
238 DANBURY RD
CC: MICHAEL WRINN, DIR PLANNING & LA
WILTON CT 06897-4008

0004

C005

QC DEVELOPMENT
5900 BALCONES DR STE 8148
AUSTIN TX 78731-4257

Expected Delivery Date: 07/01/22

PRIORITY MAIL 2-DAY™

06/29/2022 Mailed from 06268

U.S. POSTAGE PAID
Click-N-Ship®

usps.com 9405 5036 9930 0282 9762 52 0089 5000 0010 6897
\$8.95
US POSTAGE
 Flat Rate Env

Click-N-Ship®

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

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USPS TRACKING # :
9405 5036 9930 0282 9762 52

| | |
|------------------------------------|---------------------------------------|
| Trans. #: 566433133 | Priority Mail® Postage: \$8.95 |
| Print Date: 06/27/2022 | Total: \$8.95 |
| Ship Date: 06/29/2022 | |
| Expected Delivery Date: 07/01/2022 | |

From: QC DEVELOPMENT
5900 BALCONES DR STE 8148
AUSTIN TX 78731-4257

To: LYNNE VANDERSLICE
TOWN OF WILTON
238 DANBURY RD
CC: MICHAEL WRINN, DIR PLANNING & LA
WILTON CT 06897-4008

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



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Check the status of your shipment on the USPS Tracking® page at usps.com

Track Another Package +

Tracking Number: 9405503699300282976252

Remove X

Expected Delivery by

FRIDAY

1 JULY
2022 ⓘ

by
9:00pm ⓘ

USPS Tracking Plus[®] Available ∨

Feedback

USPS in possession of item

June 29, 2022 at 1:45 pm
STORRS MANSFIELD, CT 06268

Change Delivery Instructions ∨


Text & Email Updates ∨

Delivery Instructions ∨

Tracking History ∨

USPS Tracking Plus[®] ∨

Product Information ∨



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\$8.95
US POSTAGE
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U.S. POSTAGE PAID
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06/29/2022 Mailed from 06268

PRIORITY MAIL 1-DAY™

QC DEVELOPMENT
 5900 BALCONES DR STE 8148
 AUSTIN TX 78731-4257

Expected Delivery Date: 06/30/22

0024

USPS TRACKING #

9405 5036 9930 0282 9762 76

BRIAN BENITO
 CT DESPP
 1111 COUNTRY CLUB RD
 DIV STATE EMERGENCY COMM - CTS UNIT
 MIDDLETOWN CT 06457-2389

C041

Electronic Rate Approved #038555749



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4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0282 9762 76

| | |
|--|---|
| Trans. #: 566433133 Print Date: 06/27/2022 Ship Date: 06/29/2022 Expected Delivery Date: 06/30/2022 | Priority Mail® Postage: \$8.95 Total: \$8.95 |
|--|---|

From: QC DEVELOPMENT
 5900 BALCONES DR STE 8148
 AUSTIN TX 78731-4257

To: BRIAN BENITO
 CT DESPP
 1111 COUNTRY CLUB RD
 DIV STATE EMERGENCY COMM - CTS UNIT
 MIDDLETOWN CT 06457-2389

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Track Another Package +

Tracking Number: 9405503699300282976276

Remove X

Expected Delivery by

THURSDAY

30 JUNE 2022 ⓘ | by **9:00pm** ⓘ

USPS Tracking Plus® Available ∨

Feedback

USPS in possession of item

June 29, 2022 at 1:44 pm
STORRS MANSFIELD, CT 06268

Change Delivery Instructions ∨

Text & Email Updates ∨

Delivery Instructions ∨

Tracking History ∨

USPS Tracking Plus® ∨

Product Information ∨
