



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

May 5, 2023

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) – CT1134
38 Lower Road, North Canaan, CT 06018
N 41.014722
W 73.326388

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 140-foot level of the existing 195-foot Self-Support Tower at 38 Lower Road, North Canaan, CT. The tower and property are owned by Litchfield County Dispatch. AT&T now intends to install three (3) remote radio units (RRU). The new radios will be installed at the 140-foot level of the tower. 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.

AT&T Planned Modifications:

Remove:

- (3) TMAs
- (6) Diplexers
- (6) Coax (1-5/8")

Remove and Replace: None

Install New:

(3) Ericsson 4426-B66

Existing to Remain:

(3) POWERWAVE 7770 Antennas

(6) CCI Antennas

(3) Ericsson RRUS-32-B2

(3) Ericsson 4478-B14

(3) Ericsson 4449 B5/B12

(3) Raycap Surge Units

(6) Coax (1-5/8")

(6) DC Lines

(3) Fiber Lines

This facility was approved by the Town of North Canaan, which issued a Building Permit for the construction of a 195-foot tower on April 24, 1998. The approval included no conditions that could feasibly be violated by this proposed modification, including total facility height and mounting restrictions. This modification therefore complies with the aforementioned approvals.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Charles P. Perotti, First Selectman of the Town of North Canaan, and the North Canaan Planning & Zoning Office, as well as the property 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
Consultant for SAI
Mark.Roberts@QCDevelopment.net

Attachments

Cc: Charles Perotti - Elected Official
George Martin– Zoning Enforcement Officer
Litchfield County Dispatch – Tower and Property Owner

Exhibit A

Original Facility Approval

Permit # 5830

Building Inspector W Bonaf

Date 4-24-98

BUILDING PERMIT

ISSUED TO

Litchfield County Dispatch

TO

AT LOCATION

38 Lous Rd

TOWN OF NORTH CANAAN, CONN.

THIS PERMIT EXPIRES ONE YEAR FROM DATE OF ISSUE

POST THIS CARD AT BUILDING SIGHT IN A DRY AREA AVAILABLE TO THE BUILDING OFFICIAL

Where applicable, separate permits are required for electrical, plumbing and mechanical installations.

Work shall not proceed until the Inspector has approved the various stages of construction.

	Date Inspected		Date Inspected
Preliminary & or Excavation	_____	Plumbing Rough-In	_____
Footings & Foundations	_____	HVAC Rough-In	_____
Waterproofing/Foundation Coating	_____	Electric Rough-In	_____
Footing Drains	_____	Fireplace & Masonry Chimneys	_____
Electrical Service	_____	Insulation Inspection	_____
Framing Inspection	_____	Sheetrock or Plaster	_____
Roofing Inspection	_____	Fuel Tanks and Lines	_____

This Structure is Not to be Used in Whole or Part Until a Certificate of Occupancy is Issued

APPLICATION FOR BUILDING PERMIT

(APPLICATION MUST BE TYPED OR PRINTED)

TOWN OF North Canaan PERMIT NO. 5830

LOCATION OF JOB	FEE SCHEDULE	TYPE OF JOB
<u>38 LOWER Road</u> NO. STREET <u>N. CANAAN CT 06018</u> TOWN STATE ZIP	FEE ESTIMATED VALUE \$12 FOR 1ST \$1000 (MINIMUM FEE). \$ 5 FOR EACH ADDITIONAL \$1000 OR PART THEREOF. BUILDING OFFICIAL MAY DEMAND AFFIDAVIT OF ACTUAL VALUE.	<input checked="" type="checkbox"/> ORIGINAL CONST. <input type="checkbox"/> REPAIR <input type="checkbox"/> ALTERATION <input type="checkbox"/> DEMOLITION <input type="checkbox"/> ADDITION <input type="checkbox"/> CHANGE OF USE
OWNER	VALUE-FEES	REQUIREMENTS
<u>Litchfield County Dispatch Inc</u> NAME <u>452 Bantam Rd</u> NO. STREET <u>Litchfield CT 06759</u> TOWN STATE ZIP	VALUE FEE ESTIMATED <u>\$750,000.00</u> <u>\$3,750.00</u> ACTUAL _____ DIFFERENCE _____ ADDITIONAL FEE _____	<input type="checkbox"/> BLUEPRINTS <input type="checkbox"/> TOWN ZONING <input type="checkbox"/> SANITATION APPLIC. <input type="checkbox"/> PLOT PLAN <input type="checkbox"/> OTHER _____
APPLICANT	DEPARTMENT DECISION	TYPE OF BUILDING
<u>Litchfield County Dispatch Inc</u> NAME <u>452 Bantam Rd</u> NO. STREET <u>Litchfield CT 06759</u> TOWN STATE ZIP	APPLICATION IS HEREBY <input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED <u>4-24-98</u> <u>W. Bond</u> DATE INSPECTOR	<input type="checkbox"/> RESIDENTIAL <input type="checkbox"/> COMMERCIAL <input checked="" type="checkbox"/> <u>Emergency 911 Radio Tower and Transmitter Building -</u> OTHER



BUILDER-CONTRACTOR INFORMATION			
NAME _____	CONTRACTOR LICENSE - REGISTRATION NUMBER _____		
NO. _____ STREET _____	EXPIRATION DATE _____ CONTRACTOR TELEPHONE _____		
TOWN _____ STATE _____ ZIP _____	CONTRACTOR SIGNATURE _____		

MECHANICAL CONTRACTORS ARE REQUIRED TO OBTAIN PERMITS BEFORE STARTING ANY WORK. PERMITS EXPIRE ONE (1) YEAR FROM DATE OF ISSUE.

DISTANCE FROM EACH SIDE LOT LINE	1. DESCRIPTION OF STRUCTURE
NORTH _____ EAST _____	<u>Communication tower and 1 story Bldg</u> TYPE <u>3A</u> NO. OF STORIES <u>1957</u>
SOUTH _____ WEST _____	2. PROPOSED USE <u>911 Communication</u> USE GROUP <u>M</u>
	3. TWO (2) COPIES OF PLANS AND SPECIFICATIONS ATTACHED <input type="checkbox"/> YES <input type="checkbox"/> NO
	4. PLOT PLAN ATTACHED <input type="checkbox"/> YES <input type="checkbox"/> NO

REMARKS:

1. Seismic Requirement (see Spec Page 135) design will follow.

2. Plot Plan will follow.

This is to certify that I am the owner or authorized agent for the owner. All work covered by this application has been authorized by the owner of this property and will be done according to the Connecticut Basic Building Code. As the applicant I understand that a Certificate of Use and Occupancy document is required before occupancy.

4-24-98 Alan J. Ford "Manager"
 DATE APPLICANT SIGNATURE

Exhibit B

Property Card

Summary

ParcelId 15/086-2
 Location Address 36 LOWER RD
 Map-Block-Lot 15/086-2
 Use Class/Description Storage Building
 Assessing Neighborhood Survey 7 Commercial
 Acreage 6.37



Owner

Current Owner
 LITCHFIELD COUNTY DISPATCH INC
 452 BANTAM RD
 LITCHFIELD, CT 06759

Land

Use	Class	Land Type	Zoning	Area	Value
Storage Building	C	Commercial Excess	1	5.68	\$19,310
Storage Building	C	Primary Site	1	0.69	\$86,250

Commercial Building

Building # 1
 Style
 Actual Year Built 1999
 Effective Year Built 2007
 Living Area 1804
 Stories 1
 Grade
 Exterior Wall
 Interior Wall
 Roof Cover
 Roof Structure
 Floor Type Concrete
 Heat Type
 Fuel Type
 AC
 Bdrms/Ful Bth/Hlf Bth/Ttl Rm 0/0/0/0
 Basement Finished Area 0
 Basement Garages 0

Out Buildings\Extra Features

Description	Sub Description	Area	Year Built	Value
Sup Tower	Tower	1	1998	\$824,514

Sales History

Sale Date	Sale Price	Deed Book/Page	Reason	Valid Sale	Owner
12/29/1997	\$75,000	0084/0984		Yes	

Permit Information

Permit ID	Issue Date	Type	Amount	Inspection Date	% Complete	Date Complete	Comments
21-280	11-29-2021	Generator	\$14,000	1/1/1900 12:00:00 AM	0	10-01-2022	NEW 25KW AC DIESEL GENERATOR FOR CELL TOWER
21-52	03-17-2021	Miscellaneous	\$25,000	1/1/1900 12:00:00 AM	100	04-27-2021	INSTALLED 2 NEW CELL PH ANTENNAS ON EXISTING TELECOMM TOWER
9157	11-12-2019	Electrical	\$45,000	1/1/1900 12:00:00 AM	100	10-01-2020	MODIFY EXISTING AT&T ANTENNA FACILITY
E8778	07-25-2018	Electrical	\$7,000	1/1/1900 12:00:00 AM	100	01-01-1900	ROOM FITOUT FOR T-MOBILE PP - DLP

Permit ID	Issue Date	Type	Amount	Inspection Date	% Complete	Date Complete	Comments
8771	07-19-2018	Plumbing	\$2,000	1/1/1900 12:00:00 AM	100	01-01-1900	RUN NEW LINE TO GENERATOR - MECHANICAL PERMIT
B8755	06-28-2018	Generator	\$15,000	1/1/1900 12:00:00 AM	100	01-01-1900	NEW GENERATOR FOR BACKUP ~ DLP
B8750	06-18-2018		\$85,000	1/1/1900 12:00:00 AM	100	01-01-1900	NEW ANTENNA - PP - DLP
8364	10-17-2016	Electrical	\$5,000	10/1/2017 12:00:00 AM	100	01-01-1900	REPLACE 3 ANTENNAS AND REMOTE UNITS ON TOWER
7619	12-30-2013	Comm Renovations	\$9,500	1/1/1900 12:00:00 AM	100	01-01-1900	replace (3) antennas on cell tower

Current Appraised Value

	2021
+ Building Value	\$145,823
+ OB/Misc	\$824,514
+ Land Value	\$105,560
= Total Appraised Value	\$1,075,897

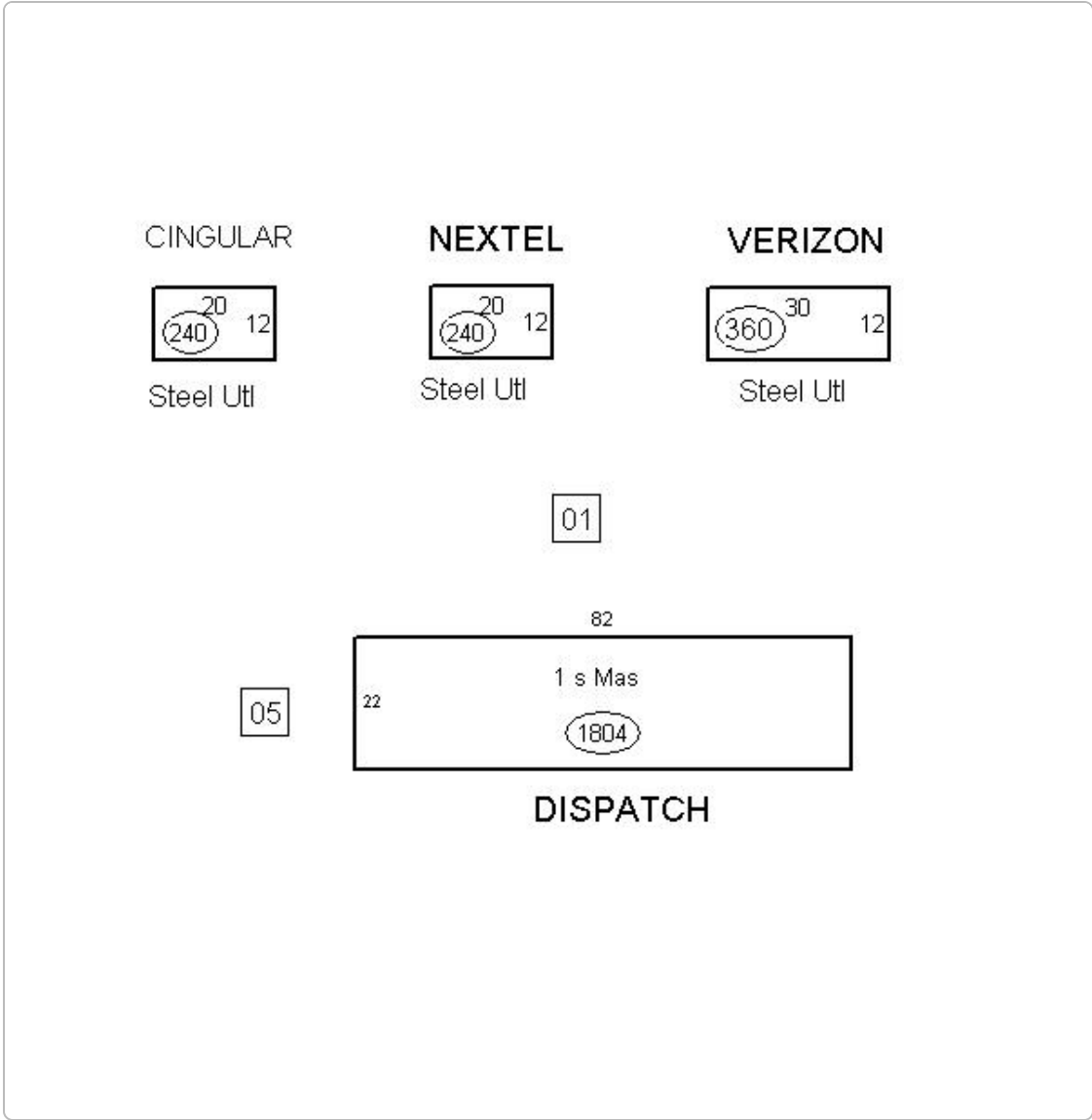
Photos



Assessment History

	2021	2020	2019	2018	2017
+ Building Value	\$102,080	\$102,080	\$102,080	\$102,080	\$102,080
+ OB/Misc	\$577,160	\$577,160	\$577,160	\$577,160	\$577,160
+ Land Value	\$73,890	\$73,890	\$73,890	\$73,900	\$73,900
= Total Assessment	\$753,130	\$753,130	\$753,130	\$753,140	\$753,140

Sketches



No data available for the following modules: Buildings Data.

The Town of North Canaan Assessor's Office makes every effort to produce the most accurate information possible. No warranties, expressed or implied, are provided for the data herein, its use or interpretation.

[User Privacy Policy](#)
[GDPR Privacy Notice](#)

[Last Data Upload: 4/26/2023, 1:24:11 AM](#)

Developed by
 Schneider
 GEOSPATIAL

Version 3.1.4

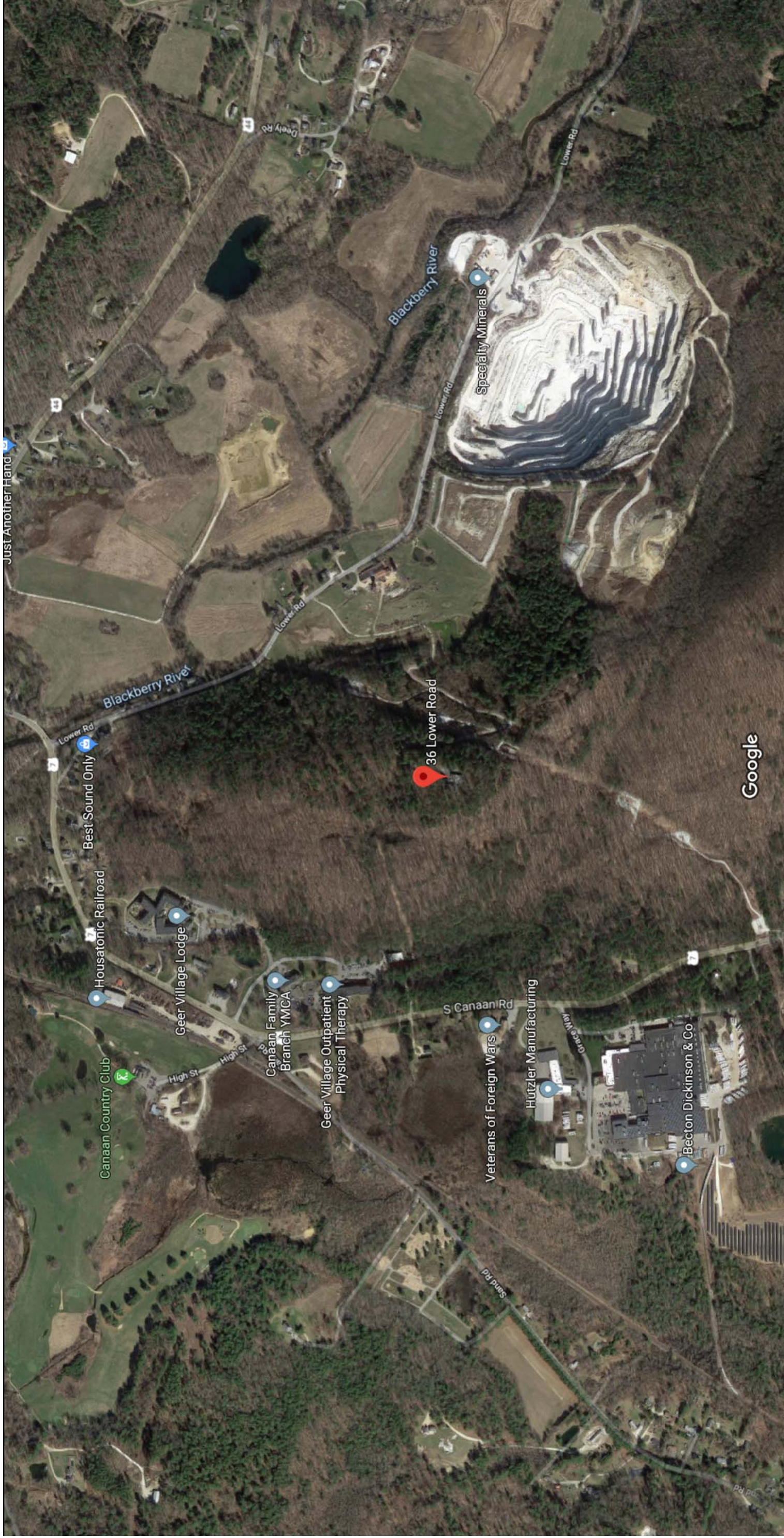


Exhibit C

Construction Drawings

PROJECT INFORMATION

SCOPE OF WORK: ITEMS TO BE MOUNTED ON THE EXISTING SELF SUPPORT:
 • NEW AT&T RRUS: 4426 B66 (AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
 • -
ITEMS TO BE REMOVED:
 • EXISTING AT&T DIPLEXERS: LGP 21901 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
 • EXISTING AT&T TMA'S: LGP TT19-08BP111-001 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
 • EXISTING AT&T (6) COAX CABLES.
ITEMS TO REMAIN:
 • (9) ANTENNAS, (9) RRU'S, (3) SURGE ARRESTOR, (6) COAX CABLES, (6) DC POWER & (3) FIBER.

SITE ADDRESS: 38 LOWER ROAD
NORTH CANAAN, CT 06018

LATITUDE: 42.014661° N, 42° 00' 52.77" N
 LONGITUDE: 73.326305° W, 73° 19' 34.69" W
 TYPE OF SITE: SELF SUPPORT / INDOOR EQUIPMENT
 STRUCTURE HEIGHT: 195'-0"±
 RAD CENTER: 140'-0"±
 CURRENT USE: TELECOMMUNICATIONS FACILITY
 PROPOSED USE: TELECOMMUNICATIONS FACILITY



SITE NUMBER: CTL01134

SITE NAME: NORTH CANAAN-LOWER COUNTY RD

FA CODE: 10035410

PACE ID: MRCTB062160

PROJECT: SITE OVERLAY_LTE_5TH CARRIER

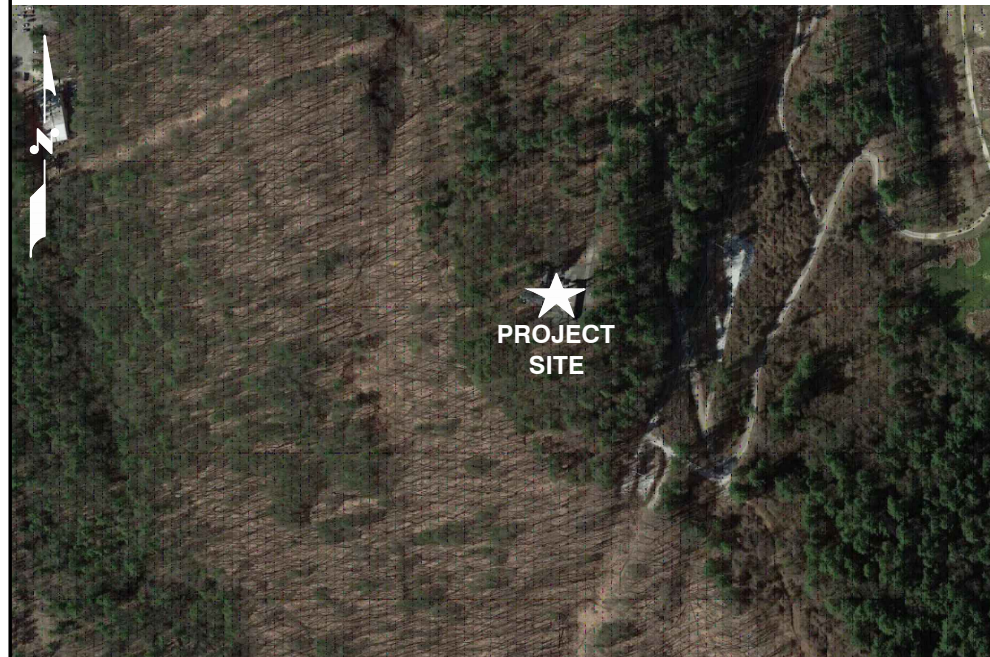
DRAWING INDEX

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

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-9 N VIA EXIT 22N TOWARD NEW BRITAIN.MERGE ONTO I-84 W/US-6 W VIA EXIT 32 ON THE LEFT TOWARD WATERBURY.MERGE ONTO FARMINGTON AVE/CT-508 VIA EXIT 39 TOWARD CT-4/FARMINGTON.STAY STRAIGHT TO GO ONTO FARMINGTON AVE/CT-4.TURN SLIGHT RIGHT ONTO MAIN ST/CT-4. CONTINUE TO FOLLOW CT-4.STAY STRAIGHT TO GO ONTO CANTON RD/CT-179. CONTINUE TO FOLLOW CT-179.TURN LEFT ONTO RIVER RD/CT-179.TURN LEFT ONTO ALBANY TURNPIKE/US-44 W. CONTINUE TO FOLLOW US-44 W.TURN SLIGHT RIGHT ONTO GREENWOODS RD/US-44 W/CT-272.TURN SLIGHT LEFT ONTO GREENWOODS RD/US-44 W. CONTINUE TO FOLLOW US-44 W.TURN LEFT ONTO LOWER RD.38 LOWER ROAD,NORTH CANAAN,CT 06018 IS ON THE LEFT.



GENERAL NOTES

- 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.
- 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.
- 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.
- CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.
- NOTE TO GENERAL CONTRACTOR: (PRIOR TO CONSTRUCTION COMPLETION)
TEP NORTHEAST (TEP OPCO, LLC.) TO PERFORM POST/CLIMB AND INSPECTION TO CONFIRM PROPOSED INSTALLATION COMPLIES WITH THE RECORD STAMPED DRAWINGS AND STRUCTURAL REPORTS PRIOR TO SUBMITTING FCCA (FINAL CONSTRUCTION CONTROL AFFIDAVIT). GC IS RESPONSIBLE FOR COORDINATING INSPECTIONS WITH TEP NORTHEAST (TEP OPCO, LLC.) PRIOR TO CONSTRUCTION BEING COMPLETED.

72 HOURS



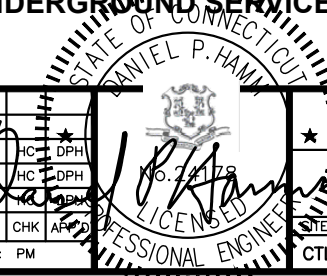
CALL BEFORE YOU DIG



CALL TOLL FREE 1-800-922-4455

OR CALL 811

UNDERGROUND SERVICE ALERT



SITE NUMBER: CTL01134
SITE NAME: NORTH CANAAN-LOWER COUNTY RD
 38 LOWER ROAD
 NORTH CANAAN, CT 06018
 LITCHFIELD COUNTY



NO.	DATE	REVISIONS	BY	CHK	APP
2	04/10/23	ISSUED FOR CONSTRUCTION	YH	HC	DPH
1	10/13/22	ISSUED FOR CONSTRUCTION	YH	HC	DPH
A	07/14/22	ISSUED FOR REVIEW	YH	HC	DPH

AT&T		
TITLE SHEET		
SITE OVERLAY_LTE_5TH CARRIER		
SITE NUMBER	DRAWING NUMBER	REV
CTL01134	T-1	2

SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: PM

GROUNDING NOTES

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

GENERAL NOTES

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

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

**BUILDING CODE: IBC 2021 WITH 2022 CT STATE BUILDING CODE AMENDMENTS
 ELECTRICAL CODE: 2020 NATIONAL ELECTRICAL CODE (NFPA 70-2020)**

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

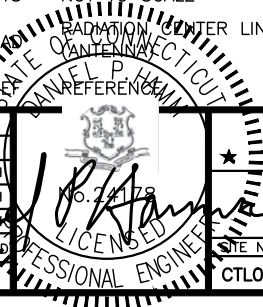
AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO 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 ANTENNA	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		



SITE NUMBER: CTL01134
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 38 LOWER ROAD
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 LITCHFIELD COUNTY



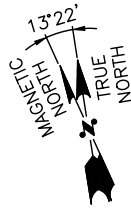
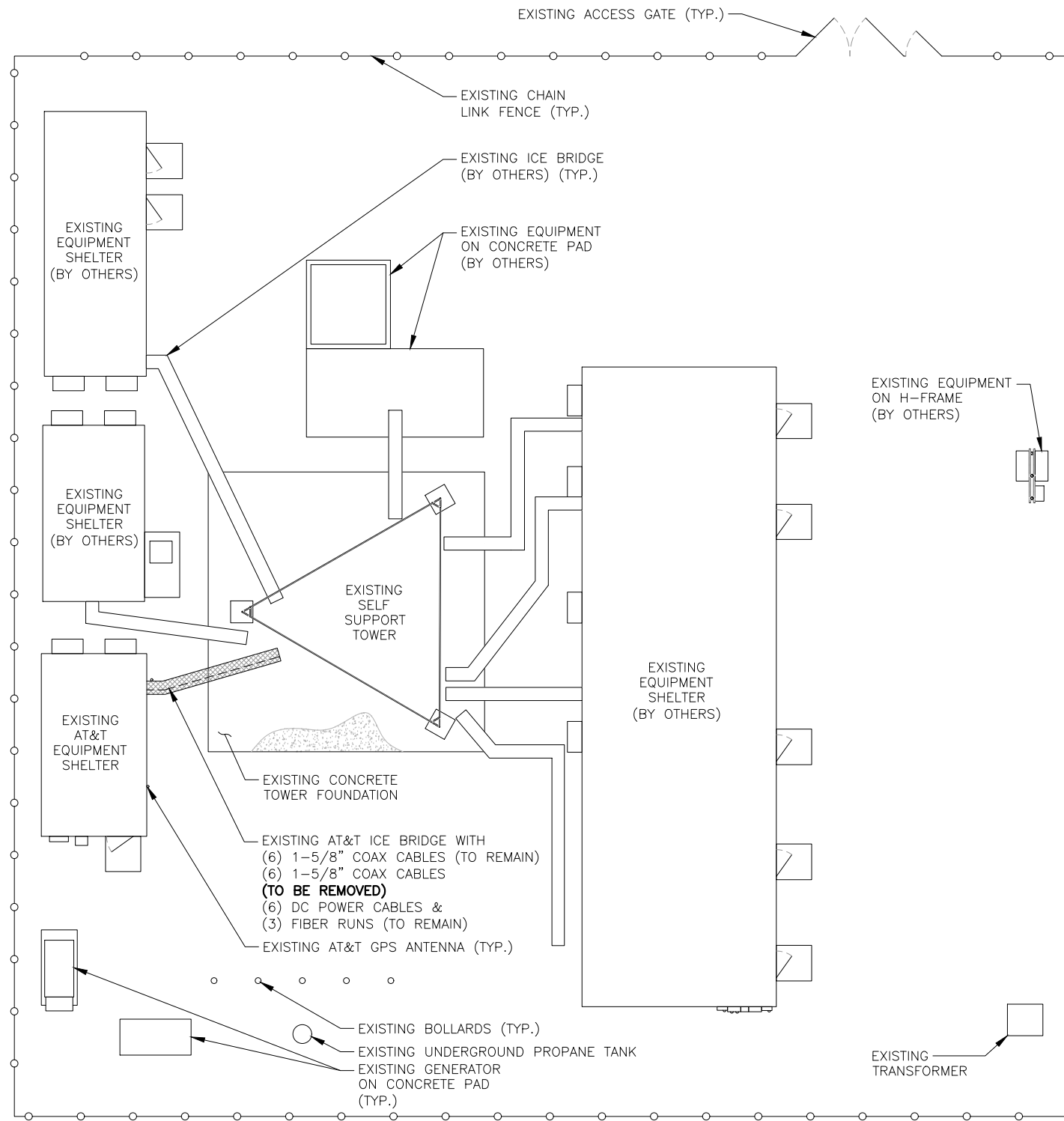
NO.	DATE	REVISIONS	BY	CHK	APP
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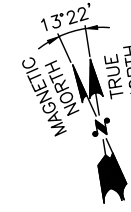
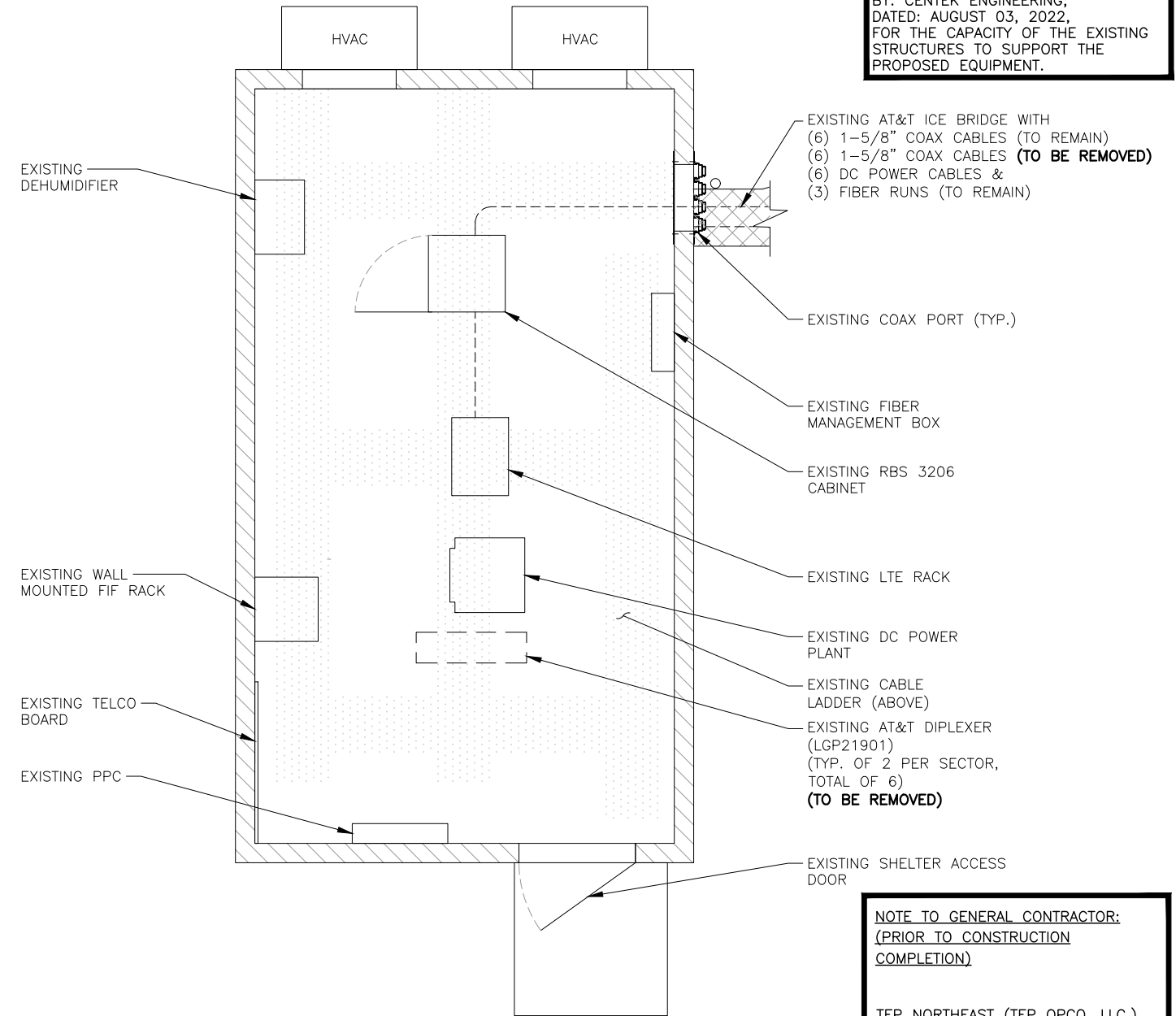
AT&T		
GENERAL NOTES		
SITE OVERLAY_LTE_5TH CARRIER		
SITE NUMBER	DRAWING NUMBER	REV
CTL01134	GN-1	2

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

NOTE:
REFER TO STRUCTURAL ANALYSIS BY: CENTEK ENGINEERING, DATED: AUGUST 03, 2022, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.



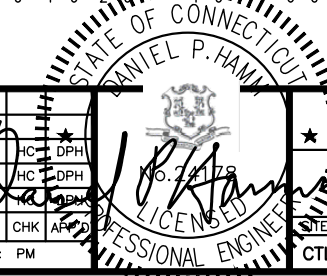
COMPOUND PLAN
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"
1
A-1



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

NOTE TO GENERAL CONTRACTOR:
(PRIOR TO CONSTRUCTION COMPLETION)

TEP NORTHEAST (TEP OPCO, LLC.) TO PERFORM POST/CLIMB AND INSPECTION TO CONFIRM PROPOSED INSTALLATION COMPLIES WITH THE RECORD STAMPED DRAWINGS AND STRUCTURAL REPORTS PRIOR TO SUBMITTING FCCA (FINAL CONSTRUCTION CONTROL AFFIDAVIT). GC IS RESPONSIBLE FOR COORDINATING INSPECTIONS WITH TEP NORTHEAST (TEP OPCO, LLC.) PRIOR TO CONSTRUCTION BEING COMPLETED.



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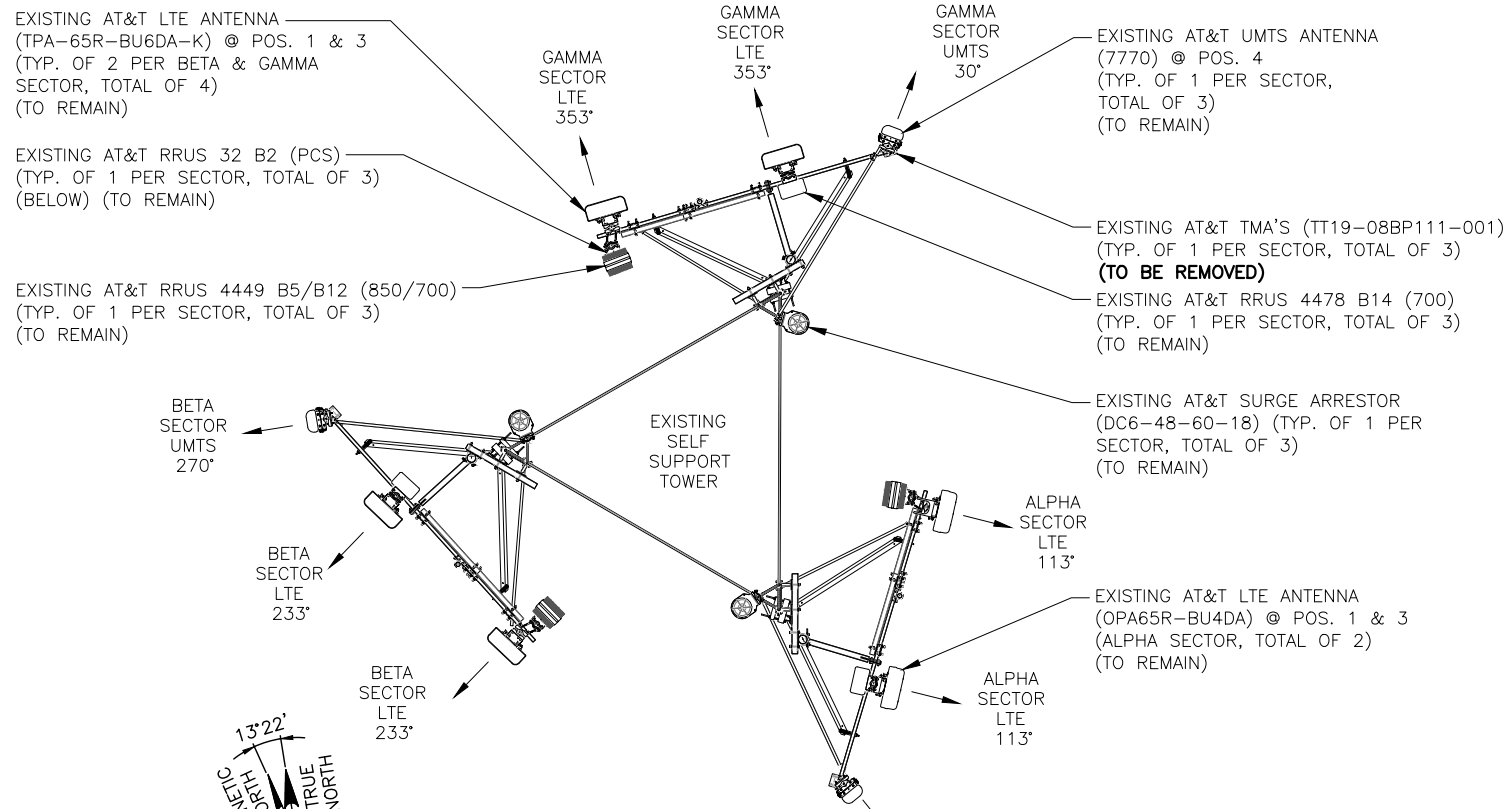
38 LOWER ROAD
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LITCHFIELD COUNTY



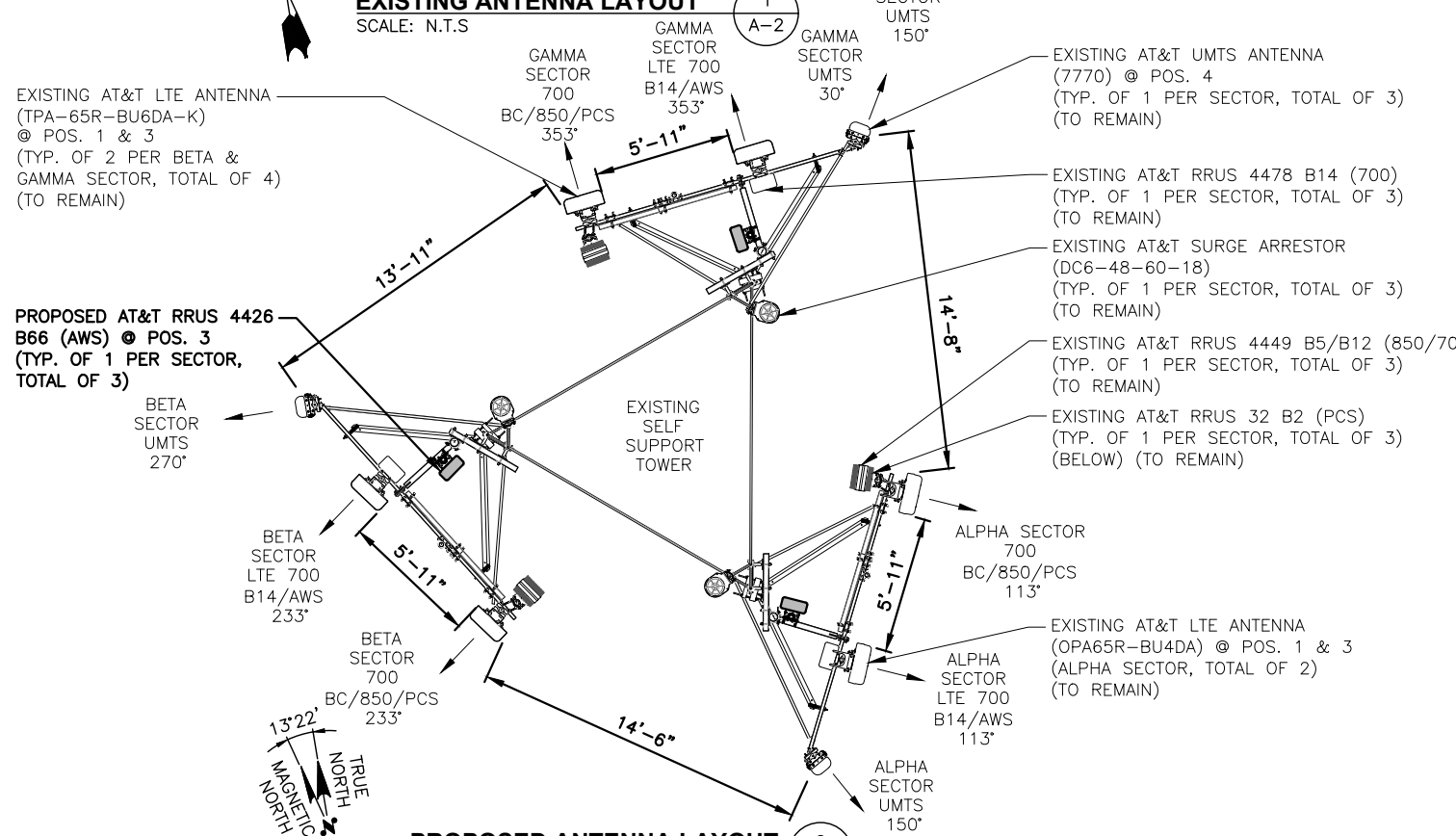
NO.	DATE	REVISIONS	BY	CHK	APP
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SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: PM

AT&T	
COMPOUND & EQUIPMENT PLANS	
SITE OVERLAY_LTE_5TH CARRIER	
SITE NUMBER	DRAWING NUMBER
CTL01134	A-1
	2



EXISTING ANTENNA LAYOUT
SCALE: N.T.S



PROPOSED ANTENNA LAYOUT
SCALE: N.T.S

TOP OF SELF SUPPORT
ELEV. 195'-0"± (AGL)

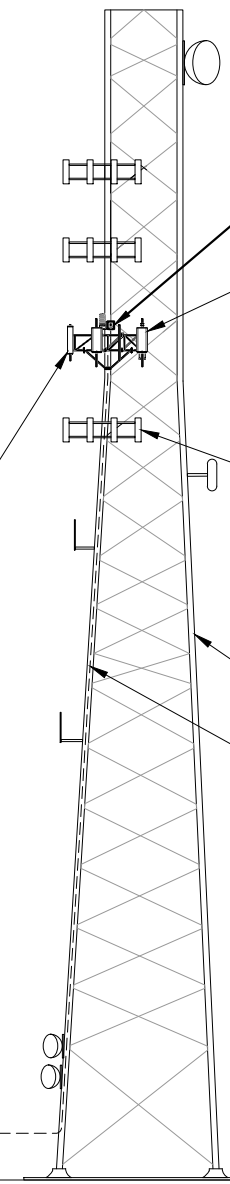
Q OF EXISTING AT&T
ANTENNAS
ELEV. 140'-0"± (AGL)

EXISTING AT&T UMTS ANTENNA
(7770) @ POS. 4
(TYP. OF 1 PER SECTOR,
TOTAL OF 3)
(TO REMAIN)

GROUND LEVEL
ELEV. 0'-0"± (AGL)

ELEVATION
22x34 SCALE: 1/16"=1'-0" A-2
11x17 SCALE: 1/32"=1'-0"

0 8'-0" 16'-0"



NOTE:
GROUND EQUIPMENT NOT
SHOWN FOR CLARITY

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

NOTE:
REFER TO STRUCTURAL ANALYSIS
BY: CENTEK ENGINEERING,
DATED: AUGUST 03, 2022,
FOR THE CAPACITY OF THE EXISTING
STRUCTURES TO SUPPORT THE
PROPOSED EQUIPMENT.

NOTE:
REFER TO MOUNT ANALYSIS
BY: HUDSON DESIGN GROUP, LLC,
DATED: JULY 15, 2022,
FOR THE CAPACITY OF THE EXISTING
STRUCTURES TO SUPPORT THE
PROPOSED EQUIPMENT.

NOTE TO GENERAL CONTRACTOR:
(PRIOR TO CONSTRUCTION
COMPLETION)

TEP NORTHEAST (TEP OPCO, LLC.)
TO PERFORM POST/CLIMB AND
INSPECTION TO CONFIRM PROPOSED
INSTALLATION COMPLIES WITH THE
RECORD STAMPED DRAWINGS AND
STRUCTURAL REPORTS PRIOR TO
SUBMITTING FCCA (FINAL
CONSTRUCTION CONTROL AFFIDAVIT).
GC IS RESPONSIBLE FOR
COORDINATING INSPECTIONS WITH
TEP NORTHEAST (TEP OPCO, LLC.)
PRIOR TO CONSTRUCTION BEING
COMPLETED.



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AT&T	
ANTENNA LAYOUTS & ELEVATION	
SITE OVERLAY_LTE_5TH CARRIER	
SITE NUMBER	DRAWING NUMBER
CTL01134	A-2
REV	2

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ϕ HEIGHT	ANTENNA TIP HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	700 BC/850/PCS	OPA65R-BU4DA	48.2X21X7.8	140'-0"±	142'-0"±	113°	-	(E)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B2 (PCS)	-	(2)1-5/8 COAX	(E)(1) RAYCAP DC6-48-60-18
A2	-	-	-	-	-	-	-	-	-	-	(E)(2) DC POWER & (E)(1) FIBER	
A3	EXISTING	LTE 700 B14/AWS	OPA65R-BU4DA	48.2X21X7.8	140'-0"±	142'-0"±	113°	-	(E)(1) 4478 B14 (700) (P)(1) 4426 B66 (AWS)	14.9x13.2x5.8	-	
A4	EXISTING	UMTS	7770	55X11X5	140'-0"±	142'-4"±	150°	-	-	-	-	
B1	EXISTING	700 BC/850/PCS	TPA-65R-BU6DA-K	71.2X20.7X7.7	140'-0"±	143'-0"±	233°	-	(E)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B2 (PCS)	-	(2)1-5/8 COAX	(E)(1) RAYCAP DC6-48-60-18
B2	-	-	-	-	-	-	-	-	-	-	(E)(2) DC POWER & (E)(1) FIBER	
B3	EXISTING	700 BC/850/PCS	TPA-65R-BU6DA-K	71.2X20.7X7.7	140'-0"±	143'-0"±	233°	-	(E)(1) 4478 B14 (700) (P)(1) 4426 B66 (AWS)	14.9x13.2x5.8	-	
B4	EXISTING	UMTS	7770	55X11X5	140'-0"±	142'-4"±	270°	-	-	-	-	
C1	EXISTING	LTE BC/850/PCS	TPA-65R-BU6DA-K	71.2X20.7X7.7	140'-0"±	143'-0"±	353°	-	(E)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B2 (PCS)	-	(2)1-5/8 COAX	(E)(1) RAYCAP DC6-48-60-18
C2	-	-	-	-	-	-	-	-	-	-	(E)(2) DC POWER & (E)(1) FIBER	
C3	EXISTING	LTE 700 B14/AWS	TPA-65R-BU6DA-K	71.2X20.7X7.7	140'-0"±	143'-0"±	353°	-	(E)(1) 4478 B14 (700) (P)(1) 4426 B66 (AWS)	14.9x13.2x5.8	-	
C4	EXISTING	UMTS	7770	55X11X5	140'-0"±	142'-4"±	30°	-	-	-	-	

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

NOTE:
REFER TO STRUCTURAL ANALYSIS BY: CENTEK ENGINEERING, DATED: AUGUST 03, 2022, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:
REFER TO MOUNT ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: JULY 15, 2022, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE TO GENERAL CONTRACTOR:
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FINAL ANTENNA SCHEDULE 1
SCALE: N.T.S. A-3

QUANTITY	MODEL	SIZE (L x W x D)
E(3)	4449 B5/B12 (850/700)	17.9"x13.2"x10.4"
E(3)	4478 B14 (700)	18.1"x13.4"x8.3"
P(3)	4426 B66 (AWS)	14.9"x13.2"x5.8"
E(3)	RRUS-32 B2 (PCS)	27.2"x12.1"x7.0"

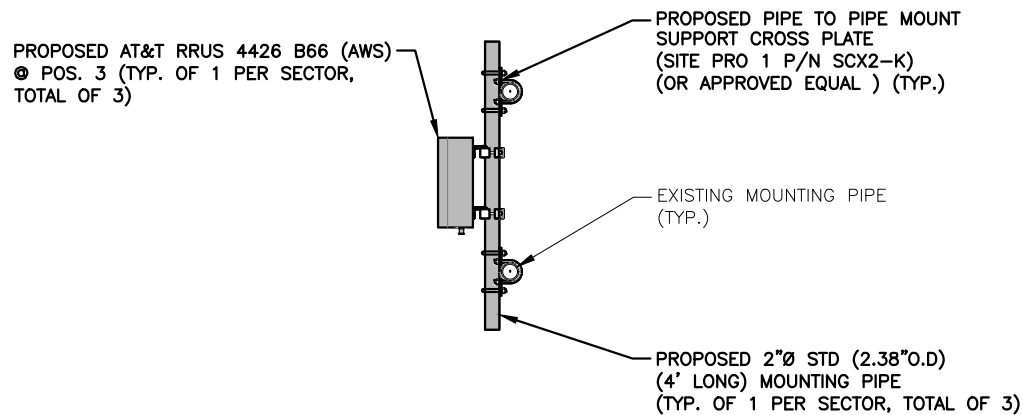
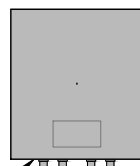
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

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 RRU DETAIL 2
SCALE: N.T.S. A-3

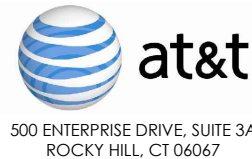


PROPOSED RRU MOUNTING DETAIL 3
22x34 SCALE: 3/4"=1'-0" A-3
11x17 SCALE: 3/8"=1'-0"



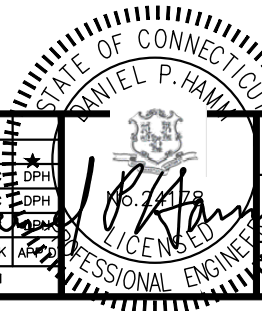
SITE NUMBER: CTL01134
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LITCHFIELD COUNTY



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SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: PM



AT&T		
DETAILS		
SITE OVERLAY_LTE_5TH CARRIER		
SITE NUMBER	DRAWING NUMBER	REV
CTL01134	A-3	2

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 D.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.

NOTES:

- ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"Ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
- VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
- CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
- EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

NOTES:

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

SPECIAL INSPECTION CHECKLIST

BEFORE CONSTRUCTION

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS ¹
N/A	MATERIAL SPECIFICATIONS REPORT ²
N/A	FABRICATOR NDE INSPECTION
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:



SITE NUMBER: CTL01134
SITE NAME: NORTH CANAAN-LOWER COUNTY RD

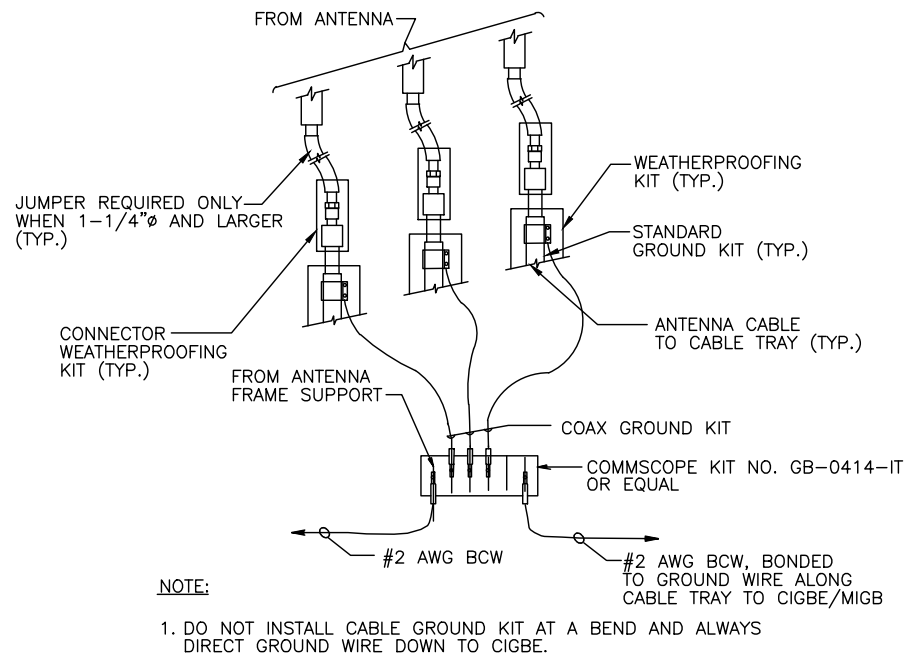
38 LOWER ROAD
 NORTH CANAAN, CT 06018
 LITCHFIELD COUNTY



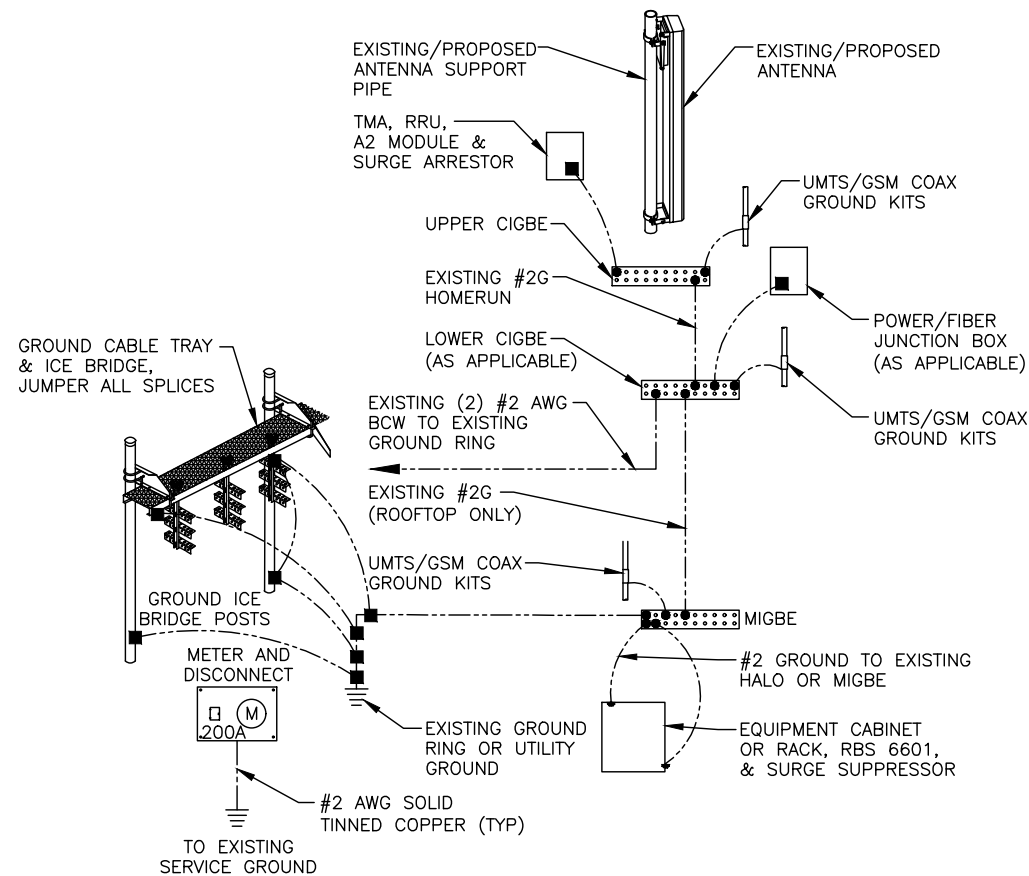
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1	10/13/22	ISSUED FOR CONSTRUCTION	YH	HC	DPH
A	07/14/22	ISSUED FOR REVIEW	YH	HC	DPH



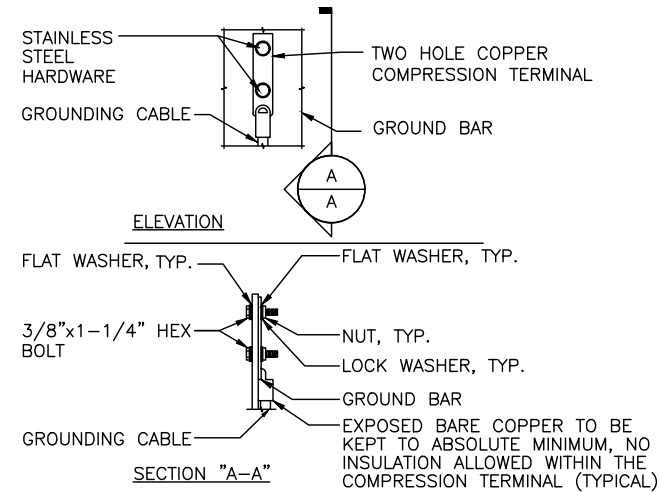
AT&T	
STRUCTURAL NOTES	
SITE OVERLAY_LTE_5TH CARRIER	
SITE NUMBER	DRAWING NUMBER
CTL01134	SN-1
REV	2



GROUND WIRE TO GROUND BAR CONNECTION DETAIL 1
SCALE: N.T.S. G-1



GROUNDING RISER DIAGRAM 2
SCALE: N.T.S. 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 3
SCALE: N.T.S. G-1

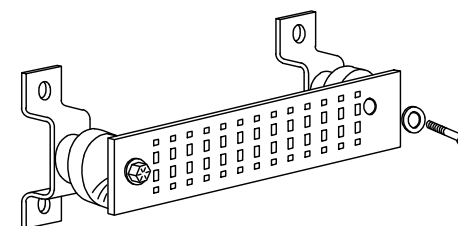
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

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.



SITE NUMBER: CTL01134
SITE NAME: NORTH CANAAN-LOWER COUNTY RD
38 LOWER ROAD
NORTH CANAAN, CT 06018
LITCHFIELD COUNTY



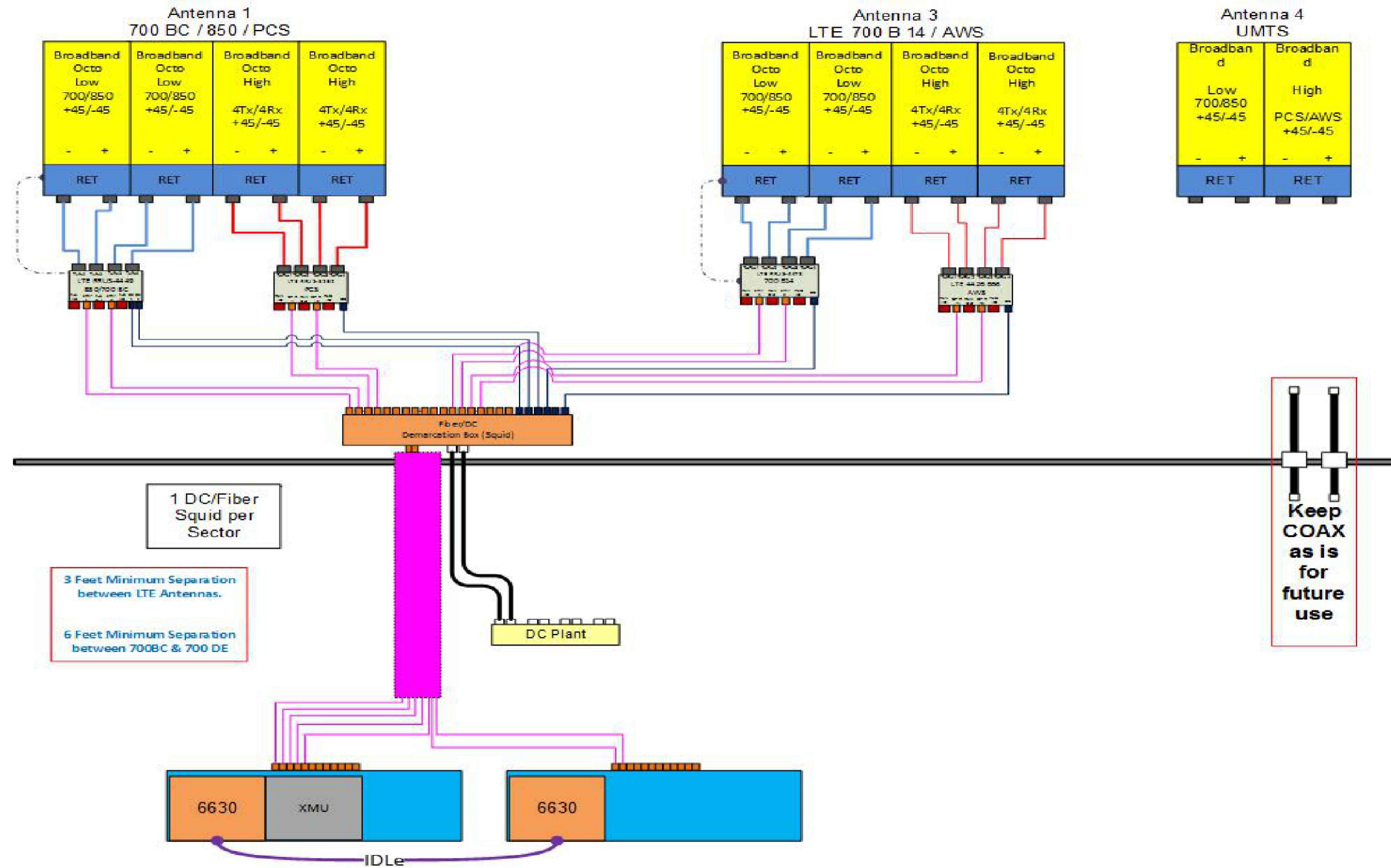
NO.	DATE	REVISIONS	BY	CHK	APP
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1	10/13/22	ISSUED FOR CONSTRUCTION	YH	HC	DPH
A	07/14/22	ISSUED FOR REVIEW	YH	HC	DPH

SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: PM



AT&T	
GROUNDING DETAILS	
SITE OVERLAY_LTE_5TH CARRIER	
SITE NUMBER	DRAWING NUMBER
CTL01134	G-1
REV	2

NOTE:
 REV: 2
 DATED: 06/24/2022
 RFDS ID: 5064354



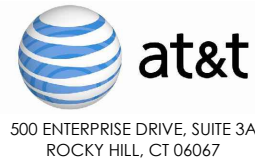
RF PLUMBING DIAGRAM 1
 SCALE: N.T.S. RF-1

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.



SITE NUMBER: CTL01134
SITE NAME: NORTH CANAAN-LOWER COUNTY RD
 38 LOWER ROAD
 NORTH CANAAN, CT 06018
 LITCHFIELD COUNTY



NO.	DATE	REVISIONS	BY	CHK	APP'D
2	04/10/23	ISSUED FOR CONSTRUCTION	YH	HC	DPH
1	10/13/22	ISSUED FOR CONSTRUCTION	YH	HC	DPH
A	07/14/22	ISSUED FOR REVIEW	PM	HC	DPH
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: PM		

AT&T		
RF PLUMBING DIAGRAM		
SITE OVERLAY_LTE_5TH CARRIER		
SITE NUMBER	DRAWING NUMBER	REV
CTL01134	RF-1	2

Exhibit D

Structural Analysis Report

Structural Analysis Report

195-ft Existing Pirod Lattice Tower

AT&T Site #: CT1134

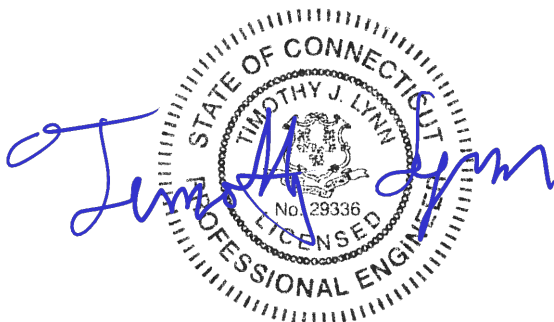
*38 Lower Road
North Canaan, CT*

Centek Project No. 22007.06

~~Date: August 3, 2022~~

Rev 1: May 1, 2023

Max Stress Ratio = 71.9%



Prepared for:
AT&T Mobility
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

Table of Contents

SECTION 1 – REPORT

- INTRODUCTION
- ANTENNA AND APPURTENANCE SUMMARY
- PRIMARY ASSUMPTIONS USED IN THE ANALYSIS
- ANALYSIS
- TOWER LOADING
- TOWER CAPACITY
- FOUNDATION AND ANCHORS
- CONCLUSION

SECTION 2 – CONDITIONS & SOFTWARE

- STANDARD ENGINEERING CONDITIONS
- GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

SECTION 3 – CALCULATIONS

- tnxTower INPUT/OUTPUT SUMMARY
- tnxTower FEED LINE PLAN
- tnxTower FEED LINE DISTRIBUTION
- tnxTower DETAILED OUTPUT
- FOUNDATION ANALYSIS

SECTION 4 – REFERENCE MATERIALS

- RF DATA SHEET

I n t r o d u c t i o n

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

The host tower is a 195-ft, three legged, steel lattice tower originally designed and manufactured by PiROD Inc., Job No. A-117388 dated 2/13/2001. The tower geometry, structure member sizes and foundation information were taken from the original design documents.

Antenna and appurtenance information were obtained from a previous structural analysis prepared by Hudson Design Group (for Verizon) dated August 16, 2021, a previous structural analysis prepared by EFI Global (for T-Mobile) dated February 4, 2022 and a AT&T RFDS.

The tower consists of eleven (11) vertical sections consisting of truss legs conforming to ASTM A572 Gr. 50. Horizontal and diagonal lateral support bracing consists of steel angles conforming to ASTM A36. The vertical tower sections are connected by bolted flange plates while the legs and bracing are connected by bolted and welded gusset connections. The tower face width is 12.00-ft at the top and 26.00-ft at the bottom.

A n t e n n a a n d A p p u r t e n a n c e S u m m a r y

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

- **Unknown (Existing):**
Antennas: One (1) 6-ft Microwave dish leg mounted with a RAD center elevation of ± 188 -ft above grade level.
Coax Cable: One (1) WE-65 elliptical coax cable running on the leg of the existing tower as specified in Section 3 of this report. (coax on inner tower)
- **Unknown (Existing):**
Antennas: Four (4) Kathrein OGT9-840 Omni-directional whip antennas and one (1) Telewave ANT150D3 dipole mounted on three (3) 6-ft PiROD Rigid Side arms with an elevation of 184-ft above grade level.
Coax Cables: One (1) 1-5/8" \varnothing and four (4) 7/8" \varnothing coax cables running on the leg of the existing tower as specified in Section 3 of this report. (coax on inner tower)
- **Unknown (Existing):**
Antennas: One (1) Telewave ANT150F2 Omni-directional whip antenna mounted on a 3-ft side arm with an elevation of 183-ft above grade level.
Coax Cables: One (1) 1-5/8" \varnothing coax cable running on the leg/face of the existing tower as specified in Section 3 of this report. (coax on inner tower)
- **Verizon (Existing):**
Antennas: Six (6) Commscope LPA80090-4CF, six (6) Commscope NHH-65B-R2B panel antennas, three (3) Samsung MT6407-77A panel antennas, three (3) B5/B13 RRH-BR04C remote radio heads, three (3) B2/B66A RRH-BR049 remote radio heads and one (1) Raycap RCMDC-6627-PF-48 surge arrestor mounted on three (3) existing 12-ft T-Frames with a RAD center elevation of ± 168 -ft above grade level.
Coax Cable: Six (6) 1-5/8" \varnothing coax cables and one (1) 1-5/8" \varnothing hybrid cable running on a leg/face of the existing tower as specified in Section 3 of this report. (coax on exterior tower)

- Sprint (Existing):
Antenna: Three (3) RFS APXV9ERR18-C-A20 panel antennas, three (3) Commscope DT465B-2XR panel antennas, six (6) 800mhz remote radio head, three (3) 1900mhz remote radio heads and three (3) Alcatel-Lucent TD-RRH8x20-25 remote radio heads mounted on three (3) existing 12-ft T-Frames with a RAD center elevation of ±154-ft above grade level.
Coax Cable: Four (4) fiber cables running on a leg/face of the existing tower as specified in Section 3 of this report. (coax on inner tower)
- T-MOBILE (Existing):
Antennas: Four (4) Ericsson AIR6449 panel antennas, four (4) Commscope VV-65A-R1 panel antennas, four (4) RFS APXVAALL24-43 panel antennas, four (4) Ericsson 4460 remote radio heads, four (4) Ericsson 4480 remote radio heads and one (1) Commscope SC2-W100AB microwave dish mounted on one (1) custom 4-sided sector frame with a RAD center elevation of 125-ft AGL.
Coax Cables: Four (4) 1-5/8" ∅ fiber cables and one (1) 1/2" ∅ coax cable running on a leg/face of the existing tower. (coax on exterior tower)
- Unknown (Existing):
Equipment: One (1) vacant 6-ft PiROD Rigid Side arm face mounted to the existing tower with an elevation of 118-ft above grade level.
- Unknown (Existing):
Antennas: One (1) Telewave ANT150D3 dipole mounted on one (1) 6-ft PiROD Rigid Side arms with an elevation of 105-ft above grade level.
Coax Cables: One (1) 7/8" ∅ coax cable running on the leg of the existing tower as specified in Section 3 of this report. (coax on inner tower)
- Unknown (Existing):
Equipment: One (1) vacant 6-ft PiROD Rigid Side arm face mounted to the existing tower with an elevation of ±98-ft above grade level.
- Unknown (Existing):
Antennas: One (1) Celwave PD458-2 Omni-directional whip antenna mounted on one (1) 6-ft PiROD Rigid Side arm with an elevation of ±98-ft above grade level.
Coax Cables: One (1) 7/8" ∅ coax cable running on the leg of the existing tower as specified in Section 3 of this report. (coax on inner tower)
- Unknown (Existing):
Antennas: One (1) 6-ft Microwave dish with ice shield leg mounted with a RAD center elevation of ±97-ft above grade level.
Coax Cable: One (1) WE-65 elliptical coax cable running on the leg of the existing tower as specified in Section 3 of this report. (coax on inner tower)
- Unknown (Existing):
Antennas: One (1) Antel BCD-80609 Omni-directional whip antenna, one (1) yagi, one (1) DB222-A 2-Bay Dipole antenna, one (1) Celwave PD220 Omni-directional whip antenna and one (1) Celwave PD1142 Omni-directional whip mounted on three (3) 6-ft PiROD Rigid Side arms with an elevation of 78-ft above grade level.
Coax Cables: One (1) 1-5/8" ∅, one (1) 7/8" ∅ and three (3) 1/2" ∅ coax cables running on the leg of the existing tower as specified in Section 3 of this report. (coax on inner tower)

- **Unknown (Existing):**
Antennas: One (1) GPS mounted on one (1) 2-ft side arm with an elevation of 32-ft above grade level.
Coax Cables: One (1) 1/2" \varnothing coax cable running on the leg of the existing tower as specified in Section 3 of this report. (coax on inner tower)
- **AT&T(EXISTING TO REMAIN)**
Antennas: Three (3) Powerwave 7770 panel antennas, two (2) CCI OPA65R-BU4D panel antennas, four (4) CCI TPA-65R-BU6D panel antennas, three (3) Ericsson RRUS-32 remote radio heads, three (3) Ericsson 4478 B14 remote radio heads, three (3) Ericsson 4449 B5/B12 remote radio heads and three (3) Raycap DC6-48-60-18 8F surge arrestors mounted on three (3) existing 12-ft T-Frames with a RAD center elevation of ± 140 -ft above grade level
Coax Cables: Six (6) 1-5/8" \varnothing coax cables, three (3) fiber cable and six (6) dc control cables running on a leg/face of the existing tower as specified in Section 3 of this report. (coax on inner tower)
- **AT&T(EXISTING TO REMOVE)**
Antennas: Three (3) Powerwave TT19-08BP111-001 TMAs mounted on three (3) existing 12-ft T-Frames with a RAD center elevation of ± 140 -ft above grade level.
Coax Cables: Six (6) 1-5/8" \varnothing coax cables running on a leg/face of the existing tower as specified in Section 3 of this report. (coax on inner tower).
- **AT&T (PROPOSED):**
Antenna: Three (3) Ericsson 4426 B66 remote radio heads mounted on three (3) existing 12-ft T-Frames with a RAD center elevation of ± 140 -ft above grade level.

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.

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 P 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 1.00" radial ice on the tower structure and its components.

Load Cases:	<u>Load Case 1</u> ; 125 mph (Risk Cat III) wind speed w/ no ice plus gravity load – used in calculation of tower stresses and rotation.	<i>[Appendix P of the 2022 CT Building Code]</i>
	<u>Load Case 2</u> ; 40 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>

¹ The 2021 International Building Code as amended by the 2022 Connecticut State Building Code (CSBC).

Tower Capacity

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

Tower Section	Elevation	Stress Ratio (percentage of capacity)	Result
Leg (T12)	20'-0" - 40'-0"	71.9%	PASS
Diagonal (T9)	80'-0" - 100'-0"	63.1%	PASS

Foundation and Anchors

The existing foundation consists of one (1) 31.5' square x 4' thick reinforced concrete mat with (12) rock anchors. The inner tower legs are connected to the foundation by means of six (6) anchor bolts per leg, embedded into the concrete foundation structure. The sub-grade conditions used in the analysis of the existing foundation were obtained from the aforementioned manufacturers original design documents. The outer tower legs are connected directly to the rock below the mat by means of six (6) 2"Ø, ASTM 687 Grade 105 anchor bolts per leg attached to a leg to rock bolt adapter assembly.

- The tower reactions developed from the governing Load Case 1 of the proposed reinforced tower condition were used in the verification of the foundation and anchor bolts:

Leg Reactions	Vector	Proposed Tower Reactions
Leg	Shear	54 kips
	Compression	397 kips
	Uplift	337 kips
Base	Shear	77 kips
	Compression	79 kips
	Moment	8357 kip-ft

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

Tower Section	Component	Stress Ratio (percentage of capacity)	Result
Anchor Bolts	Tension	18.6%	PASS

- The foundation was found to be within allowable limits.

Foundation Type	Design Limit	Allowable Limit/FS	Proposed Loading	Result
Rock Anchored Mat	Ultimate Bearing Pressure	20.00 ksf	1.43 ksf	PASS
	Uplift Resistance	1.00 ⁽¹⁾	1.6	PASS

Note 1: Minimum required Factor of Safety (FS) of 1.0 required per TIA-222-H section 9.4

Conclusion

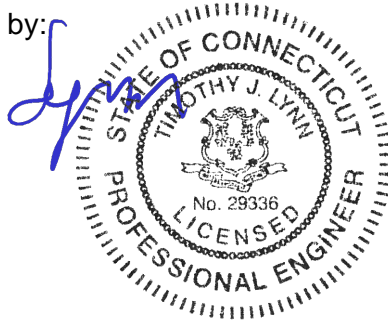
This analysis shows that the subject tower **is adequate** to support the proposed antenna configuration.

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.

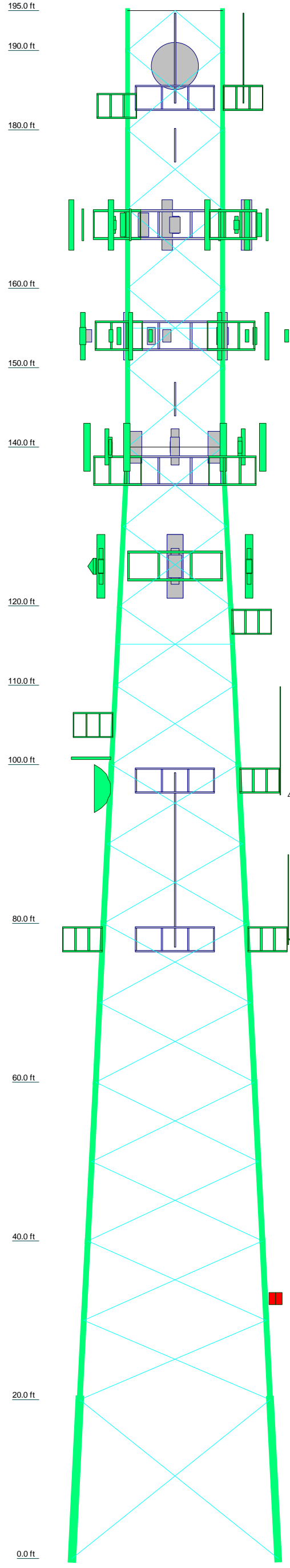
GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

tnxTower, is an integrated structural analysis and design software package for Designed specifically for the telecommunications industry, tnxTower, formerly ERITower, 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-H standard or any of the previous TIA/EIA standards back to RS-222 (1959). Steel design is checked using the AISC ASD 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.

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	
Legs	P10d 105244	P10d 105216	P10d 105217	P10d 105218	P10d 105219	P10d 105220	P10d 112738							
Leg Grade					A572-50									
Diagonals		L2 1/2x2 1/2x3/16	L3x3x3/16	L3x3x5/16	L4x4x1/4	L4x4x3/8	L5x5x3/8	L3 1/2x3 1/2x5/16	L3 1/2x3 1/2x5/16	L3 1/2x3 1/2x5/16	L3 1/2x3 1/2x5/16	L3 1/2x3 1/2x5/16	L3 1/2x3 1/2x5/16	L3 1/2x3 1/2x5/16
Diagonal Grade	A				A36									
Top Girts			N.A.											
Sec. Horizontals			N.A.											
Face Width (ft)	12				14	15	16	18	20	22	24			
# Panels @ (ft)	1 @ 5				17 @ 10									
Weight (K)	0.9	1.1	2.0	1.6	3.5	2.1	4.7	5.6	7.0	7.3	7.8			



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
6' Dish	188	(2) TPA65R-BU6D (ATI - Existing)	140
OGT9-840	184	7770.00 (ATI - Existing)	140
OGT9-840	184	(2) TPA65R-BU6D (ATI - Existing)	140
P10d 6-8' Box Arm (1)	184	RRUS-32 (ATI - Existing)	140
OGT9-840	184	RRUS-32 (ATI - Existing)	140
OGT9-840	184	RRUS-32 (ATI - Existing)	140
P10d 6-8' Box Arm (1)	184	4478 B14 (ATI - Existing)	140
ANT150D3	184	4478 B14 (ATI - Existing)	140
P10d 6-8' Box Arm (1)	184	4478 B14 (ATI - Existing)	140
ANT150F2	183	4449 B5/B12 (ATI - Existing)	140
3' Side Mount Standoff	183	4449 B5/B12 (ATI - Existing)	140
ANT220F2 (Eversource)	175	4426 B66 (ATI - Proposed)	140
SitePro USF-4U (Eversource)	175	4449 B5/B12 (ATI - Existing)	140
B2/B66A RRH (Verizon)	168	P10d 12' T-Frame Sector Mount (1) (ATI - Existing)	137
B2/B66A RRH (Verizon)	168	P10d 12' T-Frame Sector Mount (1) (ATI - Existing)	137
B5/B13 RRH (Verizon)	168	P10d 12' T-Frame Sector Mount (1) (ATI - Existing)	137
B5/B13 RRH (Verizon)	168	P10d 12' T-Frame Sector Mount (1) (ATI - Existing)	137
P10d 12' T-Frame Sector Mount (1) (Verizon)	168	SitePro SFS-V-L	137
P10d 12' T-Frame Sector Mount (1) (Verizon)	168	SitePro SFS-V-L	137
P10d 12' T-Frame Sector Mount (1) (Verizon)	168	SitePro SFS-V-L	137
MT6407-77A (Verizon)	168	4460 B25+B66 (T-Mobile)	125
MT6407-77A (Verizon)	168	Custom 4-Sided Sector Mount (T-Mobile)	125
LPA-80090-4CF (Verizon)	168	4460 B25+B66 (T-Mobile)	125
(2) NHH-65B-R2B (Verizon)	168	4480 B71+B85 (T-Mobile)	125
LPA-80090-4CF (Verizon)	168	4460 B25+B66 (T-Mobile)	125
LPA-80090-4CF (Verizon)	168	AIR6449 (T-Mobile)	125
(2) NHH-65B-R2B (Verizon)	168	APXVAALL24-43 (T-Mobile)	125
LPA-80090-4CF (Verizon)	168	VV-65A-R1 (T-Mobile)	125
(2) NHH-65B-R2B (Verizon)	168	AIR6449 (T-Mobile)	125
RVZDC-6627-PF-48 (Verizon)	168	APXVAALL24-43 (T-Mobile)	125
LPA-80090-4CF (Verizon)	168	VV-65A-R1 (T-Mobile)	125
(2) NHH-65B-R2B (Verizon)	168	AIR6449 (T-Mobile)	125
RVZDC-6627-PF-48 (Verizon)	168	4480 B71+B85 (T-Mobile)	125
LPA-80090-4CF (Verizon)	168	4480 B25+B66 (T-Mobile)	125
B2/B66A RRH (Verizon)	168	4480 B71+B85 (T-Mobile)	125
MT6407-77A (Verizon)	168	APXVAALL24-43 (T-Mobile)	125
TD-RRH8x20-25 (Sprint)	154	VV-65A-R1 (T-Mobile)	125
P10d 12' T-Frame Sector Mount (1) (Sprint)	154	AIR6449 (T-Mobile)	125
P10d 12' T-Frame Sector Mount (1) (Sprint)	154	APXVAALL24-43 (T-Mobile)	125
P10d 12' T-Frame Sector Mount (1) (Sprint)	154	VV-65A-R1 (T-Mobile)	125
APXV9ERR18-C-A20 (Sprint)	154	AIR6449 (T-Mobile)	125
APXV9ERR18-C-A20 (Sprint)	154	APXVAALL24-43 (T-Mobile)	125
APXV9ERR18-C-A20 (Sprint)	154	VV-65A-R1 (T-Mobile)	125
APXV9ERR18-C-A20 (Sprint)	154	SC2-W100AB (T-Mobile Proposed)	125
DT465B-2XR (Sprint)	154	4480 B71+B85 (T-Mobile)	125
DT465B-2XR (Sprint)	154	P10d 6-8' Box Arm (1) (Vacant)	118
(2) FD-RRH 2x50 800 (Sprint)	154	ANT150D3	105
(2) FD-RRH 2x50 800 (Sprint)	154	P10d 6-8' Box Arm (1)	105
(2) FD-RRH 2x50 800 (Sprint)	154	6' Dish Ice Shield	101
FD-RRH 4x45 1900 (Sprint)	154	P10d 6-8' Box Arm (1) (Vacant)	98
FD-RRH 4x45 1900 (Sprint)	154	PD458-2	98
FD-RRH 4x45 1900 (Sprint)	154	P10d 6-8' Box Arm (1)	98
TD-RRH8x20-25 (Sprint)	154	6' Dish	97
TD-RRH8x20-25 (Sprint)	154	6' Yagi	78
ANT220F2 (Eversource)	143	P10d 6-8' Box Arm (1)	78
SitePro USF-4U (Eversource)	143	DB222	78
4426 B66 (ATI - Proposed)	140	P10d 6-8' Box Arm (1)	78
4426 B66 (ATI - Proposed)	140	PD220	78
DC6-48-60-18-8F Surge Arrestor (ATI - Existing)	140	PD1142-1	78
DC6-48-60-18-8F Surge Arrestor (ATI - Existing)	140	BCD-80609-NE	78
DC6-48-60-18-8F Surge Arrestor (ATI - Existing)	140	P10d 6-8' Box Arm (1)	78
DC6-48-60-18-8F Surge Arrestor (ATI - Existing)	140	GPS	32
7770.00 (ATI - Existing)	140	2-ft Stand Off	32
(2) OPA65R-BU4D (ATI - Existing)	140		
7770.00 (ATI - Existing)	140		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	2L2 1/2x2 1/2x3/16		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

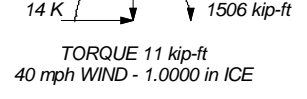
1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 40 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category III.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 71.9%

ALL REACTIONS ARE FACTORED

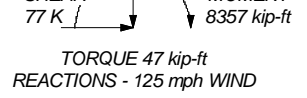
MAX. CORNER REACTIONS AT BASE:

DOWN: 397 K
SHEAR: 54 K

UPLIFT: -337 K
SHEAR: 46 K



TORQUE 11 kip-ft
40 mph WIND - 1.0000 in ICE

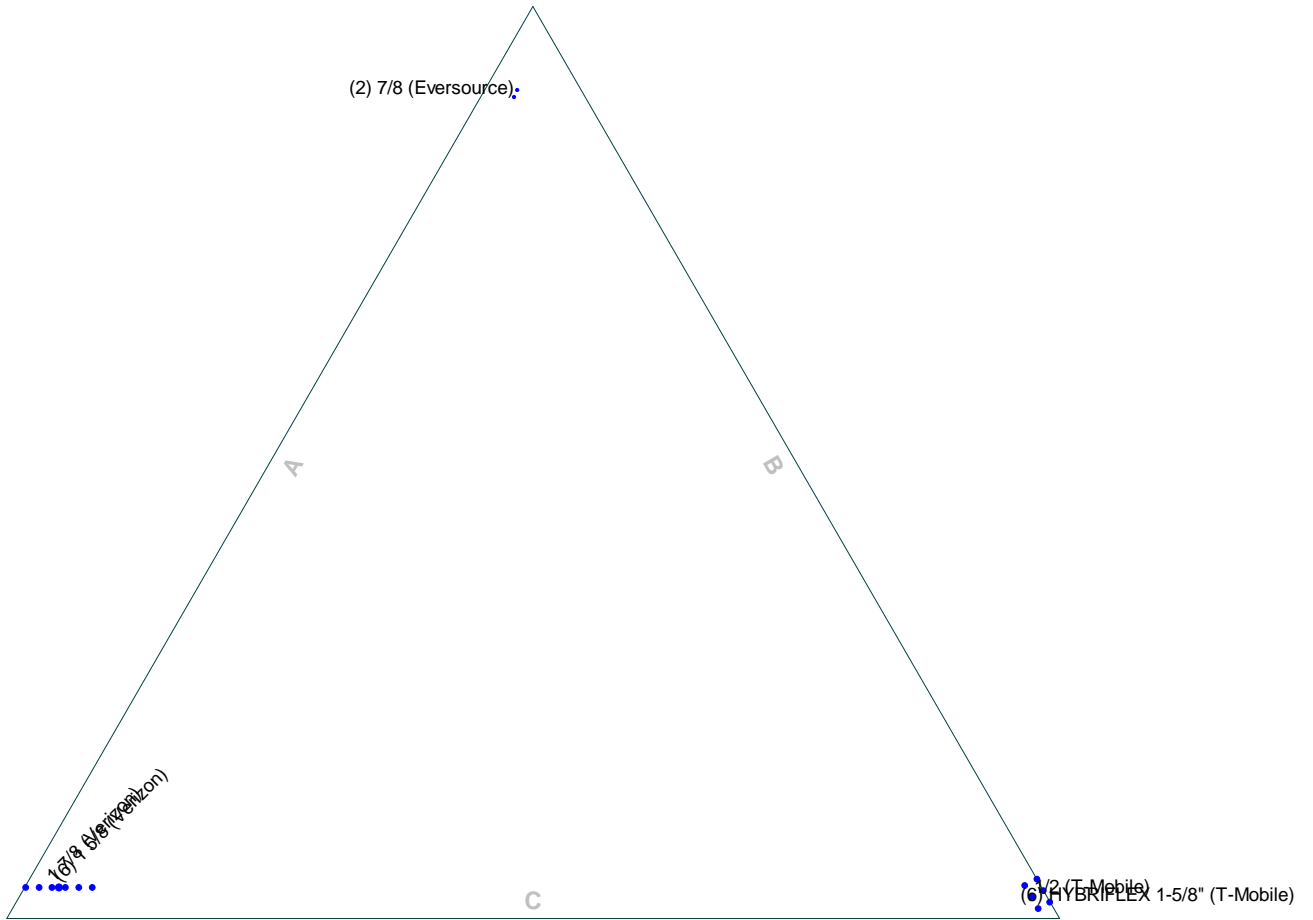


TORQUE 47 kip-ft
REACTIONS - 125 mph WIND

Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job: 22007.06- CT1134
	Project: 38 Lower Road, North Canaan, CT
	Client: AT&T Drawn by: TJL App'd:
	Code: TIA-222-H Date: 05/01/23 Scale: NTS
	Path: J:\20220706\W06_C1113406_Structural\Backup Documentation\Rev 11\ER Files\Output Tower\195 P10d Lattice Tower.dwg Dwg No. E-1

Feed Line Plan

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



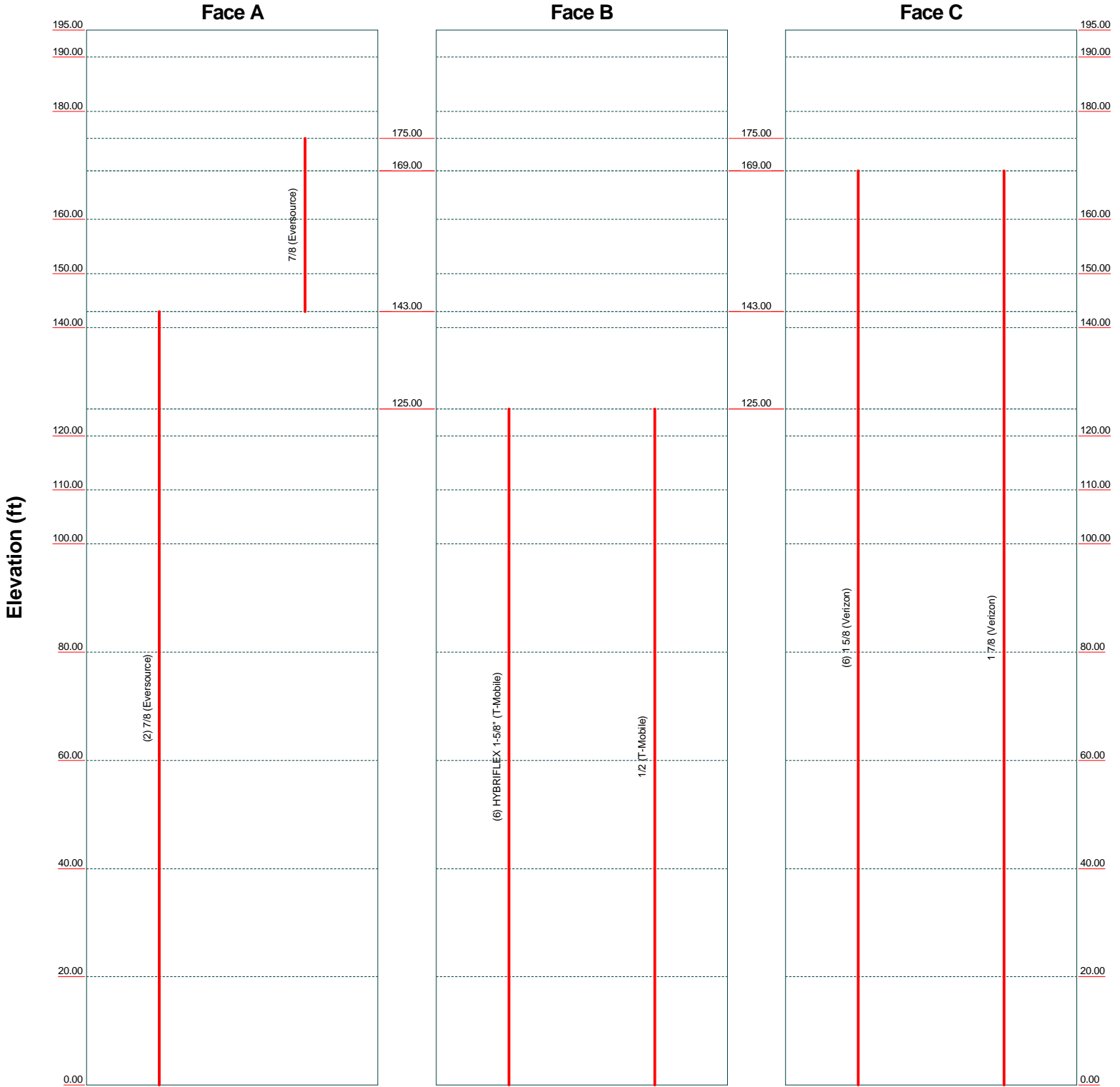
Centek Engineering Inc.		Job: 22007.06- CT1134	
63-2 North Branford Rd. Branford, CT 06405		Project: 38 Lower Road, North Canaan, CT	
Phone: (203) 488-0580	Code: TIA-222-H	Drawn by: T.JL	App'd:
FAX: (203) 488-8587	Path:	Date: 05/01/23	Scale: NTS
		Dwg No. E-7	

J:\Jobs\22007.06-CT1134-05-Structural\Backup Documents\Rev 11\ER Feed\Outer Tower\195 Prod Lattice Tower.rvt

Feed Line Distribution Chart

0' - 195'

— 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: 22007.06- CT1134	Project: 38 Lower Road, North Canaan, CT	Client: AT&T
Code: TIA-222-H	Date: 05/01/23	Drawn by: TJL
Path:		App'd:
		Scale: NTS
		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 22007.06- CT1134	Page 1 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 195.00 ft above the ground line.

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

The face width of the tower is 12.00 ft at the top and 26.00 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 125 mph.

Risk Category III.

Exposure Category C.

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

Topographic Category: 1.

Crest Height: 0.00 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 40 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.

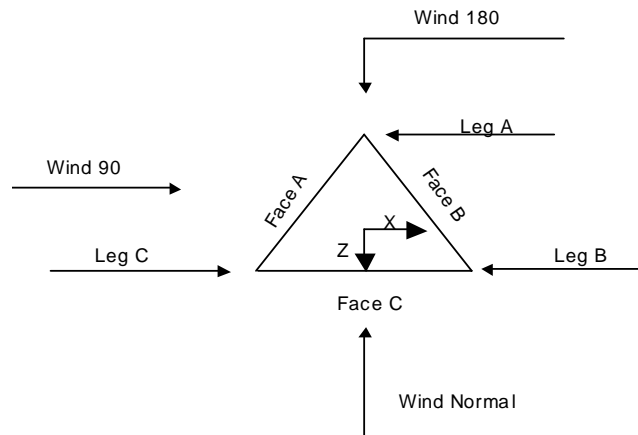
Stress ratio used in tower member design is 1.

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 22007.06- CT1134	Page 2 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJJ



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	195.00-190.00			12.00	1	5.00
T2	190.00-180.00			12.00	1	10.00
T3	180.00-160.00			12.00	1	20.00
T4	160.00-150.00			12.00	1	10.00
T5	150.00-140.00			12.00	1	10.00
T6	140.00-120.00			12.00	1	20.00
T7	120.00-110.00			14.00	1	10.00
T8	110.00-100.00			15.00	1	10.00
T9	100.00-80.00			16.00	1	20.00
T10	80.00-60.00			18.00	1	20.00
T11	60.00-40.00			20.00	1	20.00
T12	40.00-20.00			22.00	1	20.00
T13	20.00-0.00			24.00	1	20.00

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	195.00-190.00	5.00	K Brace Down	No	Yes	0.0000	0.0000
T2	190.00-180.00	10.00	X Brace	No	No	0.0000	0.0000

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	3 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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
T3	180.00-160.00	10.00	X Brace	No	No	0.0000	0.0000
T4	160.00-150.00	10.00	X Brace	No	Yes	0.0000	0.0000
T5	150.00-140.00	10.00	X Brace	No	No	0.0000	0.0000
T6	140.00-120.00	10.00	X Brace	No	No	0.0000	0.0000
T7	120.00-110.00	10.00	X Brace	No	Yes	0.0000	0.0000
T8	110.00-100.00	10.00	X Brace	No	No	0.0000	0.0000
T9	100.00-80.00	10.00	X Brace	No	No	0.0000	0.0000
T10	80.00-60.00	10.00	X Brace	No	No	0.0000	0.0000
T11	60.00-40.00	10.00	X Brace	No	No	0.0000	0.0000
T12	40.00-20.00	10.00	X Brace	No	No	0.0000	0.0000
T13	20.00-0.00	20.00	X Brace	No	No	0.0000	0.0000

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 195.00-190.00	Truss Leg	Pirod 105244	A572-50 (50 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/16	A36 (36 ksi)
T2 190.00-180.00	Truss Leg	Pirod 105244	A572-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T3 180.00-160.00	Truss Leg	Pirod 105216	A572-50 (50 ksi)	Single Angle	L3x3x3/16	A36 (36 ksi)
T4 160.00-150.00	Truss Leg	Pirod 105217	A572-50 (50 ksi)	Single Angle	L3x3x5/16	A36 (36 ksi)
T5 150.00-140.00	Truss Leg	Pirod 105217	A572-50 (50 ksi)	Single Angle	L3x3x5/16	A36 (36 ksi)
T6 140.00-120.00	Truss Leg	Pirod 105218	A572-50 (50 ksi)	Single Angle	L3x3x5/16	A36 (36 ksi)
T7 120.00-110.00	Truss Leg	Pirod 105218	A572-50 (50 ksi)	Single Angle	L3 1/2x3 1/2x5/16	A36 (36 ksi)
T8 110.00-100.00	Truss Leg	Pirod 105218	A572-50 (50 ksi)	Single Angle	L3 1/2x3 1/2x5/16	A36 (36 ksi)
T9 100.00-80.00	Truss Leg	Pirod 105219	A572-50 (50 ksi)	Single Angle	L4x4x1/4	A36 (36 ksi)
T10 80.00-60.00	Truss Leg	Pirod 105219	A572-50 (50 ksi)	Single Angle	L4x4x3/8	A36 (36 ksi)
T11 60.00-40.00	Truss Leg	Pirod 105220	A572-50 (50 ksi)	Single Angle	L5x5x3/8	A36 (36 ksi)
T12 40.00-20.00	Truss Leg	Pirod 105220	A572-50 (50 ksi)	Single Angle	L5x5x3/8	A36 (36 ksi)
T13 20.00-0.00	Truss Leg	Pirod 112738	A572-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 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
T6 140.00-120.00	Single Angle	L3x3x5/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 4 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

Tower Section Geometry (cont'd)

Tower Elevation	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
ft							
T1 195.00-190.00	None	Solid Round		A572-50 (50 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/16	A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
ft						
T4 160.00-150.00	Single Angle	L3x3x5/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T7 120.00-110.00	Single Angle	L3 1/2x3 1/2x5/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)

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	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
T1 195.00-190.00	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	Mid-Pt	36.0000
T2 190.00-180.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 180.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 160.00-150.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T5 150.00-140.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T6 140.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T7 120.00-110.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T8 110.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T9 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T10 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T11 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 5 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJJ

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	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
T12 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T13 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	Mid-Pt	36.0000	36.0000

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors ¹								
			Legs	X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace	
											X
ft			Y	Y	Y	Y	Y	Y	Y	Y	
T1	Yes	Yes	1	1	1	1	1	1	1	1	1
195.00-190.00				1	1	1	1	1	1	1	1
T2	Yes	Yes	1	1	1	1	1	1	1	1	1
190.00-180.00				1	1	1	1	1	1	1	1
T3	Yes	Yes	1	1	1	1	1	1	1	1	1
180.00-160.00				1	1	1	1	1	1	1	1
T4	Yes	Yes	1	1	1	1	1	1	1	1	1
160.00-150.00				1	1	1	1	1	1	1	1
T5	Yes	Yes	1	1	1	1	1	1	1	1	1
150.00-140.00				1	1	1	1	1	1	1	1
T6	Yes	Yes	1	1	1	1	1	1	1	1	1
140.00-120.00				1	1	1	1	1	1	1	1
T7	Yes	Yes	1	1	1	1	1	1	1	1	1
120.00-110.00				1	1	1	1	1	1	1	1
T8	Yes	Yes	1	1	1	1	1	1	1	1	1
110.00-100.00				1	1	1	1	1	1	1	1
T9	Yes	Yes	1	1	1	1	1	1	1	1	1
100.00-80.00				1	1	1	1	1	1	1	1
T10	Yes	Yes	1	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1	1
T11	Yes	Yes	1	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1	1
T12	Yes	Yes	1	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1	1
T13	Yes	Yes	1	1	1	1	1	1	1	1	1
20.00-0.00				1	1	1	1	1	1	1	1

¹Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.

Tower Section Geometry (cont'd)

Tower Elevation	Truss-Leg K Factors					
	Leg Panels	Truss-Legs Used As Leg Members		Leg Panels	Truss-Legs Used As Inner Members	
		X Brace Diagonals	Z Brace Diagonals		X Brace Diagonals	Z Brace Diagonals
ft						
T1 195.00-190.00	1	0.5	0.85	1	0.5	0.85

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 8 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

Tower Elevation ft	Leg Connection Type	Leg		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.	Bolt Size in	No.
T3 180.00-160.00	Flange	1.0000	6	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T4 160.00-150.00	Flange	0.0000	0	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	1.0000	1
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T5 150.00-140.00	Flange	1.0000	6	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T6 140.00-120.00	Flange	1.0000	6	1.0000	1	0.6250	0	0.6250	0	0.6250	0	1.0000	1	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T7 120.00-110.00	Flange	0.0000	0	1.0000	1	1.0000	1	0.6250	0	0.6250	0	0.6250	0	1.0000	1
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T8 110.00-100.00	Flange	1.0000	6	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325X		A325N		A325N	
T9 100.00-80.00	Flange	1.2500	6	1.2500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325X		A325N		A325N	
T10 80.00-60.00	Flange	1.2500	6	1.2500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325X		A325N		A325N	
T11 60.00-40.00	Flange	1.2500	6	1.2500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325X		A325N		A325N	
T12 40.00-20.00	Flange	1.2500	6	1.2500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325X		A325N		A325N	
T13 20.00-0.00	Flange	2.0000	6	1.0000	2	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A687		A325N		A325N		A325N		A325X		A325N		A325N	

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
HYBRIFLEX 1-5/8" (T-Mobile)	B	No	No	Ar (CaAa)	125.00 - 0.00	-3.0000	0.47	6	3	1.9800	1.9800		1.90
1 5/8 (Verizon)	C	No	No	Ar (CaAa)	169.00 - 0.00	-8.0000	0.45	6	6	1.9800	1.9800		1.04
1 7/8 (Verizon)	C	No	No	Ar (CaAa)	169.00 - 0.00	-8.0000	0.45	1	1	2.2250	2.2250		1.04
1/2 (T-Mobile)	B	No	No	Ar (CaAa)	125.00 - 0.00	-3.0000	0.47	1	1	0.5800	0.5800		0.25
7/8 (Eversource)	A	No	No	Ar (CaAa)	143.00 - 0.00	-8.0000	0.42	2	2	1.1100	1.1100		0.54
7/8 (Eversource)	A	No	No	Ar (CaAa)	175.00 - 143.00	-8.0000	0.42	1	1	1.1100	1.1100		0.54

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	195.00-190.00	A	0.000	0.000	0.000	0.000	0.00
		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	22007.06- CT1134	Page	9 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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
T2	190.00-180.00	C	0.000	0.000	0.000	0.000	0.00
		A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
T3	180.00-160.00	C	0.000	0.000	0.000	0.000	0.00
		A	0.000	0.000	1.665	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.00
T4	160.00-150.00	C	0.000	0.000	12.695	0.000	0.07
		A	0.000	0.000	1.110	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.00
T5	150.00-140.00	C	0.000	0.000	14.105	0.000	0.07
		A	0.000	0.000	1.443	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.00
T6	140.00-120.00	C	0.000	0.000	14.105	0.000	0.07
		A	0.000	0.000	4.440	0.000	0.02
		B	0.000	0.000	6.230	0.000	0.06
T7	120.00-110.00	C	0.000	0.000	28.210	0.000	0.15
		A	0.000	0.000	2.220	0.000	0.01
		B	0.000	0.000	12.460	0.000	0.12
T8	110.00-100.00	C	0.000	0.000	14.105	0.000	0.07
		A	0.000	0.000	2.220	0.000	0.01
		B	0.000	0.000	12.460	0.000	0.12
T9	100.00-80.00	C	0.000	0.000	14.105	0.000	0.07
		A	0.000	0.000	4.440	0.000	0.02
		B	0.000	0.000	24.920	0.000	0.23
T10	80.00-60.00	C	0.000	0.000	28.210	0.000	0.15
		A	0.000	0.000	4.440	0.000	0.02
		B	0.000	0.000	24.920	0.000	0.23
T11	60.00-40.00	C	0.000	0.000	28.210	0.000	0.15
		A	0.000	0.000	4.440	0.000	0.02
		B	0.000	0.000	24.920	0.000	0.23
T12	40.00-20.00	C	0.000	0.000	28.210	0.000	0.15
		A	0.000	0.000	4.440	0.000	0.02
		B	0.000	0.000	24.920	0.000	0.23
T13	20.00-0.00	C	0.000	0.000	28.210	0.000	0.15
		A	0.000	0.000	4.440	0.000	0.02
		B	0.000	0.000	24.920	0.000	0.23

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	195.00-190.00	A	1.372	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
T2	190.00-180.00	A	1.366	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
T3	180.00-160.00	A	1.355	0.000	0.000	5.730	0.000	0.07
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	32.493	0.000	0.44
T4	160.00-150.00	A	1.342	0.000	0.000	3.795	0.000	0.05
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	36.042	0.000	0.49
T5	150.00-140.00	A	1.333	0.000	0.000	5.302	0.000	0.06
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	35.998	0.000	0.48

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 10 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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
T6	140.00-120.00	A	1.319	0.000	0.000	17.618	0.000	0.16
		B		0.000	0.000	11.104	0.000	0.24
		C		0.000	0.000	71.853	0.000	0.96
T7	120.00-110.00	A	1.303	0.000	0.000	8.754	0.000	0.08
		B		0.000	0.000	22.119	0.000	0.47
		C		0.000	0.000	35.847	0.000	0.47
T8	110.00-100.00	A	1.291	0.000	0.000	8.713	0.000	0.08
		B		0.000	0.000	22.055	0.000	0.47
		C		0.000	0.000	35.789	0.000	0.47
T9	100.00-80.00	A	1.271	0.000	0.000	17.290	0.000	0.15
		B		0.000	0.000	43.893	0.000	0.93
		C		0.000	0.000	71.385	0.000	0.93
T10	80.00-60.00	A	1.240	0.000	0.000	17.073	0.000	0.15
		B		0.000	0.000	43.548	0.000	0.92
		C		0.000	0.000	71.075	0.000	0.92
T11	60.00-40.00	A	1.199	0.000	0.000	16.791	0.000	0.14
		B		0.000	0.000	43.099	0.000	0.91
		C		0.000	0.000	70.672	0.000	0.89
T12	40.00-20.00	A	1.139	0.000	0.000	16.381	0.000	0.14
		B		0.000	0.000	42.446	0.000	0.89
		C		0.000	0.000	70.087	0.000	0.86
T13	20.00-0.00	A	1.021	0.000	0.000	15.568	0.000	0.12
		B		0.000	0.000	41.149	0.000	0.84
		C		0.000	0.000	68.928	0.000	0.80

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
T1	195.00-190.00	0.0000	0.0000	0.0000	0.0000
T2	190.00-180.00	0.0000	0.0000	0.0000	0.0000
T3	180.00-160.00	-8.7694	3.4114	-11.8445	3.8492
T4	160.00-150.00	-14.7074	6.5949	-19.8880	7.9987
T5	150.00-140.00	-16.2782	6.7835	-20.9504	7.4299
T6	140.00-120.00	-11.3349	7.7442	-16.4529	7.1348
T7	120.00-110.00	-0.8593	12.0633	-6.3156	11.7985
T8	110.00-100.00	-0.9982	14.0401	-7.1342	13.3459
T9	100.00-80.00	-0.9924	14.2659	-7.5103	14.2099
T10	80.00-60.00	-1.0528	15.4462	-8.1873	15.6209
T11	60.00-40.00	-1.0044	15.1009	-8.4491	16.2898
T12	40.00-20.00	-1.0459	15.9547	-9.0616	17.4820
T13	20.00-0.00	-1.4198	21.1328	-10.9079	20.3418

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T3	2	1 5/8	160.00 - 169.00	1.0000	1.0000
T3	3	1 7/8	160.00 -	1.0000	1.0000

Job	22007.06- CT1134	Page	11 of 53
Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
Client	AT&T	Designed by	TJL

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			169.00		
T3	6	7/8	160.00 - 175.00	1.0000	1.0000
T4	2	1 5/8	150.00 - 160.00	1.0000	1.0000
T4	3	1 7/8	150.00 - 160.00	1.0000	1.0000
T4	6	7/8	150.00 - 160.00	1.0000	1.0000
T5	2	1 5/8	140.00 - 150.00	1.0000	1.0000
T5	3	1 7/8	140.00 - 150.00	1.0000	1.0000
T5	5	7/8	140.00 - 143.00	1.0000	1.0000
T5	6	7/8	143.00 - 150.00	1.0000	1.0000
T6	1	HYBRIFLEX 1-5/8"	120.00 - 125.00	1.0000	1.0000
T6	2	1 5/8	120.00 - 140.00	1.0000	1.0000
T6	3	1 7/8	120.00 - 140.00	1.0000	1.0000
T6	4	1/2	120.00 - 125.00	1.0000	1.0000
T6	5	7/8	120.00 - 140.00	1.0000	1.0000
T7	1	HYBRIFLEX 1-5/8"	110.00 - 120.00	1.0000	1.0000
T7	2	1 5/8	110.00 - 120.00	1.0000	1.0000
T7	3	1 7/8	110.00 - 120.00	1.0000	1.0000
T7	4	1/2	110.00 - 120.00	1.0000	1.0000
T7	5	7/8	110.00 - 120.00	1.0000	1.0000
T8	1	HYBRIFLEX 1-5/8"	100.00 - 110.00	1.0000	1.0000
T8	2	1 5/8	100.00 - 110.00	1.0000	1.0000
T8	3	1 7/8	100.00 - 110.00	1.0000	1.0000
T8	4	1/2	100.00 - 110.00	1.0000	1.0000
T8	5	7/8	100.00 - 110.00	1.0000	1.0000
T9	1	HYBRIFLEX 1-5/8"	80.00 - 100.00	1.0000	1.0000
T9	2	1 5/8	80.00 - 100.00	1.0000	1.0000
T9	3	1 7/8	80.00 - 100.00	1.0000	1.0000
T9	4	1/2	80.00 - 100.00	1.0000	1.0000
T9	5	7/8	80.00 - 100.00	1.0000	1.0000
T10	1	HYBRIFLEX 1-5/8"	60.00 - 80.00	1.0000	1.0000
T10	2	1 5/8	60.00 - 80.00	1.0000	1.0000
T10	3	1 7/8	60.00 - 80.00	1.0000	1.0000
T10	4	1/2	60.00 - 80.00	1.0000	1.0000
T10	5	7/8	60.00 - 80.00	1.0000	1.0000
T11	1	HYBRIFLEX 1-5/8"	40.00 - 60.00	1.0000	1.0000
T11	2	1 5/8	40.00 - 60.00	1.0000	1.0000
T11	3	1 7/8	40.00 - 60.00	1.0000	1.0000
T11	4	1/2	40.00 - 60.00	1.0000	1.0000
T11	5	7/8	40.00 - 60.00	1.0000	1.0000

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 12 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T12	1	HYBRIFLEX 1-5/8"	20.00 - 40.00	1.0000	1.0000
T12	2	1 5/8	20.00 - 40.00	1.0000	1.0000
T12	3	1 7/8	20.00 - 40.00	1.0000	1.0000
T12	4	1/2	20.00 - 40.00	1.0000	1.0000
T12	5	7/8	20.00 - 40.00	1.0000	1.0000
T13	1	HYBRIFLEX 1-5/8"	0.00 - 20.00	1.0000	1.0000
T13	2	1 5/8	0.00 - 20.00	1.0000	1.0000
T13	3	1 7/8	0.00 - 20.00	1.0000	1.0000
T13	4	1/2	0.00 - 20.00	1.0000	1.0000
T13	5	7/8	0.00 - 20.00	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA}		Weight
			Horz Lateral	Vert			Front	Side	
			ft	ft	°	ft	ft ²	ft ²	K
MT6407-77A (Verizon)	A	From Leg	3.00	0.0000	168.00	No Ice	4.71	1.84	0.09
			-4.00	0.0000		1/2" Ice	5.00	2.06	0.12
			0.00	0.0000		1" Ice	5.29	2.29	0.15
MT6407-77A (Verizon)	B	From Leg	3.00	0.0000	168.00	No Ice	4.71	1.84	0.09
			-4.00	0.0000		1/2" Ice	5.00	2.06	0.12
			0.00	0.0000		1" Ice	5.29	2.29	0.15
MT6407-77A (Verizon)	C	From Leg	3.00	0.0000	168.00	No Ice	4.71	1.84	0.09
			-4.00	0.0000		1/2" Ice	5.00	2.06	0.12
			0.00	0.0000		1" Ice	5.29	2.29	0.15
LPA-80090-4CF (Verizon)	A	From Leg	3.00	0.0000	168.00	No Ice	2.71	4.06	0.01
			6.00	0.0000		1/2" Ice	3.01	4.37	0.04
			0.00	0.0000		1" Ice	3.32	4.69	0.07
(2) NHH-65B-R2B (Verizon)	A	From Leg	3.00	0.0000	168.00	No Ice	11.19	8.69	0.07
			4.00	0.0000		1/2" Ice	11.69	9.17	0.15
			0.00	0.0000		1" Ice	12.20	9.66	0.24
LPA-80090-4CF (Verizon)	A	From Leg	3.00	0.0000	168.00	No Ice	2.71	4.06	0.01
			-6.00	0.0000		1/2" Ice	3.01	4.37	0.04
			0.00	0.0000		1" Ice	3.32	4.69	0.07
LPA-80090-4CF (Verizon)	B	From Leg	3.00	0.0000	168.00	No Ice	2.71	4.06	0.01
			6.00	0.0000		1/2" Ice	3.01	4.37	0.04
			0.00	0.0000		1" Ice	3.32	4.69	0.07
(2) NHH-65B-R2B (Verizon)	B	From Leg	3.00	0.0000	168.00	No Ice	11.19	8.69	0.07
			4.00	0.0000		1/2" Ice	11.69	9.17	0.15
			0.00	0.0000		1" Ice	12.20	9.66	0.24
LPA-80090-4CF (Verizon)	B	From Leg	3.00	0.0000	168.00	No Ice	2.71	4.06	0.01
			-6.00	0.0000		1/2" Ice	3.01	4.37	0.04
			0.00	0.0000		1" Ice	3.32	4.69	0.07
LPA-80090-4CF (Verizon)	C	From Leg	3.00	0.0000	168.00	No Ice	2.71	4.06	0.01
			6.00	0.0000		1/2" Ice	3.01	4.37	0.04
			0.00	0.0000		1" Ice	3.32	4.69	0.07
(2) NHH-65B-R2B (Verizon)	C	From Leg	3.00	0.0000	168.00	No Ice	11.19	8.69	0.07
			4.00	0.0000		1/2" Ice	11.69	9.17	0.15
			0.00	0.0000		1" Ice	12.20	9.66	0.24
LPA-80090-4CF (Verizon)	C	From Leg	3.00	0.0000	168.00	No Ice	2.71	4.06	0.01
			-6.00	0.0000		1/2" Ice	3.01	4.37	0.04

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	13 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	Client	AT&T	Designed by	TJL

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA}		Weight K	
			Horz Lateral ft	Vert ft			Front ft ²	Side ft ²		
B2/B66A RRH (Verizon)	A	From Leg	0.00	2.00	0.0000	168.00	1" Ice	3.32	4.69	0.07
			0.00	0.00			No Ice	2.54	1.61	0.06
			0.00	0.00			1/2" Ice	2.75	1.79	0.08
B2/B66A RRH (Verizon)	B	From Leg	0.00	2.00	0.0000	168.00	1" Ice	2.97	1.98	0.10
			0.00	0.00			No Ice	2.54	1.61	0.06
			0.00	0.00			1/2" Ice	2.75	1.79	0.08
B2/B66A RRH (Verizon)	C	From Leg	0.00	2.00	0.0000	168.00	1" Ice	2.97	1.98	0.10
			0.00	0.00			No Ice	2.54	1.61	0.06
			0.00	0.00			1/2" Ice	2.75	1.79	0.08
B5/B13 RRH (Verizon)	A	From Leg	0.00	2.00	0.0000	168.00	1" Ice	2.97	1.98	0.10
			0.00	0.00			No Ice	1.87	1.02	0.07
			0.00	0.00			1/2" Ice	2.03	1.15	0.09
B5/B13 RRH (Verizon)	B	From Leg	0.00	2.00	0.0000	168.00	1" Ice	2.21	1.29	0.11
			0.00	0.00			No Ice	1.87	1.02	0.07
			0.00	0.00			1/2" Ice	2.03	1.15	0.09
B5/B13 RRH (Verizon)	C	From Leg	0.00	2.00	0.0000	168.00	1" Ice	2.21	1.29	0.11
			0.00	0.00			No Ice	1.87	1.02	0.07
			0.00	0.00			1/2" Ice	2.03	1.15	0.09
Pirod 12' T-Frame Sector Mount (1) (Verizon)	A	From Leg	0.00	1.50	0.0000	168.00	1" Ice	2.21	1.29	0.11
			0.00	0.00			No Ice	13.60	13.60	0.47
			0.00	0.00			1/2" Ice	18.40	18.40	0.60
Pirod 12' T-Frame Sector Mount (1) (Verizon)	B	From Leg	0.00	1.50	0.0000	168.00	1" Ice	23.20	23.20	0.73
			0.00	0.00			No Ice	13.60	13.60	0.47
			0.00	0.00			1/2" Ice	18.40	18.40	0.60
Pirod 12' T-Frame Sector Mount (1) (Verizon)	C	From Leg	0.00	1.50	0.0000	168.00	1" Ice	23.20	23.20	0.73
			0.00	0.00			No Ice	13.60	13.60	0.47
			0.00	0.00			1/2" Ice	18.40	18.40	0.60
APXV9ERR18-C-A20 (Sprint)	A	From Leg	0.00	3.00	0.0000	154.00	1" Ice	23.20	23.20	0.73
			0.00	-6.00			No Ice	8.02	5.81	0.06
			0.00	0.00			1/2" Ice	8.48	6.27	0.11
APXV9ERR18-C-A20 (Sprint)	B	From Leg	0.00	3.00	0.0000	154.00	1" Ice	8.94	6.73	0.17
			0.00	-6.00			No Ice	8.02	5.81	0.06
			0.00	0.00			1/2" Ice	8.48	6.27	0.11
APXV9ERR18-C-A20 (Sprint)	C	From Leg	0.00	3.00	0.0000	154.00	1" Ice	8.94	6.73	0.17
			0.00	-6.00			No Ice	8.02	5.81	0.06
			0.00	0.00			1/2" Ice	8.48	6.27	0.11
DT465B-2XR (Sprint)	A	From Leg	0.00	3.00	0.0000	154.00	1" Ice	8.94	6.73	0.17
			0.00	6.00			No Ice	9.10	5.97	0.06
			0.00	0.00			1/2" Ice	9.56	6.43	0.12
DT465B-2XR (Sprint)	B	From Leg	0.00	3.00	0.0000	154.00	1" Ice	10.04	6.90	0.18
			0.00	6.00			No Ice	9.10	5.97	0.06
			0.00	0.00			1/2" Ice	9.56	6.43	0.12
DT465B-2XR (Sprint)	C	From Leg	0.00	3.00	0.0000	154.00	1" Ice	10.04	6.90	0.18
			0.00	6.00			No Ice	9.10	5.97	0.06
			0.00	0.00			1/2" Ice	9.56	6.43	0.12
(2) FD-RRH 2x50 800 (Sprint)	A	From Leg	0.00	3.00	0.0000	154.00	1" Ice	10.04	6.90	0.18
			0.00	-6.00			No Ice	2.06	1.93	0.06
			0.00	0.00			1/2" Ice	2.24	2.11	0.09
(2) FD-RRH 2x50 800 (Sprint)	B	From Leg	0.00	3.00	0.0000	154.00	1" Ice	2.43	2.29	0.11
			0.00	-6.00			No Ice	2.06	1.93	0.06
			0.00	0.00			1/2" Ice	2.24	2.11	0.09
(2) FD-RRH 2x50 800 (Sprint)	C	From Leg	0.00	3.00	0.0000	154.00	1" Ice	2.43	2.29	0.11
			0.00	-6.00			No Ice	2.06	1.93	0.06
			0.00	0.00			1/2" Ice	2.24	2.11	0.09
FD-RRH 4x45 1900 (Sprint)	A	From Leg	0.00	3.00	0.0000	154.00	1" Ice	2.43	2.29	0.11
			0.00	-3.00			No Ice	2.32	2.38	0.06
							1/2" Ice	2.52	2.59	0.08

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	14 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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	
FD-RRH 4x45 1900 (Sprint)	B	From Leg	0.00		0.0000	154.00	1" Ice	2.74	2.80	0.11
			3.00				No Ice	2.32	2.38	0.06
			-3.00				1/2" Ice	2.52	2.59	0.08
FD-RRH 4x45 1900 (Sprint)	C	From Leg	0.00		0.0000	154.00	1" Ice	2.74	2.80	0.11
			3.00				No Ice	2.32	2.38	0.06
			-3.00				1/2" Ice	2.52	2.59	0.08
TD-RRH8x20-25 (Sprint)	A	From Leg	0.00		0.0000	154.00	1" Ice	2.74	2.80	0.11
			3.00				No Ice	4.05	1.53	0.07
			6.00				1/2" Ice	4.30	1.71	0.10
TD-RRH8x20-25 (Sprint)	B	From Leg	0.00		0.0000	154.00	1" Ice	4.56	1.90	0.13
			3.00				No Ice	4.05	1.53	0.07
			6.00				1/2" Ice	4.30	1.71	0.10
TD-RRH8x20-25 (Sprint)	C	From Leg	0.00		0.0000	154.00	1" Ice	4.56	1.90	0.13
			3.00				No Ice	4.05	1.53	0.07
			6.00				1/2" Ice	4.30	1.71	0.10
Pirod 12' T-Frame Sector Mount (1) (Sprint)	A	From Leg	0.00		0.0000	154.00	1" Ice	4.56	1.90	0.13
			1.25				No Ice	13.60	13.60	0.47
			0.00				1/2" Ice	18.40	18.40	0.60
Pirod 12' T-Frame Sector Mount (1) (Sprint)	B	From Leg	0.00		0.0000	154.00	1" Ice	23.20	23.20	0.73
			1.25				No Ice	13.60	13.60	0.47
			0.00				1/2" Ice	18.40	18.40	0.60
Pirod 12' T-Frame Sector Mount (1) (Sprint)	C	From Leg	0.00		0.0000	154.00	1" Ice	23.20	23.20	0.73
			1.25				No Ice	13.60	13.60	0.47
			0.00				1/2" Ice	18.40	18.40	0.60
7770.00 (AT&T - Existing)	A	From Leg	0.00		0.0000	140.00	1" Ice	23.20	23.20	0.73
			3.00				No Ice	5.51	2.93	0.04
			0.00				1/2" Ice	5.87	3.27	0.07
(2) OPA65R-BU4D (AT&T - Existing)	A	From Leg	0.00		0.0000	140.00	1" Ice	6.23	3.63	0.11
			3.00				No Ice	8.40	3.54	0.06
			0.00				1/2" Ice	8.79	3.85	0.11
7770.00 (AT&T - Existing)	B	From Leg	0.00		0.0000	140.00	1" Ice	9.18	4.16	0.17
			3.00				No Ice	5.51	2.93	0.04
			0.00				1/2" Ice	5.87	3.27	0.07
(2) TPA65R-BU6D (AT&T - Existing)	B	From Leg	0.00		0.0000	140.00	1" Ice	6.23	3.63	0.11
			3.00				No Ice	12.71	5.62	0.08
			0.00				1/2" Ice	13.21	6.07	0.15
7770.00 (AT&T - Existing)	C	From Leg	0.00		0.0000	140.00	1" Ice	13.71	6.53	0.23
			3.00				No Ice	5.51	2.93	0.04
			0.00				1/2" Ice	5.87	3.27	0.07
(2) TPA65R-BU6D (AT&T - Existing)	C	From Leg	0.00		0.0000	140.00	1" Ice	6.23	3.63	0.11
			3.00				No Ice	12.71	5.62	0.08
			0.00				1/2" Ice	13.21	6.07	0.15
RRUS-32 (AT&T - Existing)	A	From Leg	0.00		0.0000	140.00	1" Ice	13.71	6.53	0.23
			2.50				No Ice	3.31	2.42	0.08
			0.00				1/2" Ice	3.56	2.64	0.10
RRUS-32 (AT&T - Existing)	B	From Leg	0.00		0.0000	140.00	1" Ice	3.81	2.86	0.14
			2.50				No Ice	3.31	2.42	0.08
			0.00				1/2" Ice	3.56	2.64	0.10
RRUS-32 (AT&T - Existing)	C	From Leg	0.00		0.0000	140.00	1" Ice	3.81	2.86	0.14
			2.50				No Ice	3.31	2.42	0.08
			0.00				1/2" Ice	3.56	2.64	0.10
4478 B14 (AT&T - Existing)	A	From Leg	0.00		0.0000	140.00	1" Ice	3.81	2.86	0.14
			2.50				No Ice	1.84	1.06	0.06
			0.00				1/2" Ice	2.01	1.20	0.08
4478 B14 (AT&T - Existing)	B	From Leg	0.00		0.0000	140.00	1" Ice	2.19	1.34	0.09
			2.50				No Ice	1.84	1.06	0.06
			0.00				1/2" Ice	2.01	1.20	0.08

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	15 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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	
4478 B14 (AT&T - Existing)	C	From Leg	0.00	2.50	0.0000	140.00	1" Ice	2.19	1.34	0.09
			0.00	0.00			No Ice	1.84	1.06	0.06
			0.00	0.00			1/2" Ice	2.01	1.20	0.08
			0.00	0.00			1" Ice	2.19	1.34	0.09
4449 B5/B12 (AT&T - Existing)	A	From Leg	2.50	0.0000	140.00	No Ice	1.97	1.41	0.07	
			0.00	0.00			1/2" Ice	2.14	1.56	0.09
			0.00	0.00			1" Ice	2.33	1.73	0.11
			0.00	0.00			No Ice	1.97	1.41	0.07
4449 B5/B12 (AT&T - Existing)	B	From Leg	2.50	0.0000	140.00	No Ice	1.97	1.41	0.07	
			0.00	0.00			1/2" Ice	2.14	1.56	0.09
			0.00	0.00			1" Ice	2.33	1.73	0.11
			0.00	0.00			No Ice	1.97	1.41	0.07
4449 B5/B12 (AT&T - Existing)	C	From Leg	2.50	0.0000	140.00	No Ice	1.97	1.41	0.07	
			0.00	0.00			1/2" Ice	2.14	1.56	0.09
			0.00	0.00			1" Ice	2.33	1.73	0.11
			0.00	0.00			No Ice	1.97	1.41	0.07
4426 B66 (AT&T - Proposed)	A	From Leg	2.50	0.0000	140.00	No Ice	1.65	0.73	0.05	
			0.00	0.00			1/2" Ice	1.81	0.84	0.06
			0.00	0.00			1" Ice	1.98	0.97	0.08
			0.00	0.00			No Ice	1.65	0.73	0.05
4426 B66 (AT&T - Proposed)	B	From Leg	2.50	0.0000	140.00	No Ice	1.65	0.73	0.05	
			0.00	0.00			1/2" Ice	1.81	0.84	0.06
			0.00	0.00			1" Ice	1.98	0.97	0.08
			0.00	0.00			No Ice	1.65	0.73	0.05
4426 B66 (AT&T - Proposed)	C	From Leg	2.50	0.0000	140.00	No Ice	1.65	0.73	0.05	
			0.00	0.00			1/2" Ice	1.81	0.84	0.06
			0.00	0.00			1" Ice	1.98	0.97	0.08
			0.00	0.00			No Ice	1.65	0.73	0.05
DC6-48-60-18-8F Surge Arrestor (AT&T - Existing)	A	From Leg	2.50	0.0000	140.00	No Ice	1.91	1.91	0.02	
			0.00	0.00			1/2" Ice	2.10	2.10	0.04
			0.00	0.00			1" Ice	2.29	2.29	0.06
			0.00	0.00			No Ice	1.91	1.91	0.02
DC6-48-60-18-8F Surge Arrestor (AT&T - Existing)	B	From Leg	2.50	0.0000	140.00	No Ice	1.91	1.91	0.02	
			0.00	0.00			1/2" Ice	2.10	2.10	0.04
			0.00	0.00			1" Ice	2.29	2.29	0.06
			0.00	0.00			No Ice	1.91	1.91	0.02
DC6-48-60-18-8F Surge Arrestor (AT&T - Existing)	C	From Leg	2.50	0.0000	140.00	No Ice	1.91	1.91	0.02	
			0.00	0.00			1/2" Ice	2.10	2.10	0.04
			0.00	0.00			1" Ice	2.29	2.29	0.06
			0.00	0.00			No Ice	1.91	1.91	0.02
Pirod 12' T-Frame Sector Mount (1) (AT&T - Existing)	A	From Leg	1.25	0.0000	137.00	No Ice	13.60	13.60	0.47	
			0.00	0.00			1/2" Ice	18.40	18.40	0.60
			0.00	0.00			1" Ice	23.20	23.20	0.73
			0.00	0.00			No Ice	13.60	13.60	0.47
Pirod 12' T-Frame Sector Mount (1) (AT&T - Existing)	B	From Leg	1.25	0.0000	137.00	No Ice	13.60	13.60	0.47	
			0.00	0.00			1/2" Ice	18.40	18.40	0.60
			0.00	0.00			1" Ice	23.20	23.20	0.73
			0.00	0.00			No Ice	13.60	13.60	0.47
Pirod 12' T-Frame Sector Mount (1) (AT&T - Existing)	C	From Leg	1.25	0.0000	137.00	No Ice	13.60	13.60	0.47	
			0.00	0.00			1/2" Ice	18.40	18.40	0.60
			0.00	0.00			1" Ice	23.20	23.20	0.73
			0.00	0.00			No Ice	13.60	13.60	0.47
AIR6449 (T-Mobile)	A	From Leg	3.00	0.0000	125.00	No Ice	5.65	2.42	0.10	
			0.00	0.00			1/2" Ice	5.96	2.64	0.14
			0.00	0.00			1" Ice	6.26	2.87	0.18
			0.00	0.00			No Ice	20.24	8.89	0.15
APXVAALL24-43 (T-Mobile)	A	From Leg	3.00	0.0000	125.00	No Ice	20.24	8.89	0.15	
			0.00	0.00			1/2" Ice	20.89	9.49	0.27
			0.00	0.00			1" Ice	21.54	10.09	0.39
			0.00	0.00			No Ice	5.93	2.76	0.03
VV-65A-R1 (T-Mobile)	A	From Leg	3.00	0.0000	125.00	No Ice	5.93	2.76	0.03	
			0.00	0.00			1/2" Ice	6.29	3.10	0.06
			0.00	0.00			1" Ice	6.66	3.45	0.10
			0.00	0.00			No Ice	5.65	2.42	0.10
AIR6449 (T-Mobile)	B	From Leg	3.00	0.0000	125.00	No Ice	5.65	2.42	0.10	
			0.00	0.00			1/2" Ice	5.96	2.64	0.14
			0.00	0.00			1" Ice	6.26	2.87	0.18
			0.00	0.00			No Ice	20.24	8.89	0.15
APXVAALL24-43 (T-Mobile)	B	From Leg	3.00	0.0000	125.00	No Ice	20.24	8.89	0.15	
			0.00	0.00			1/2" Ice	20.89	9.49	0.27
			0.00	0.00			1" Ice	21.54	10.09	0.39
			0.00	0.00			No Ice	5.93	2.76	0.03
VV-65A-R1 (T-Mobile)	B	From Leg	3.00	0.0000	125.00	No Ice	5.93	2.76	0.03	
			0.00	0.00			1/2" Ice	6.29	3.10	0.06

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	16 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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	
AIR6449 (T-Mobile)	C	From Leg	0.00		0.0000	125.00	1" Ice	6.66	3.45	0.10
			3.00				No Ice	5.65	2.42	0.10
			0.00				1/2" Ice	5.96	2.64	0.14
			0.00				1" Ice	6.26	2.87	0.18
APXVAALL24-43 (T-Mobile)	C	From Leg	3.00		0.0000	125.00	No Ice	20.24	8.89	0.15
			0.00				1/2" Ice	20.89	9.49	0.27
			0.00				1" Ice	21.54	10.09	0.39
			0.00				No Ice	5.93	2.76	0.03
VV-65A-R1 (T-Mobile)	C	From Leg	3.00		0.0000	125.00	1/2" Ice	6.29	3.10	0.06
			0.00				1" Ice	6.66	3.45	0.10
			0.00				No Ice	5.65	2.42	0.10
			0.00				1/2" Ice	5.96	2.64	0.14
AIR6449 (T-Mobile)	A	From Leg	0.00		0.0000	125.00	1" Ice	6.26	2.87	0.18
			3.00				No Ice	20.24	8.89	0.15
			0.00				1/2" Ice	20.89	9.49	0.27
			0.00				1" Ice	21.54	10.09	0.39
APXVAALL24-43 (T-Mobile)	A	From Leg	3.00		0.0000	125.00	No Ice	5.93	2.76	0.03
			0.00				1/2" Ice	6.29	3.10	0.06
			0.00				1" Ice	6.66	3.45	0.10
			0.00				No Ice	5.65	2.42	0.10
VV-65A-R1 (T-Mobile)	A	From Leg	0.00		0.0000	125.00	1/2" Ice	6.29	3.10	0.06
			3.00				1" Ice	6.66	3.45	0.10
			0.00				No Ice	5.93	2.76	0.03
			0.00				1/2" Ice	6.29	3.10	0.06
4480 B71+B85 (T-Mobile)	A	From Leg	0.00		0.0000	125.00	1" Ice	6.66	3.45	0.10
			3.00				No Ice	2.85	1.38	0.08
			0.00				1/2" Ice	3.06	1.54	0.11
			0.00				1" Ice	3.28	1.71	0.13
4460 B25+B66 (T-Mobile)	A	From Leg	3.00		0.0000	125.00	No Ice	2.56	1.98	0.11
			0.00				1/2" Ice	2.76	2.16	0.13
			0.00				1" Ice	2.97	2.34	0.16
			0.00				No Ice	2.85	1.38	0.08
4480 B71+B85 (T-Mobile)	B	From Leg	3.00		0.0000	125.00	1/2" Ice	3.06	1.54	0.11
			0.00				1" Ice	3.28	1.71	0.13
			0.00				No Ice	2.56	1.98	0.11
			0.00				1/2" Ice	2.76	2.16	0.13
4460 B25+B66 (T-Mobile)	B	From Leg	0.00		0.0000	125.00	1" Ice	2.97	2.34	0.16
			3.00				No Ice	2.85	1.38	0.08
			0.00				1/2" Ice	3.06	1.54	0.11
			0.00				1" Ice	3.28	1.71	0.13
4480 B71+B85 (T-Mobile)	C	From Leg	3.00		0.0000	125.00	No Ice	2.56	1.98	0.11
			0.00				1/2" Ice	2.76	2.16	0.13
			0.00				1" Ice	2.97	2.34	0.16
			0.00				No Ice	2.85	1.38	0.08
4460 B25+B66 (T-Mobile)	C	From Leg	3.00		0.0000	125.00	1/2" Ice	3.06	1.54	0.11
			0.00				1" Ice	3.28	1.71	0.13
			0.00				No Ice	2.56	1.98	0.11
			0.00				1/2" Ice	2.76	2.16	0.13
4480 B71+B85 (T-Mobile)	A	From Leg	0.00		0.0000	125.00	1" Ice	2.97	2.34	0.16
			3.00				No Ice	2.85	1.38	0.08
			0.00				1/2" Ice	3.06	1.54	0.11
			0.00				1" Ice	3.28	1.71	0.13
4460 B25+B66 (T-Mobile)	A	From Leg	3.00		0.0000	125.00	No Ice	2.56	1.98	0.11
			0.00				1/2" Ice	2.76	2.16	0.13
			0.00				1" Ice	2.97	2.34	0.16
			0.00				No Ice	36.00	36.00	3.00
Custom 4-Sided Sector Mount (T-Mobile) OGT9-840	A	None			0.0000	125.00	1/2" Ice	42.00	42.00	3.30
							1" Ice	48.00	48.00	3.60
			3.00				No Ice	2.27	2.27	0.02
			0.00				1/2" Ice	3.44	3.44	0.04
OGT9-840	A	From Leg	5.00		0.0000	184.00	1" Ice	4.61	4.61	0.06
			3.00				No Ice	2.27	2.27	0.02
			0.00				1/2" Ice	3.44	3.44	0.04
			0.00				1" Ice	4.61	4.61	0.06
Pirod 6-8' Box Arm (1)	A	From Leg	3.00		0.0000	184.00	No Ice	4.50	4.50	0.21
			0.00				1/2" Ice	9.87	9.87	0.28
			0.00				1" Ice	15.24	15.24	0.34
			0.00				No Ice	2.27	2.27	0.02
OGT9-840	B	From Leg	3.00		0.0000	184.00	1/2" Ice	3.44	3.44	0.04
			0.00							

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	17 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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		°	ft	ft ²	ft ²	K	
			ft	ft						
OGT9-840	B	From Leg	5.00		0.0000	184.00	1" Ice	4.61	4.61	0.06
			3.00				No Ice	2.27	2.27	0.02
			0.00				1/2" Ice	3.44	3.44	0.04
Pirod 6-8' Box Arm (1)	B	From Leg	5.00		0.0000	184.00	1" Ice	4.61	4.61	0.06
			3.00				No Ice	4.50	4.50	0.21
			0.00				1/2" Ice	9.87	9.87	0.28
ANT150D3	C	From Leg	0.00		0.0000	184.00	1" Ice	15.24	15.24	0.34
			3.00				No Ice	4.50	4.50	0.02
			0.00				1/2" Ice	6.00	6.00	0.04
Pirod 6-8' Box Arm (1)	B	From Leg	5.00		0.0000	184.00	1" Ice	7.50	7.50	0.07
			3.00				No Ice	4.50	4.50	0.21
			0.00				1/2" Ice	9.87	9.87	0.28
ANT150F2	C	From Leg	0.00		0.0000	183.00	1" Ice	15.24	15.24	0.34
			3.00				No Ice	1.30	1.30	0.02
			0.00				1/2" Ice	1.60	1.60	0.02
3' Side Mount Standoff	C	From Leg	5.00		0.0000	183.00	1" Ice	1.90	1.90	0.03
			1.50				No Ice	2.00	2.00	0.04
			0.00				1/2" Ice	3.69	3.69	0.05
Pirod 6-8' Box Arm (1) (Vacant)	B	From Leg	0.00		0.0000	118.00	1" Ice	4.74	4.74	0.06
			3.00				No Ice	4.50	4.50	0.21
			0.00				1/2" Ice	9.87	9.87	0.28
ANT150D3	C	From Leg	0.00		0.0000	105.00	1" Ice	15.24	15.24	0.34
			6.00				No Ice	4.50	4.50	0.02
			0.00				1/2" Ice	6.00	6.00	0.04
Pirod 6-8' Box Arm (1)	C	From Leg	5.00		0.0000	105.00	1" Ice	7.50	7.50	0.07
			3.00				No Ice	4.50	4.50	0.21
			0.00				1/2" Ice	9.87	9.87	0.28
6' Dish Ice Shield	C	From Leg	0.00		0.0000	101.00	1" Ice	15.24	15.24	0.34
			3.00				No Ice	5.00	5.00	0.03
			0.00				1/2" Ice	7.00	7.00	0.05
Pirod 6-8' Box Arm (1) (Vacant)	A	From Leg	0.00		0.0000	98.00	1" Ice	9.00	9.00	0.07
			3.00				No Ice	4.50	4.50	0.21
			0.00				1/2" Ice	9.87	9.87	0.28
PD458-2	B	From Leg	0.00		0.0000	98.00	1" Ice	15.24	15.24	0.34
			6.00				No Ice	3.40	3.40	0.02
			0.00				1/2" Ice	4.79	4.79	0.05
Pirod 6-8' Box Arm (1)	B	From Leg	5.00		0.0000	98.00	1" Ice	6.20	6.20	0.08
			3.00				No Ice	4.50	4.50	0.21
			0.00				1/2" Ice	9.87	9.87	0.28
PD220	A	From Leg	0.00		0.0000	78.00	1" Ice	15.24	15.24	0.34
			6.00				No Ice	3.08	3.08	0.02
			0.00				1/2" Ice	5.30	5.30	0.05
PD1142-1	A	From Leg	10.00		0.0000	78.00	1" Ice	7.54	7.54	0.09
			6.00				No Ice	1.32	1.32	0.01
			0.00				1/2" Ice	3.21	3.21	0.02
Pirod 6-8' Box Arm (1)	A	From Leg	-5.00		0.0000	78.00	1" Ice	5.12	5.12	0.05
			3.00				No Ice	4.50	4.50	0.21
			0.00				1/2" Ice	9.87	9.87	0.28
BCD-80609-NE	B	From Leg	0.00		0.0000	78.00	1" Ice	15.24	15.24	0.34
			6.00				No Ice	2.95	2.95	0.03
			0.00				1/2" Ice	4.11	4.11	0.05
6' Yagi	B	From Leg	5.00		0.0000	78.00	1" Ice	5.29	5.29	0.08
			6.00				No Ice	5.00	5.00	0.04
			0.00				1/2" Ice	6.50	6.50	0.06
Pirod 6-8' Box Arm (1)	B	From Leg	0.00		0.0000	78.00	1" Ice	8.00	8.00	0.08
			3.00				No Ice	4.50	4.50	0.21
			0.00				1/2" Ice	9.87	9.87	0.28

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	18 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	Client	AT&T	Designed by	TJL

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA}		Weight	
			Horz Lateral	Vert			Front	Side		
			ft	ft	°	ft	ft ²	ft ²	K	
DB222	C	From Leg	0.00		0.0000	78.00	1" Ice	15.24	15.24	0.34
			6.00				No Ice	1.60	1.60	0.02
			0.00				1/2" Ice	2.88	2.88	0.02
Pirod 6-8' Box Arm (1)	C	From Leg	7.00		0.0000	78.00	1" Ice	4.16	4.16	0.03
			3.00				No Ice	4.50	4.50	0.21
			0.00				1/2" Ice	9.87	9.87	0.28
GPS	B	From Leg	0.00		0.0000	32.00	1" Ice	15.24	15.24	0.34
			2.00				No Ice	1.00	1.00	0.01
			0.00				1/2" Ice	1.50	1.50	0.01
2-ft Stand Off	B	From Leg	0.00		0.0000	32.00	1" Ice	2.00	2.00	0.02
			1.00				No Ice	1.07	1.07	0.02
			0.00				1/2" Ice	1.62	1.62	0.03
SitePro SFS-V-L	A	From Leg	0.00		0.0000	137.00	1" Ice	2.17	2.17	0.04
			1.00				No Ice	5.09	4.75	0.08
			0.00				1/2" Ice	5.74	5.35	0.10
SitePro SFS-V-L	B	From Leg	0.00		0.0000	137.00	1" Ice	6.53	6.07	0.14
			1.00				No Ice	5.09	4.75	0.08
			0.00				1/2" Ice	5.74	5.35	0.10
SitePro SFS-V-L	C	From Leg	0.00		0.0000	137.00	1" Ice	6.53	6.07	0.14
			1.00				No Ice	5.09	4.75	0.08
			0.00				1/2" Ice	5.74	5.35	0.10
RVZDC-6627-PF-48 (Verizon)	A	From Leg	0.00		0.0000	168.00	1" Ice	6.53	6.07	0.14
			2.00				No Ice	3.25	2.15	0.03
			0.00				1/2" Ice	3.48	2.35	0.06
ANT220F2 (Eversource)	A	From Leg	0.00		0.0000	175.00	1" Ice	3.71	2.55	0.09
			3.00				No Ice	1.03	1.03	0.02
			0.00				1/2" Ice	1.29	1.29	0.02
SitePro USF-4U (Eversource)	A	From Leg	3.00		0.0000	175.00	1" Ice	1.56	1.56	0.04
			1.50				No Ice	5.75	5.75	0.16
			0.00				1/2" Ice	8.00	8.00	0.21
ANT220F2 (Eversource)	A	From Leg	0.00		0.0000	143.00	1" Ice	10.25	10.25	0.26
			3.00				No Ice	1.03	1.03	0.02
			0.00				1/2" Ice	1.29	1.29	0.02
SitePro USF-4U (Eversource)	A	From Leg	3.00		0.0000	143.00	1" Ice	1.56	1.56	0.04
			1.50				No Ice	5.75	5.75	0.16
			0.00				1/2" Ice	8.00	8.00	0.21
			0.00				1" Ice	10.25	10.25	0.26

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets:		Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight	
				Horz Lateral	Vert							
				ft	ft	°	°	ft	ft	ft ²	K	
SC2-W100AB (T-Mobile Proposed)	C	Paraboloid w/Radome	From Leg	3.00		0.0000		125.00	2.00	No Ice	3.14	0.02
				0.00						1/2" Ice	3.41	0.04
				0.00						1" Ice	3.68	0.06
6' Dish	C	Paraboloid w/o Radome	From Leg	0.00		0.0000		97.00	6.00	No Ice	28.27	0.08
				0.00						1/2" Ice	29.07	0.10
				0.00						1" Ice	29.87	0.12

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 19 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight
				ft	°	°	ft	ft	ft ²	K
6' Dish	A	Paraboloid w/o Radome	From Leg	0.00 0.00 0.00	0.0000		188.00	6.00	No Ice 1/2" Ice 1" Ice	0.08 0.10 0.12

Truss-Leg Interaction Properties

Section Designation	Area	Area Ice	Self Weight	Ice Weight	Equiv. Diameter	Equiv. Diameter Ice	Section Modulus S _x	Section Modulus S _y	Leg Area
	in ²	in ²	K	K	in	in	in ³	in ³	in ²
Pirod 105244	1026.8606	2996.2153	0.54	0.40	7.1310	20.8071	12.8052	14.7861	3.6816
Pirod 105244	1026.8606	2993.8257	0.54	0.39	7.1310	20.7905	12.8052	14.7861	3.6816
Pirod 105216	2169.0308	5872.9953	0.45	0.72	7.5314	20.3923	12.8052	14.7861	3.6816
Pirod 105217	2296.2363	5936.1338	0.56	0.73	7.9730	20.6116	18.4723	21.3300	5.3014
Pirod 105217	2296.2363	5929.7867	0.56	0.72	7.9730	20.5895	18.4723	21.3300	5.3014
Pirod 105218	2425.3141	5991.4851	0.69	0.73	8.4212	20.8038	25.1958	29.0936	7.2158
Pirod 105218	2425.3141	5980.0522	0.69	0.72	8.4212	20.7641	25.1958	29.0936	7.2158
Pirod 105218	2425.3141	5971.6591	0.69	0.71	8.4212	20.7349	25.1958	29.0936	7.2158
Pirod 105219	2597.9095	6029.6103	1.03	0.74	9.0205	20.9361	32.9885	38.0918	9.4248
Pirod 105219	2597.9095	6007.1655	1.03	0.72	9.0205	20.8582	32.9885	38.0918	9.4248
Pirod 105220	2735.0688	6049.9850	1.20	0.70	9.4968	21.0069	41.8654	48.3420	11.9282
Pirod 105220	2735.0688	6007.5187	1.20	0.65	9.4968	20.8594	41.8654	48.3420	11.9282
Pirod 112738	3389.3479	7833.4841	1.68	0.79	11.7686	27.1996	77.0732	88.9965	14.7262

Tower Pressures - No Ice

$G_H = 0.850$

Section Elevation	z	K _z	q _z	A _G	F _a	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		psf	ft ²	c	ft ²	ft ²	ft ²		ft ²	ft ²
T1 195.00-190.00	192.50	1.453	49	65.521	A	5.275	5.942	5.942	52.98	0.000	0.000
					B	5.275	5.942	52.98	0.000	0.000	
					C	5.275	5.942	52.98	0.000	0.000	
T2 190.00-180.00	185.00	1.441	49	131.042	A	5.966	11.885	11.885	66.58	0.000	0.000
					B	5.966	11.885	66.58	0.000	0.000	
					C	5.966	11.885	66.58	0.000	0.000	
T3 180.00-160.00	170.00	1.415	48	262.083	A	14.319	25.105	25.105	63.68	1.665	0.000
					B	14.319	25.105	63.68	0.000	0.000	
					C	14.319	25.105	63.68	12.695	0.000	
T4 160.00-150.00	155.00	1.388	47	131.250	A	9.909	13.288	13.288	57.28	1.110	0.000
					B	9.909	13.288	57.28	0.000	0.000	
					C	9.909	13.288	57.28	14.105	0.000	
T5 150.00-140.00	145.00	1.369	47	131.250	A	7.159	13.288	13.288	64.99	1.443	0.000
					B	7.159	13.288	64.99	0.000	0.000	
					C	7.159	13.288	64.99	14.105	0.000	
T6 140.00-120.00	130.00	1.337	45	282.945	A	17.894	28.118	28.118	61.11	4.440	0.000
					B	17.894	28.118	61.11	6.230	0.000	
					C	17.894	28.118	61.11	28.210	0.000	
T7 120.00-110.00	115.00	1.303	44	156.473	A	13.500	14.059	14.059	51.01	2.220	0.000
					B	13.500	14.059	51.01	12.460	0.000	

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 20 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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
T8 110.00-100.00	105.00	1.279	43	166.473	C	13.500	14.059	14.059	51.01	14.105	0.000
					A	10.067	14.059			2.220	0.000
					B	10.067	14.059			12.460	0.000
T9 100.00-80.00	90.00	1.238	42	363.362	C	10.067	14.059	30.118	58.27	14.105	0.000
					A	24.755	30.118			4.440	0.000
					B	24.755	30.118			24.920	0.000
T10 80.00-60.00	70.00	1.174	40	403.362	C	24.755	30.118	30.118	54.89	28.210	0.000
					A	27.125	30.118			4.440	0.000
					B	27.125	30.118			24.920	0.000
T11 60.00-40.00	50.00	1.094	37	443.780	C	27.125	30.118	31.709	52.61	4.440	0.000
					A	36.924	31.709			24.920	0.000
					B	36.924	31.709			24.920	0.000
T12 40.00-20.00	30.00	0.982	33	483.780	C	36.924	31.709	31.709	46.20	4.440	0.000
					A	39.986	31.709			44.23	0.000
					B	39.986	31.709			24.920	0.000
T13 20.00-0.00	10.00	0.85	29	534.209	C	39.986	31.709	39.294	44.23	28.210	0.000
					A	17.558	39.294			4.440	0.000
					B	17.558	39.294			24.920	0.000
					C	17.558	39.294		69.12	28.210	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 195.00-190.00	192.50	1.453	5	1.3718	66.664	A	5.275	23.128	17.339	61.05	0.000	0.000	
						B	5.275	23.128			0.000	0.000	
						C	5.275	23.128			0.000	0.000	
T2 190.00-180.00	185.00	1.441	5	1.3664	133.319	A	5.966	41.172	34.651	73.51	0.000	0.000	
						B	5.966	41.172			0.000	0.000	
						C	5.966	41.172			0.000	0.000	
T3 180.00-160.00	170.00	1.415	5	1.3549	266.600	A	14.319	80.908	67.974	71.38	5.730	0.000	
						B	14.319	80.908			0.000	0.000	
						C	14.319	80.908			32.493	0.000	
T4 160.00-150.00	155.00	1.388	5	1.3424	133.487	A	9.909	43.221	34.353	64.66	3.795	0.000	
						B	9.909	43.221			0.000	0.000	
						C	9.909	43.221			64.66	0.000	
T5 150.00-140.00	145.00	1.369	5	1.3335	133.472	A	7.159	40.680	34.316	71.73	5.302	0.000	
						B	7.159	40.680			0.000	0.000	
						C	7.159	40.680			71.73	35.998	0.000
T6 140.00-120.00	130.00	1.337	5	1.3190	287.347	A	17.894	85.196	69.461	67.38	17.618	0.000	
						B	17.894	85.196			67.38	11.104	0.000
						C	17.894	85.196			67.38	71.853	0.000
T7 120.00-110.00	115.00	1.303	5	1.3029	158.647	A	13.500	44.716	34.664	59.54	8.754	0.000	
						B	13.500	44.716			59.54	22.119	0.000
						C	13.500	44.716			59.54	35.847	0.000
T8 110.00-100.00	105.00	1.279	4	1.2911	168.627	A	10.067	42.043	34.616	66.43	8.713	0.000	
						B	10.067	42.043			66.43	22.055	0.000
						C	10.067	42.043			66.43	35.789	0.000
T9 100.00-80.00	90.00	1.238	4	1.2714	367.606	A	24.755	85.640	69.903	63.32	17.290	0.000	
						B	24.755	85.640			63.32	43.893	0.000
						C	24.755	85.640			63.32	71.385	0.000
T10 80.00-60.00	70.00	1.174	4	1.2398	407.500	A	27.125	86.458	69.643	61.31	17.073	0.000	

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 21 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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 ft ²	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
T11 60.00-40.00	50.00	1.094	4	1.1988	447.781	B	27.125	86.458	70.140	61.31	43.548	0.000
						C	27.125	86.458			71.075	0.000
						A	36.924	87.845			16.791	0.000
T12 40.00-20.00	30.00	0.982	3	1.1391	487.581	B	36.924	87.845	69.647	56.22	43.099	0.000
						C	36.924	87.845			70.672	0.000
						A	39.986	87.866			16.381	0.000
T13 20.00-0.00	10.00	0.85	3	1.0206	537.616	B	39.986	87.866	90.816	54.47	42.446	0.000
						C	39.986	87.866			70.087	0.000
						A	17.558	101.056			15.568	0.000
						B	17.558	101.056		76.56	41.149	0.000
						C	17.558	101.056		76.56	68.928	0.000

Tower Pressure - Service

$G_H = 0.850$

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e ft ²	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 195.00-190.00	192.50	1.453	11	65.521	A	5.275	5.942	5.942	52.98	0.000	0.000	
					B	5.275	5.942			0.000	0.000	
					C	5.275	5.942			0.000	0.000	
T2 190.00-180.00	185.00	1.441	11	131.042	A	5.966	11.885	11.885	66.58	0.000	0.000	
					B	5.966	11.885			0.000	0.000	
					C	5.966	11.885			0.000	0.000	
T3 180.00-160.00	170.00	1.415	11	262.083	A	14.319	25.105	25.105	63.68	1.665	0.000	
					B	14.319	25.105			0.000	0.000	
					C	14.319	25.105			63.68	12.695	0.000
T4 160.00-150.00	155.00	1.388	11	131.250	A	9.909	13.288	13.288	57.28	1.110	0.000	
					B	9.909	13.288			0.000	0.000	
					C	9.909	13.288			57.28	14.105	0.000
T5 150.00-140.00	145.00	1.369	11	131.250	A	7.159	13.288	13.288	64.99	1.443	0.000	
					B	7.159	13.288			0.000	0.000	
					C	7.159	13.288			64.99	14.105	0.000
T6 140.00-120.00	130.00	1.337	10	282.945	A	17.894	28.118	28.118	61.11	4.440	0.000	
					B	17.894	28.118			61.11	6.230	0.000
					C	17.894	28.118			61.11	28.210	0.000
T7 120.00-110.00	115.00	1.303	10	156.473	A	13.500	14.059	14.059	51.01	2.220	0.000	
					B	13.500	14.059			51.01	12.460	0.000
					C	13.500	14.059			51.01	14.105	0.000
T8 110.00-100.00	105.00	1.279	10	166.473	A	10.067	14.059	14.059	58.27	2.220	0.000	
					B	10.067	14.059			58.27	12.460	0.000
					C	10.067	14.059			58.27	14.105	0.000
T9 100.00-80.00	90.00	1.238	10	363.362	A	24.755	30.118	30.118	54.89	4.440	0.000	
					B	24.755	30.118			54.89	24.920	0.000
					C	24.755	30.118			54.89	28.210	0.000
T10 80.00-60.00	70.00	1.174	9	403.362	A	27.125	30.118	30.118	52.61	4.440	0.000	
					B	27.125	30.118			52.61	24.920	0.000
					C	27.125	30.118			52.61	28.210	0.000
T11 60.00-40.00	50.00	1.094	9	443.780	A	36.924	31.709	31.709	46.20	4.440	0.000	
					B	36.924	31.709			46.20	24.920	0.000
					C	36.924	31.709			46.20	28.210	0.000
T12 40.00-20.00	30.00	0.982	8	483.780	A	39.986	31.709	31.709	44.23	4.440	0.000	
					B	39.986	31.709			44.23	24.920	0.000

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 22 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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
T13 20.00-0.00	10.00	0.85	7	534.209	C	39.986	31.709		44.23	28.210	0.000
					A	17.558	39.294	39.294	69.12	4.440	0.000
					B	17.558	39.294		69.12	24.920	0.000
					C	17.558	39.294		69.12	28.210	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 195.00-190.00	0.00	0.91	A	0.171	2.695	49	1	1	8.662	0.98	196.02	C
			B	0.171	2.695		1	1	8.662			
			C	0.171	2.695		1	1	8.662			
T2 190.00-180.00	0.00	1.09	A	0.136	2.823	49	1	1	12.696	1.49	149.22	C
			B	0.136	2.823		1	1	12.696			
			C	0.136	2.823		1	1	12.696			
T3 180.00-160.00	0.07	2.05	A	0.15	2.77	48	1	1	28.568	3.82	191.18	C
			B	0.15	2.77		1	1	28.568			
			C	0.15	2.77		1	1	28.568			
T4 160.00-150.00	0.08	1.62	A	0.177	2.676	47	1	1	17.494	2.49	248.78	C
			B	0.177	2.676		1	1	17.494			
			C	0.177	2.676		1	1	17.494			
T5 150.00-140.00	0.08	1.41	A	0.156	2.75	47	1	1	14.709	2.22	221.50	C
			B	0.156	2.75		1	1	14.709			
			C	0.156	2.75		1	1	14.709			
T6 140.00-120.00	0.23	3.48	A	0.163	2.726	45	1	1	33.891	5.07	253.67	C
			B	0.163	2.726		1	1	33.891			
			C	0.163	2.726		1	1	33.891			
T7 120.00-110.00	0.20	2.09	A	0.176	2.678	44	1	1	21.524	3.26	325.52	C
			B	0.176	2.678		1	1	21.524			
			C	0.176	2.678		1	1	21.524			
T8 110.00-100.00	0.20	1.82	A	0.145	2.79	43	1	1	18.039	2.92	292.38	C
			B	0.145	2.79		1	1	18.039			
			C	0.145	2.79		1	1	18.039			
T9 100.00-80.00	0.40	4.67	A	0.151	2.768	42	1	1	41.852	6.20	310.17	C
			B	0.151	2.768		1	1	41.852			
			C	0.151	2.768		1	1	41.852			
T10 80.00-60.00	0.40	5.61	A	0.142	2.801	40	1	1	44.195	6.15	307.72	C
			B	0.142	2.801		1	1	44.195			
			C	0.142	2.801		1	1	44.195			
T11 60.00-40.00	0.40	7.04	A	0.155	2.754	37	1	1	54.936	6.60	330.15	C
			B	0.155	2.754		1	1	54.936			
			C	0.155	2.754		1	1	54.936			
T12 40.00-20.00	0.40	7.31	A	0.148	2.778	33	1	1	57.976	6.21	310.32	C
			B	0.148	2.778		1	1	57.976			
			C	0.148	2.778		1	1	57.976			
T13 20.00-0.00	0.40	7.78	A	0.106	2.938	29	1	1	39.742	4.28	214.14	C
			B	0.106	2.938		1	1	39.742			
			C	0.106	2.938		1	1	39.742			
Sum Weight:	2.86	46.88						OTM	4710.71 kip-ft	51.70		

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 23 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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 195.00-190.00	0.00	0.91	A	0.171	2.695	49	0.825	1	7.739	0.88	175.13	C
			B	0.171	2.695	0.825	1	7.739				
			C	0.171	2.695	0.825	1	7.739				
T2 190.00-180.00	0.00	1.09	A	0.136	2.823	49	0.825	1	11.652	1.37	136.94	C
			B	0.136	2.823	0.825	1	11.652				
			C	0.136	2.823	0.825	1	11.652				
T3 180.00-160.00	0.07	2.05	A	0.15	2.77	48	0.825	1	26.062	3.54	176.99	C
			B	0.15	2.77	0.825	1	26.062				
			C	0.15	2.77	0.825	1	26.062				
T4 160.00-150.00	0.08	1.62	A	0.177	2.676	47	0.825	1	15.760	2.30	230.17	C
			B	0.177	2.676	0.825	1	15.760				
			C	0.177	2.676	0.825	1	15.760				
T5 150.00-140.00	0.08	1.41	A	0.156	2.75	47	0.825	1	13.456	2.08	207.88	C
			B	0.156	2.75	0.825	1	13.456				
			C	0.156	2.75	0.825	1	13.456				
T6 140.00-120.00	0.23	3.48	A	0.163	2.726	45	0.825	1	30.760	4.74	237.18	C
			B	0.163	2.726	0.825	1	30.760				
			C	0.163	2.726	0.825	1	30.760				
T7 120.00-110.00	0.20	2.09	A	0.176	2.678	44	0.825	1	19.161	3.02	301.70	C
			B	0.176	2.678	0.825	1	19.161				
			C	0.176	2.678	0.825	1	19.161				
T8 110.00-100.00	0.20	1.82	A	0.145	2.79	43	0.825	1	16.277	2.74	274.21	C
			B	0.145	2.79	0.825	1	16.277				
			C	0.145	2.79	0.825	1	16.277				
T9 100.00-80.00	0.40	4.67	A	0.151	2.768	42	0.825	1	37.520	5.77	288.72	C
			B	0.151	2.768	0.825	1	37.520				
			C	0.151	2.768	0.825	1	37.520				
T10 80.00-60.00	0.40	5.61	A	0.142	2.801	40	0.825	1	39.448	5.70	285.16	C
			B	0.142	2.801	0.825	1	39.448				
			C	0.142	2.801	0.825	1	39.448				
T11 60.00-40.00	0.40	7.04	A	0.155	2.754	37	0.825	1	48.474	6.04	302.02	C
			B	0.155	2.754	0.825	1	48.474				
			C	0.155	2.754	0.825	1	48.474				
T12 40.00-20.00	0.40	7.31	A	0.148	2.778	33	0.825	1	50.979	5.65	282.73	C
			B	0.148	2.778	0.825	1	50.979				
			C	0.148	2.778	0.825	1	50.979				
T13 20.00-0.00	0.40	7.78	A	0.106	2.938	29	0.825	1	36.669	4.06	203.05	C
			B	0.106	2.938	0.825	1	36.669				
			C	0.106	2.938	0.825	1	36.669				
Sum Weight:	2.86	46.88						OTM	4364.58 kip-ft	47.90		

Tower Forces - No Ice - Wind 60 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 195.00-190.00	0.00	0.91	A	0.171	2.695	49	0.8	1	7.607	0.86	172.15	C
			B	0.171	2.695	0.8	1	7.607				
			C	0.171	2.695	0.8	1	7.607				

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 24 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T2 190.00-180.00	0.00	1.09	A	0.136	2.823	49	0.8	1	11.503	1.35	135.19	C
			B	0.136	2.823		0.8	1	11.503			
			C	0.136	2.823		0.8	1	11.503			
T3 180.00-160.00	0.07	2.05	A	0.15	2.77	48	0.8	1	25.704	3.50	174.96	C
			B	0.15	2.77		0.8	1	25.704			
			C	0.15	2.77		0.8	1	25.704			
T4 160.00-150.00	0.08	1.62	A	0.177	2.676	47	0.8	1	15.512	2.28	227.51	C
			B	0.177	2.676		0.8	1	15.512			
			C	0.177	2.676		0.8	1	15.512			
T5 150.00-140.00	0.08	1.41	A	0.156	2.75	47	0.8	1	13.277	2.06	205.93	C
			B	0.156	2.75		0.8	1	13.277			
			C	0.156	2.75		0.8	1	13.277			
T6 140.00-120.00	0.23	3.48	A	0.163	2.726	45	0.8	1	30.313	4.70	234.82	C
			B	0.163	2.726		0.8	1	30.313			
			C	0.163	2.726		0.8	1	30.313			
T7 120.00-110.00	0.20	2.09	A	0.176	2.678	44	0.8	1	18.824	2.98	298.29	C
			B	0.176	2.678		0.8	1	18.824			
			C	0.176	2.678		0.8	1	18.824			
T8 110.00-100.00	0.20	1.82	A	0.145	2.79	43	0.8	1	16.026	2.72	271.62	C
			B	0.145	2.79		0.8	1	16.026			
			C	0.145	2.79		0.8	1	16.026			
T9 100.00-80.00	0.40	4.67	A	0.151	2.768	42	0.8	1	36.901	5.71	285.66	C
			B	0.151	2.768		0.8	1	36.901			
			C	0.151	2.768		0.8	1	36.901			
T10 80.00-60.00	0.40	5.61	A	0.142	2.801	40	0.8	1	38.770	5.64	281.93	C
			B	0.142	2.801		0.8	1	38.770			
			C	0.142	2.801		0.8	1	38.770			
T11 60.00-40.00	0.40	7.04	A	0.155	2.754	37	0.8	1	47.551	5.96	298.00	C
			B	0.155	2.754		0.8	1	47.551			
			C	0.155	2.754		0.8	1	47.551			
T12 40.00-20.00	0.40	7.31	A	0.148	2.778	33	0.8	1	49.979	5.58	278.79	C
			B	0.148	2.778		0.8	1	49.979			
			C	0.148	2.778		0.8	1	49.979			
T13 20.00-0.00	0.40	7.78	A	0.106	2.938	29	0.8	1	36.230	4.03	201.46	C
			B	0.106	2.938		0.8	1	36.230			
			C	0.106	2.938		0.8	1	36.230			
Sum Weight:	2.86	46.88						OTM	4315.13 kip-ft	47.36		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 195.00-190.00	0.00	0.91	A	0.171	2.695	49	0.85	1	7.871	0.89	178.11	C
			B	0.171	2.695		0.85	1	7.871			
			C	0.171	2.695		0.85	1	7.871			
T2 190.00-180.00	0.00	1.09	A	0.136	2.823	49	0.85	1	11.801	1.39	138.70	C
			B	0.136	2.823		0.85	1	11.801			
			C	0.136	2.823		0.85	1	11.801			
T3 180.00-160.00	0.07	2.05	A	0.15	2.77	48	0.85	1	26.420	3.58	179.02	C
			B	0.15	2.77		0.85	1	26.420			
			C	0.15	2.77		0.85	1	26.420			

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	25 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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
T4 160.00-150.00	0.08	1.62	A	0.177	2.676	47	0.85	1	16.008	2.33	232.83	C
			B	0.177	2.676		0.85	1	16.008			
			C	0.177	2.676		0.85	1	16.008			
T5 150.00-140.00	0.08	1.41	A	0.156	2.75	47	0.85	1	13.635	2.10	209.82	C
			B	0.156	2.75		0.85	1	13.635			
			C	0.156	2.75		0.85	1	13.635			
T6 140.00-120.00	0.23	3.48	A	0.163	2.726	45	0.85	1	31.207	4.79	239.53	C
			B	0.163	2.726		0.85	1	31.207			
			C	0.163	2.726		0.85	1	31.207			
T7 120.00-110.00	0.20	2.09	A	0.176	2.678	44	0.85	1	19.499	3.05	305.10	C
			B	0.176	2.678		0.85	1	19.499			
			C	0.176	2.678		0.85	1	19.499			
T8 110.00-100.00	0.20	1.82	A	0.145	2.79	43	0.85	1	16.529	2.77	276.81	C
			B	0.145	2.79		0.85	1	16.529			
			C	0.145	2.79		0.85	1	16.529			
T9 100.00-80.00	0.40	4.67	A	0.151	2.768	42	0.85	1	38.138	5.84	291.79	C
			B	0.151	2.768		0.85	1	38.138			
			C	0.151	2.768		0.85	1	38.138			
T10 80.00-60.00	0.40	5.61	A	0.142	2.801	40	0.85	1	40.127	5.77	288.38	C
			B	0.142	2.801		0.85	1	40.127			
			C	0.142	2.801		0.85	1	40.127			
T11 60.00-40.00	0.40	7.04	A	0.155	2.754	37	0.85	1	49.397	6.12	306.03	C
			B	0.155	2.754		0.85	1	49.397			
			C	0.155	2.754		0.85	1	49.397			
T12 40.00-20.00	0.40	7.31	A	0.148	2.778	33	0.85	1	51.979	5.73	286.67	C
			B	0.148	2.778		0.85	1	51.979			
			C	0.148	2.778		0.85	1	51.979			
T13 20.00-0.00	0.40	7.78	A	0.106	2.938	29	0.85	1	37.108	4.09	204.63	C
			B	0.106	2.938		0.85	1	37.108			
			C	0.106	2.938		0.85	1	37.108			
Sum Weight:	2.86	46.88						OTM	4414.03 kip-ft	48.44		

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 195.00-190.00	0.00	2.09	A	0.426	2.015	5	1	1	20.259	0.18	35.10	C
			B	0.426	2.015		1	1	20.259			
			C	0.426	2.015		1	1	20.259			
T2 190.00-180.00	0.00	2.45	A	0.354	2.163	5	1	1	31.386	0.29	28.95	C
			B	0.354	2.163		1	1	31.386			
			C	0.354	2.163		1	1	31.386			
T3 180.00-160.00	0.51	5.94	A	0.357	2.155	5	1	1	64.383	0.74	37.06	C
			B	0.357	2.155		1	1	64.383			
			C	0.357	2.155		1	1	64.383			
T4 160.00-150.00	0.53	3.91	A	0.398	2.068	5	1	1	37.371	0.48	48.11	C
			B	0.398	2.068		1	1	37.371			
			C	0.398	2.068		1	1	37.371			
T5 150.00-140.00	0.54	3.34	A	0.358	2.152	5	1	1	32.351	0.45	44.93	C
			B	0.358	2.152		1	1	32.351			
			C	0.358	2.152		1	1	32.351			

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 26 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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
T6 140.00-120.00	1.35	7.76	A	0.359	2.151	5	1	1	70.663	1.00	49.99	C
			B	0.359	2.151		1	1	70.663			
			C	0.359	2.151		1	1	70.663			
T7 120.00-110.00	1.02	4.66	A	0.367	2.133	5	1	1	41.339	0.60	59.75	C
			B	0.367	2.133		1	1	41.339			
			C	0.367	2.133		1	1	41.339			
T8 110.00-100.00	1.02	3.97	A	0.309	2.272	4	1	1	35.368	0.56	55.60	C
			B	0.309	2.272		1	1	35.368			
			C	0.309	2.272		1	1	35.368			
T9 100.00-80.00	2.02	9.45	A	0.3	2.295	4	1	1	76.055	1.13	56.25	C
			B	0.3	2.295		1	1	76.055			
			C	0.3	2.295		1	1	76.055			
T10 80.00-60.00	1.98	10.46	A	0.279	2.354	4	1	1	78.360	1.10	54.93	C
			B	0.279	2.354		1	1	78.360			
			C	0.279	2.354		1	1	78.360			
T11 60.00-40.00	1.94	12.53	A	0.279	2.354	4	1	1	88.978	1.10	55.03	C
			B	0.279	2.354		1	1	88.978			
			C	0.279	2.354		1	1	88.978			
T12 40.00-20.00	1.88	12.71	A	0.262	2.401	3	1	1	91.660	1.01	50.73	C
			B	0.262	2.401		1	1	91.660			
			C	0.262	2.401		1	1	91.660			
T13 20.00-0.00	1.77	12.06	A	0.221	2.529	3	1	1	76.009	0.80	39.98	C
			B	0.221	2.529		1	1	76.009			
			C	0.221	2.529		1	1	76.009			
Sum Weight:	14.57	91.34						OTM	881.72 kip-ft	9.43		

Tower Forces - With 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 195.00-190.00	0.00	2.09	A	0.426	2.015	5	0.825	1	19.336	0.17	33.50	C
			B	0.426	2.015		0.825	1	19.336			
			C	0.426	2.015		0.825	1	19.336			
T2 190.00-180.00	0.00	2.45	A	0.354	2.163	5	0.825	1	30.342	0.28	27.98	C
			B	0.354	2.163		0.825	1	30.342			
			C	0.354	2.163		0.825	1	30.342			
T3 180.00-160.00	0.51	5.94	A	0.357	2.155	5	0.825	1	61.877	0.72	35.93	C
			B	0.357	2.155		0.825	1	61.877			
			C	0.357	2.155		0.825	1	61.877			
T4 160.00-150.00	0.53	3.91	A	0.398	2.068	5	0.825	1	35.637	0.47	46.63	C
			B	0.398	2.068		0.825	1	35.637			
			C	0.398	2.068		0.825	1	35.637			
T5 150.00-140.00	0.54	3.34	A	0.358	2.152	5	0.825	1	31.098	0.44	43.83	C
			B	0.358	2.152		0.825	1	31.098			
			C	0.358	2.152		0.825	1	31.098			
T6 140.00-120.00	1.35	7.76	A	0.359	2.151	5	0.825	1	67.532	0.97	48.66	C
			B	0.359	2.151		0.825	1	67.532			
			C	0.359	2.151		0.825	1	67.532			
T7 120.00-110.00	1.02	4.66	A	0.367	2.133	5	0.825	1	38.976	0.58	57.81	C
			B	0.367	2.133		0.825	1	38.976			
			C	0.367	2.133		0.825	1	38.976			

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 27 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T8 110.00-100.00	1.02	3.97	A	0.309	2.272	4	0.825	1	33.606	0.54	54.08	C
			B	0.309	2.272		0.825	1	33.606			
			C	0.309	2.272		0.825	1	33.606			
T9 100.00-80.00	2.02	9.45	A	0.3	2.295	4	0.825	1	71.723	1.09	54.43	C
			B	0.3	2.295		0.825	1	71.723			
			C	0.3	2.295		0.825	1	71.723			
T10 80.00-60.00	1.98	10.46	A	0.279	2.354	4	0.825	1	73.613	1.06	52.98	C
			B	0.279	2.354		0.825	1	73.613			
			C	0.279	2.354		0.825	1	73.613			
T11 60.00-40.00	1.94	12.53	A	0.279	2.354	4	0.825	1	82.517	1.05	52.57	C
			B	0.279	2.354		0.825	1	82.517			
			C	0.279	2.354		0.825	1	82.517			
T12 40.00-20.00	1.88	12.71	A	0.262	2.401	3	0.825	1	84.663	0.97	48.29	C
			B	0.262	2.401		0.825	1	84.663			
			C	0.262	2.401		0.825	1	84.663			
T13 20.00-0.00	1.77	12.06	A	0.221	2.529	3	0.825	1	72.936	0.78	39.00	C
			B	0.221	2.529		0.825	1	72.936			
			C	0.221	2.529		0.825	1	72.936			
Sum Weight:	14.57	91.34						OTM	853.27 kip-ft	9.11		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 195.00-190.00	0.00	2.09	A	0.426	2.015	5	0.8	1	19.204	0.17	33.27	C
			B	0.426	2.015		0.8	1	19.204			
			C	0.426	2.015		0.8	1	19.204			
T2 190.00-180.00	0.00	2.45	A	0.354	2.163	5	0.8	1	30.193	0.28	27.85	C
			B	0.354	2.163		0.8	1	30.193			
			C	0.354	2.163		0.8	1	30.193			
T3 180.00-160.00	0.51	5.94	A	0.357	2.155	5	0.8	1	61.519	0.72	35.77	C
			B	0.357	2.155		0.8	1	61.519			
			C	0.357	2.155		0.8	1	61.519			
T4 160.00-150.00	0.53	3.91	A	0.398	2.068	5	0.8	1	35.389	0.46	46.42	C
			B	0.398	2.068		0.8	1	35.389			
			C	0.398	2.068		0.8	1	35.389			
T5 150.00-140.00	0.54	3.34	A	0.358	2.152	5	0.8	1	30.919	0.44	43.68	C
			B	0.358	2.152		0.8	1	30.919			
			C	0.358	2.152		0.8	1	30.919			
T6 140.00-120.00	1.35	7.76	A	0.359	2.151	5	0.8	1	67.084	0.97	48.47	C
			B	0.359	2.151		0.8	1	67.084			
			C	0.359	2.151		0.8	1	67.084			
T7 120.00-110.00	1.02	4.66	A	0.367	2.133	5	0.8	1	38.639	0.58	57.53	C
			B	0.367	2.133		0.8	1	38.639			
			C	0.367	2.133		0.8	1	38.639			
T8 110.00-100.00	1.02	3.97	A	0.309	2.272	4	0.8	1	33.355	0.54	53.87	C
			B	0.309	2.272		0.8	1	33.355			
			C	0.309	2.272		0.8	1	33.355			
T9 100.00-80.00	2.02	9.45	A	0.3	2.295	4	0.8	1	71.104	1.08	54.17	C
			B	0.3	2.295		0.8	1	71.104			
			C	0.3	2.295		0.8	1	71.104			

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 28 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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
T10 80.00-60.00	1.98	10.46	A	0.279	2.354	4	0.8	1	72.935	1.05	52.71	C
			B	0.279	2.354		0.8	1	72.935			
			C	0.279	2.354		0.8	1	72.935			
T11 60.00-40.00	1.94	12.53	A	0.279	2.354	4	0.8	1	81.594	1.04	52.22	C
			B	0.279	2.354		0.8	1	81.594			
			C	0.279	2.354		0.8	1	81.594			
T12 40.00-20.00	1.88	12.71	A	0.262	2.401	3	0.8	1	83.663	0.96	47.94	C
			B	0.262	2.401		0.8	1	83.663			
			C	0.262	2.401		0.8	1	83.663			
T13 20.00-0.00	1.77	12.06	A	0.221	2.529	3	0.8	1	72.497	0.78	38.86	C
			B	0.221	2.529		0.8	1	72.497			
			C	0.221	2.529		0.8	1	72.497			
Sum Weight:	14.57	91.34						OTM	849.21 kip-ft	9.06		

Tower Forces - With Ice - Wind 90 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 195.00-190.00	0.00	2.09	A	0.426	2.015	5	0.85	1	19.468	0.17	33.72	C
			B	0.426	2.015		0.85	1	19.468			
			C	0.426	2.015		0.85	1	19.468			
T2 190.00-180.00	0.00	2.45	A	0.354	2.163	5	0.85	1	30.491	0.28	28.12	C
			B	0.354	2.163		0.85	1	30.491			
			C	0.354	2.163		0.85	1	30.491			
T3 180.00-160.00	0.51	5.94	A	0.357	2.155	5	0.85	1	62.235	0.72	36.09	C
			B	0.357	2.155		0.85	1	62.235			
			C	0.357	2.155		0.85	1	62.235			
T4 160.00-150.00	0.53	3.91	A	0.398	2.068	5	0.85	1	35.885	0.47	46.84	C
			B	0.398	2.068		0.85	1	35.885			
			C	0.398	2.068		0.85	1	35.885			
T5 150.00-140.00	0.54	3.34	A	0.358	2.152	5	0.85	1	31.277	0.44	43.99	C
			B	0.358	2.152		0.85	1	31.277			
			C	0.358	2.152		0.85	1	31.277			
T6 140.00-120.00	1.35	7.76	A	0.359	2.151	5	0.85	1	67.979	0.98	48.85	C
			B	0.359	2.151		0.85	1	67.979			
			C	0.359	2.151		0.85	1	67.979			
T7 120.00-110.00	1.02	4.66	A	0.367	2.133	5	0.85	1	39.314	0.58	58.08	C
			B	0.367	2.133		0.85	1	39.314			
			C	0.367	2.133		0.85	1	39.314			
T8 110.00-100.00	1.02	3.97	A	0.309	2.272	4	0.85	1	33.858	0.54	54.30	C
			B	0.309	2.272		0.85	1	33.858			
			C	0.309	2.272		0.85	1	33.858			
T9 100.00-80.00	2.02	9.45	A	0.3	2.295	4	0.85	1	72.341	1.09	54.69	C
			B	0.3	2.295		0.85	1	72.341			
			C	0.3	2.295		0.85	1	72.341			
T10 80.00-60.00	1.98	10.46	A	0.279	2.354	4	0.85	1	74.291	1.07	53.26	C
			B	0.279	2.354		0.85	1	74.291			
			C	0.279	2.354		0.85	1	74.291			
T11 60.00-40.00	1.94	12.53	A	0.279	2.354	4	0.85	1	83.440	1.06	52.92	C
			B	0.279	2.354		0.85	1	83.440			
			C	0.279	2.354		0.85	1	83.440			

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 29 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJJ

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
T12 40.00-20.00	1.88	12.71	A	0.262	2.401	3	0.85	1	85.662	0.97	48.63	C
			B	0.262	2.401		0.85	1	85.662			
			C	0.262	2.401		0.85	1	85.662			
T13 20.00-0.00	1.77	12.06	A	0.221	2.529	3	0.85	1	73.375	0.78	39.14	C
			B	0.221	2.529		0.85	1	73.375			
			C	0.221	2.529		0.85	1	73.375			
Sum Weight:	14.57	91.34						OTM	857.34 kip-ft	9.15		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
T1 195.00-190.00	0.00	0.91	A	0.171	2.695	11	1	1	8.662	0.23	45.16	C
			B	0.171	2.695		1	1	8.662			
			C	0.171	2.695		1	1	8.662			
T2 190.00-180.00	0.00	1.09	A	0.136	2.823	11	1	1	12.696	0.34	34.38	C
			B	0.136	2.823		1	1	12.696			
			C	0.136	2.823		1	1	12.696			
T3 180.00-160.00	0.07	2.05	A	0.15	2.77	11	1	1	28.568	0.88	44.05	C
			B	0.15	2.77		1	1	28.568			
			C	0.15	2.77		1	1	28.568			
T4 160.00-150.00	0.08	1.62	A	0.177	2.676	11	1	1	17.494	0.57	57.32	C
			B	0.177	2.676		1	1	17.494			
			C	0.177	2.676		1	1	17.494			
T5 150.00-140.00	0.08	1.41	A	0.156	2.75	11	1	1	14.709	0.51	51.03	C
			B	0.156	2.75		1	1	14.709			
			C	0.156	2.75		1	1	14.709			
T6 140.00-120.00	0.23	3.48	A	0.163	2.726	10	1	1	33.891	1.17	58.45	C
			B	0.163	2.726		1	1	33.891			
			C	0.163	2.726		1	1	33.891			
T7 120.00-110.00	0.20	2.09	A	0.176	2.678	10	1	1	21.524	0.75	75.00	C
			B	0.176	2.678		1	1	21.524			
			C	0.176	2.678		1	1	21.524			
T8 110.00-100.00	0.20	1.82	A	0.145	2.79	10	1	1	18.039	0.67	67.36	C
			B	0.145	2.79		1	1	18.039			
			C	0.145	2.79		1	1	18.039			
T9 100.00-80.00	0.40	4.67	A	0.151	2.768	10	1	1	41.852	1.43	71.46	C
			B	0.151	2.768		1	1	41.852			
			C	0.151	2.768		1	1	41.852			
T10 80.00-60.00	0.40	5.61	A	0.142	2.801	9	1	1	44.195	1.42	70.90	C
			B	0.142	2.801		1	1	44.195			
			C	0.142	2.801		1	1	44.195			
T11 60.00-40.00	0.40	7.04	A	0.155	2.754	9	1	1	54.936	1.52	76.07	C
			B	0.155	2.754		1	1	54.936			
			C	0.155	2.754		1	1	54.936			
T12 40.00-20.00	0.40	7.31	A	0.148	2.778	8	1	1	57.976	1.43	71.50	C
			B	0.148	2.778		1	1	57.976			
			C	0.148	2.778		1	1	57.976			
T13 20.00-0.00	0.40	7.78	A	0.106	2.938	7	1	1	39.742	0.99	49.34	C
			B	0.106	2.938		1	1	39.742			
			C	0.106	2.938		1	1	39.742			

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	30 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	Client	AT&T	Designed by	TJL

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
Sum Weight:	2.86	46.88						OTM	1085.35 kip-ft	11.91		

Tower Forces - Service - Wind 45 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 195.00-190.00	0.00	0.91	A	0.171	2.695	11	0.825	1	7.739	0.20	40.35	C
			B	0.171	2.695		0.825	1	7.739			
			C	0.171	2.695		0.825	1	7.739			
T2 190.00-180.00	0.00	1.09	A	0.136	2.823	11	0.825	1	11.652	0.32	31.55	C
			B	0.136	2.823		0.825	1	11.652			
			C	0.136	2.823		0.825	1	11.652			
T3 180.00-160.00	0.07	2.05	A	0.15	2.77	11	0.825	1	26.062	0.82	40.78	C
			B	0.15	2.77		0.825	1	26.062			
			C	0.15	2.77		0.825	1	26.062			
T4 160.00-150.00	0.08	1.62	A	0.177	2.676	11	0.825	1	15.760	0.53	53.03	C
			B	0.177	2.676		0.825	1	15.760			
			C	0.177	2.676		0.825	1	15.760			
T5 150.00-140.00	0.08	1.41	A	0.156	2.75	11	0.825	1	13.456	0.48	47.89	C
			B	0.156	2.75		0.825	1	13.456			
			C	0.156	2.75		0.825	1	13.456			
T6 140.00-120.00	0.23	3.48	A	0.163	2.726	10	0.825	1	30.760	1.09	54.65	C
			B	0.163	2.726		0.825	1	30.760			
			C	0.163	2.726		0.825	1	30.760			
T7 120.00-110.00	0.20	2.09	A	0.176	2.678	10	0.825	1	19.161	0.70	69.51	C
			B	0.176	2.678		0.825	1	19.161			
			C	0.176	2.678		0.825	1	19.161			
T8 110.00-100.00	0.20	1.82	A	0.145	2.79	10	0.825	1	16.277	0.63	63.18	C
			B	0.145	2.79		0.825	1	16.277			
			C	0.145	2.79		0.825	1	16.277			
T9 100.00-80.00	0.40	4.67	A	0.151	2.768	10	0.825	1	37.520	1.33	66.52	C
			B	0.151	2.768		0.825	1	37.520			
			C	0.151	2.768		0.825	1	37.520			
T10 80.00-60.00	0.40	5.61	A	0.142	2.801	9	0.825	1	39.448	1.31	65.70	C
			B	0.142	2.801		0.825	1	39.448			
			C	0.142	2.801		0.825	1	39.448			
T11 60.00-40.00	0.40	7.04	A	0.155	2.754	9	0.825	1	48.474	1.39	69.58	C
			B	0.155	2.754		0.825	1	48.474			
			C	0.155	2.754		0.825	1	48.474			
T12 40.00-20.00	0.40	7.31	A	0.148	2.778	8	0.825	1	50.979	1.30	65.14	C
			B	0.148	2.778		0.825	1	50.979			
			C	0.148	2.778		0.825	1	50.979			
T13 20.00-0.00	0.40	7.78	A	0.106	2.938	7	0.825	1	36.669	0.94	46.78	C
			B	0.106	2.938		0.825	1	36.669			
			C	0.106	2.938		0.825	1	36.669			
Sum Weight:	2.86	46.88						OTM	1005.60 kip-ft	11.04		

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	31 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	Client	AT&T	Designed by	TJL

Tower Forces - Service - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 195.00-190.00	0.00	0.91	A	0.171	2.695	11	0.8	1	7.607	0.20	39.66	C
			B	0.171	2.695		0.8	1	7.607			
			C	0.171	2.695		0.8	1	7.607			
T2 190.00-180.00	0.00	1.09	A	0.136	2.823	11	0.8	1	11.503	0.31	31.15	C
			B	0.136	2.823		0.8	1	11.503			
			C	0.136	2.823		0.8	1	11.503			
T3 180.00-160.00	0.07	2.05	A	0.15	2.77	11	0.8	1	25.704	0.81	40.31	C
			B	0.15	2.77		0.8	1	25.704			
			C	0.15	2.77		0.8	1	25.704			
T4 160.00-150.00	0.08	1.62	A	0.177	2.676	11	0.8	1	15.512	0.52	52.42	C
			B	0.177	2.676		0.8	1	15.512			
			C	0.177	2.676		0.8	1	15.512			
T5 150.00-140.00	0.08	1.41	A	0.156	2.75	11	0.8	1	13.277	0.47	47.45	C
			B	0.156	2.75		0.8	1	13.277			
			C	0.156	2.75		0.8	1	13.277			
T6 140.00-120.00	0.23	3.48	A	0.163	2.726	10	0.8	1	30.313	1.08	54.10	C
			B	0.163	2.726		0.8	1	30.313			
			C	0.163	2.726		0.8	1	30.313			
T7 120.00-110.00	0.20	2.09	A	0.176	2.678	10	0.8	1	18.824	0.69	68.73	C
			B	0.176	2.678		0.8	1	18.824			
			C	0.176	2.678		0.8	1	18.824			
T8 110.00-100.00	0.20	1.82	A	0.145	2.79	10	0.8	1	16.026	0.63	62.58	C
			B	0.145	2.79		0.8	1	16.026			
			C	0.145	2.79		0.8	1	16.026			
T9 100.00-80.00	0.40	4.67	A	0.151	2.768	10	0.8	1	36.901	1.32	65.82	C
			B	0.151	2.768		0.8	1	36.901			
			C	0.151	2.768		0.8	1	36.901			
T10 80.00-60.00	0.40	5.61	A	0.142	2.801	9	0.8	1	38.770	1.30	64.96	C
			B	0.142	2.801		0.8	1	38.770			
			C	0.142	2.801		0.8	1	38.770			
T11 60.00-40.00	0.40	7.04	A	0.155	2.754	9	0.8	1	47.551	1.37	68.66	C
			B	0.155	2.754		0.8	1	47.551			
			C	0.155	2.754		0.8	1	47.551			
T12 40.00-20.00	0.40	7.31	A	0.148	2.778	8	0.8	1	49.979	1.28	64.23	C
			B	0.148	2.778		0.8	1	49.979			
			C	0.148	2.778		0.8	1	49.979			
T13 20.00-0.00	0.40	7.78	A	0.106	2.938	7	0.8	1	36.230	0.93	46.42	C
			B	0.106	2.938		0.8	1	36.230			
			C	0.106	2.938		0.8	1	36.230			
Sum Weight:	2.86	46.88						OTM	994.21 kip-ft	10.91		

Tower Forces - Service - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 195.00-190.00	0.00	0.91	A	0.171	2.695	11	0.85	1	7.871	0.21	41.04	C
			B	0.171	2.695		0.85	1	7.871			

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 32 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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
T2 190.00-180.00	0.00	1.09	C	0.171	2.695	11	0.85	1	7.871	0.32	31.96	C
			A	0.136	2.823		0.85	1	11.801			
			B	0.136	2.823		0.85	1	11.801			
T3 180.00-160.00	0.07	2.05	C	0.136	2.823	11	0.85	1	11.801	0.82	41.25	C
			A	0.15	2.77		0.85	1	26.420			
			B	0.15	2.77		0.85	1	26.420			
T4 160.00-150.00	0.08	1.62	C	0.15	2.77	11	0.85	1	26.420	0.54	53.64	C
			A	0.177	2.676		0.85	1	16.008			
			B	0.177	2.676		0.85	1	16.008			
T5 150.00-140.00	0.08	1.41	C	0.177	2.676	11	0.85	1	16.008	0.48	48.34	C
			A	0.156	2.75		0.85	1	13.635			
			B	0.156	2.75		0.85	1	13.635			
T6 140.00-120.00	0.23	3.48	C	0.156	2.75	10	0.85	1	13.635	1.10	55.19	C
			A	0.163	2.726		0.85	1	31.207			
			B	0.163	2.726		0.85	1	31.207			
T7 120.00-110.00	0.20	2.09	C	0.163	2.726	10	0.85	1	31.207	0.70	70.29	C
			A	0.176	2.678		0.85	1	19.499			
			B	0.176	2.678		0.85	1	19.499			
T8 110.00-100.00	0.20	1.82	C	0.176	2.678	10	0.85	1	19.499	0.64	63.78	C
			A	0.145	2.79		0.85	1	16.529			
			B	0.145	2.79		0.85	1	16.529			
T9 100.00-80.00	0.40	4.67	C	0.145	2.79	10	0.85	1	16.529	1.34	67.23	C
			A	0.151	2.768		0.85	1	38.138			
			B	0.151	2.768		0.85	1	38.138			
T10 80.00-60.00	0.40	5.61	C	0.151	2.768	9	0.85	1	38.138	1.33	66.44	C
			A	0.142	2.801		0.85	1	40.127			
			B	0.142	2.801		0.85	1	40.127			
T11 60.00-40.00	0.40	7.04	C	0.142	2.801	9	0.85	1	40.127	1.41	70.51	C
			A	0.155	2.754		0.85	1	49.397			
			B	0.155	2.754		0.85	1	49.397			
T12 40.00-20.00	0.40	7.31	C	0.155	2.754	8	0.85	1	49.397	1.32	66.05	C
			A	0.148	2.778		0.85	1	51.979			
			B	0.148	2.778		0.85	1	51.979			
T13 20.00-0.00	0.40	7.78	C	0.148	2.778	7	0.85	1	51.979	0.94	47.15	C
			A	0.106	2.938		0.85	1	37.108			
			B	0.106	2.938		0.85	1	37.108			
Sum Weight:	2.86	46.88						OTM	1016.99 kip-ft	11.16		

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	26.85					
Bracing Weight	20.03					
Total Member Self-Weight	46.88					
Total Weight	65.77			5.67	-9.43	
Wind 0 deg - No Ice		1.36	-76.92	-8328.29	-141.32	-13.91
Wind 30 deg - No Ice		37.30	-63.50	-6911.99	-4052.76	8.90
Wind 45 deg - No Ice		51.68	-51.46	-5594.98	-5614.66	19.72
Wind 60 deg - No Ice		62.36	-36.49	-3975.33	-6776.44	28.89

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 33 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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 90 deg - No Ice		72.66	-0.84	-77.49	-7859.44	41.66
Wind 120 deg - No Ice		66.07	38.61	4307.34	-7089.77	46.19
Wind 135 deg - No Ice		52.47	53.33	5897.01	-5638.60	45.21
Wind 150 deg - No Ice		35.56	63.91	7045.48	-3837.42	37.90
Wind 180 deg - No Ice		-0.17	72.71	8009.47	6.76	17.25
Wind 210 deg - No Ice		-35.88	64.37	7090.66	3849.65	-8.55
Wind 225 deg - No Ice		-50.47	52.66	5841.51	5434.38	-21.30
Wind 240 deg - No Ice		-65.41	39.80	4422.96	7007.39	-32.27
Wind 270 deg - No Ice		-72.14	0.04	8.24	7789.98	-46.53
Wind 300 deg - No Ice		-61.57	-35.84	-3911.53	6679.45	-46.13
Wind 315 deg - No Ice		-50.82	-50.81	-5530.80	5511.12	-40.73
Wind 330 deg - No Ice		-36.05	-62.99	-6861.52	3910.78	-33.38
Member Ice	44.45					
Total Weight Ice	138.67			38.13	-3.32	
Wind 0 deg - Ice		0.15	-13.62	-1437.76	-17.70	-6.19
Wind 30 deg - Ice		6.73	-11.53	-1214.27	-731.79	-1.17
Wind 45 deg - Ice		9.40	-9.38	-980.20	-1022.16	1.55
Wind 60 deg - Ice		11.43	-6.65	-684.86	-1241.61	4.13
Wind 90 deg - Ice		13.24	-0.09	29.07	-1434.45	8.37
Wind 120 deg - Ice		11.74	6.83	790.83	-1266.53	10.68
Wind 135 deg - Ice		9.45	9.54	1084.41	-1020.97	10.94
Wind 150 deg - Ice		6.53	11.57	1303.82	-708.28	10.09
Wind 180 deg - Ice		-0.02	13.27	1488.63	-1.56	6.55
Wind 210 deg - Ice		-6.57	11.62	1308.78	705.03	1.20
Wind 225 deg - Ice		-9.27	9.51	1082.14	997.89	-1.72
Wind 240 deg - Ice		-11.67	6.96	803.44	1252.98	-4.50
Wind 270 deg - Ice		-13.18	0.00	38.42	1422.26	-8.90
Wind 300 deg - Ice		-11.34	-6.58	-677.87	1226.39	-10.67
Wind 315 deg - Ice		-9.31	-9.31	-973.15	1006.23	-10.44
Wind 330 deg - Ice		-6.59	-11.47	-1208.71	711.68	-9.59
Total Weight	65.77			5.67	-9.43	
Wind 0 deg - Service		0.31	-17.72	-1926.03	-35.96	-3.21
Wind 30 deg - Service		8.59	-14.63	-1599.71	-937.16	2.05
Wind 45 deg - Service		11.91	-11.86	-1296.27	-1297.02	4.54
Wind 60 deg - Service		14.37	-8.41	-923.11	-1564.69	6.66
Wind 90 deg - Service		16.74	-0.19	-25.05	-1814.21	9.60
Wind 120 deg - Service		15.22	8.90	985.22	-1636.88	10.64
Wind 135 deg - Service		12.09	12.29	1351.48	-1302.53	10.42
Wind 150 deg - Service		8.19	14.73	1616.09	-887.54	8.73
Wind 180 deg - Service		-0.04	16.75	1838.19	-1.84	3.97
Wind 210 deg - Service		-8.27	14.83	1626.49	883.56	-1.97
Wind 225 deg - Service		-11.63	12.13	1338.69	1248.68	-4.91
Wind 240 deg - Service		-15.07	9.17	1011.86	1611.10	-7.44
Wind 270 deg - Service		-16.62	0.01	-5.29	1791.41	-10.72
Wind 300 deg - Service		-14.19	-8.26	-908.41	1535.55	-10.63
Wind 315 deg - Service		-11.71	-11.71	-1281.49	1266.36	-9.38
Wind 330 deg - Service		-8.31	-14.51	-1588.09	897.65	-7.69

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

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	34 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	Client	AT&T	Designed by	TJL

<i>Comb. No.</i>	<i>Description</i>
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
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

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 35 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

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	195 - 190	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	43	-0.34	-0.53	0.04
			Max. Mx	18	-0.19	-1.17	0.07
			Max. My	32	-0.19	-0.17	-0.22
			Max. Vy	18	0.31	-1.17	0.07
		Diagonal	Max. Vx	32	0.12	0.00	0.00
			Max Tension	25	0.00	0.00	0.00
			Max. Compression	43	-0.27	0.00	0.00
			Max. Mx	42	-0.18	0.11	0.00
			Max. My	2	-0.05	0.00	0.00
		Top Girt	Max. Vy	42	-0.05	0.00	0.00
			Max. Vx	2	-0.00	0.00	0.00
			Max Tension	24	0.18	0.00	0.00
			Max. Compression	17	-0.13	-0.03	0.00
			Max. Mx	43	0.03	-0.08	0.00
			Max. My	18	-0.12	-0.04	0.00
			Max. Vy	43	0.07	-0.08	0.00
T2	190 - 180	Leg	Max. Vx	2	0.00	0.00	0.00
			Max Tension	19	0.94	-1.13	0.07
			Max. Compression	40	-2.98	0.49	0.06
			Max. Mx	18	0.83	-1.17	0.07
			Max. My	20	-1.66	0.25	-1.46
		Diagonal	Max. Vy	18	-0.88	-1.17	0.07
			Max. Vx	20	-0.71	0.25	1.15
			Max Tension	18	1.66	0.00	0.00
			Max. Compression	12	-1.59	0.00	0.00
			Max. Mx	35	0.22	0.07	0.00
T3	180 - 160	Leg	Max. My	28	-1.03	0.02	-0.00
			Max. Vy	43	-0.04	0.07	-0.00
			Max. Vx	28	-0.00	0.00	0.00
			Max Tension	19	13.48	-1.21	-0.04
			Max. Compression	2	-17.46	1.67	0.04
		Diagonal	Max. Mx	24	-16.73	-1.85	-0.15
			Max. My	16	-4.57	0.13	-1.99
			Max. Vy	8	-1.48	-1.25	0.06
			Max. Vx	32	1.43	-0.16	0.84
			Max Tension	30	5.24	0.00	0.00
T4	160 - 150	Leg	Max. Compression	14	-5.57	0.00	0.00
			Max. Mx	35	0.71	0.09	-0.00
			Max. My	28	-4.14	0.02	-0.00
			Max. Vy	35	-0.05	0.09	-0.00
			Max. Vx	28	-0.00	0.00	0.00
		Diagonal	Max Tension	19	25.94	-1.56	-0.03
			Max. Compression	2	-32.77	-0.67	0.05
			Max. Mx	2	-31.63	2.41	-0.04
			Max. My	16	-7.19	-0.55	-2.89
			Max. Vy	2	1.75	2.41	-0.04
Secondary	Max. Vx	16	1.07	-0.55	-2.89		
	Max Tension	5	8.03	0.04	0.01		
	Max. Compression	4	-8.20	0.00	0.00		
	Max. Mx	50	1.36	0.10	0.00		
	Max. My	4	-8.17	0.03	0.01		
	Max. Vy	50	-0.06	0.10	0.00		
	Max. Vx	4	0.00	0.03	0.01		
Max Tension	12	1.30	0.02	-0.00			

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	36 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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
		Horizontal					
T5	150 - 140	Leg	Max. Compression	19	-0.94	0.04	0.01
			Max. Mx	43	0.18	0.07	-0.00
			Max. My	18	-0.91	0.04	0.01
			Max. Vy	43	-0.06	0.07	-0.00
			Max. Vx	16	0.00	0.00	0.00
			Max Tension	19	43.33	-0.18	-0.02
			Max. Compression	2	-52.10	3.22	0.17
			Max. Mx	2	-52.10	3.22	0.17
			Max. My	16	-8.19	-0.55	-2.89
			Max. Vy	2	-0.63	3.22	0.17
			Max. Vx	16	-0.48	-0.55	-2.89
			Max Tension	21	9.55	0.00	0.00
			Max. Compression	4	-9.83	0.00	0.00
			Max. Mx	35	0.97	0.11	0.00
Max. My	2	-8.82	0.03	0.01			
T6	140 - 120	Leg	Max. Vy	35	-0.06	0.11	0.00
			Max. Vx	2	-0.00	0.00	0.00
			Max Tension	19	83.36	-3.30	-0.03
			Max. Compression	2	-100.41	2.22	0.06
			Max. Mx	18	81.55	-3.40	-0.03
			Max. My	16	-11.37	-0.27	-4.47
			Max. Vy	18	-1.18	-3.40	-0.03
			Max. Vx	16	-1.12	-0.27	-4.47
			Max Tension	4	11.50	0.00	0.00
			Max. Compression	4	-11.65	0.00	0.00
			Max. Mx	48	1.49	0.12	0.02
			Max. My	4	-9.94	0.02	0.02
			Max. Vy	49	0.07	0.12	0.02
			Max. Vx	35	0.00	0.00	0.00
T7	120 - 110	Leg	Max Tension	18	0.68	0.00	0.00
			Max. Compression	3	-0.52	0.00	0.00
			Max. Mx	48	0.33	-0.29	0.00
			Max. My	42	0.23	0.00	0.01
			Max. Vy	48	0.10	0.00	0.00
			Max. Vx	42	0.00	0.00	0.00
			Max Tension	19	103.61	-2.52	-0.08
			Max. Compression	2	-123.83	-0.12	0.20
			Max. Mx	2	-123.64	7.36	-0.01
			Max. My	16	-15.65	-0.46	-3.84
			Max. Vy	2	1.53	7.36	-0.01
			Max. Vx	14	0.76	-0.47	-3.79
			Max Tension	5	12.62	0.09	0.00
			Max. Compression	4	-13.26	0.00	0.00
Max. Mx	35	1.52	0.16	-0.02			
Max. My	2	-12.46	0.01	0.02			
T8	110 - 100	Leg	Max. Vy	48	0.09	0.15	0.01
			Max. Vx	36	0.00	0.00	0.00
			Max Tension	20	1.93	0.04	-0.01
			Max. Compression	5	-1.56	0.05	0.02
			Max. Mx	43	0.24	0.12	0.03
			Max. My	16	-1.38	0.07	0.03
			Max. Vy	43	0.08	0.12	0.03
			Max. Vx	45	-0.01	0.00	0.00
			Max Tension	19	126.66	-0.69	-0.10
			Max. Compression	2	-149.41	3.64	0.16
			Max. Mx	2	-149.41	3.64	0.16
			Max. My	16	-16.88	-0.46	-3.84
			Max. Vy	2	-0.66	3.64	0.16
			Max. Vx	14	-0.46	-0.47	-3.79

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	37 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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
T9	100 - 80	Diagonal	Max Tension	4	12.57	0.00	0.00
			Max. Compression	4	-12.61	0.00	0.00
			Max. Mx	35	1.75	0.18	0.02
			Max. My	42	-1.03	0.16	-0.02
			Max. Vy	48	0.09	0.18	0.02
			Max. Vx	41	-0.01	0.00	0.00
		Leg	Max Tension	19	170.41	-2.79	-0.04
			Max. Compression	2	-198.55	4.98	0.14
			Max. Mx	2	-198.55	4.98	0.14
			Max. My	16	-20.58	0.15	-4.30
			Max. Vy	8	-0.73	-3.36	-0.04
			Max. Vx	4	-0.72	0.25	-2.72
T10	80 - 60	Diagonal	Max Tension	4	13.45	0.00	0.00
			Max. Compression	4	-13.55	0.00	0.00
			Max. Mx	43	1.59	0.22	-0.03
			Max. My	41	-0.62	0.19	-0.03
			Max. Vy	43	0.11	0.22	-0.03
			Max. Vx	41	-0.01	0.00	0.00
		Leg	Max Tension	19	212.63	-2.85	0.06
			Max. Compression	2	-247.54	4.44	0.13
			Max. Mx	2	-222.45	4.98	0.14
			Max. My	16	-21.51	0.15	-4.30
			Max. Vy	28	-0.64	-4.61	0.12
			Max. Vx	20	0.54	0.15	4.15
T11	60 - 40	Diagonal	Max Tension	26	14.31	0.00	0.00
			Max. Compression	26	-14.52	0.00	0.00
			Max. Mx	40	2.44	0.32	0.04
			Max. My	41	-0.66	0.28	-0.04
			Max. Vy	43	0.14	0.31	-0.04
			Max. Vx	41	-0.01	0.00	0.00
		Leg	Max Tension	19	252.95	-3.53	0.01
			Max. Compression	2	-295.44	2.13	0.12
			Max. Mx	3	-266.25	4.46	0.12
			Max. My	20	-28.19	-0.81	7.04
			Max. Vy	48	-0.42	-1.77	0.01
			Max. Vx	14	0.62	-1.56	-6.88
T12	40 - 20	Diagonal	Max Tension	26	15.23	0.00	0.00
			Max. Compression	26	-15.22	0.00	0.00
			Max. Mx	40	1.87	0.47	-0.06
			Max. My	41	-1.04	0.42	-0.06
			Max. Vy	43	0.19	0.46	-0.06
			Max. Vx	41	-0.01	0.00	0.00
		Leg	Max Tension	19	292.90	-4.58	0.02
			Max. Compression	2	-343.91	4.88	0.39
			Max. Mx	18	287.02	-7.52	-0.08
			Max. My	16	-31.56	-1.44	-18.74
			Max. Vy	48	-1.11	-5.55	-0.02
			Max. Vx	16	2.54	-1.44	-18.74
T13	20 - 0	Diagonal	Max Tension	12	16.89	0.00	0.00
			Max. Compression	12	-16.71	0.00	0.00
			Max. Mx	44	-2.27	0.60	-0.07
			Max. My	26	-14.30	0.12	0.11
			Max. Vy	44	0.20	0.60	-0.07
			Max. Vx	26	-0.01	0.00	0.00
		Leg	Max Tension	19	314.32	-7.13	-0.09
			Max. Compression	2	-368.28	-0.00	-0.00
			Max. Mx	18	309.08	-7.52	-0.08
			Max. My	16	-31.03	-1.44	-18.74
			Max. Vy	18	-0.73	-7.52	-0.08
			Max. Vx	14	-1.29	-3.06	-18.48
Diagonal	Max Tension	29	21.18	0.00	0.00		

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 38 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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
			Max. Compression	12	-25.01	0.00	0.00
			Max. Mx	42	6.31	-0.68	0.09
			Max. My	28	-11.58	-0.44	-0.13
			Max. Vy	42	-0.22	-0.68	0.09
			Max. Vx	28	0.01	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	24	395.24	46.60	-25.85
	Max. H _x	24	395.24	46.60	-25.85
	Max. H _z	9	-330.03	-39.53	22.06
	Min. Vert	9	-330.03	-39.53	22.06
	Min. H _x	9	-330.03	-39.53	22.06
	Min. H _z	24	395.24	46.60	-25.85
Leg B	Max. Vert	12	395.98	-46.76	-25.58
	Max. H _x	29	-324.94	39.14	21.37
	Max. H _z	29	-324.94	39.14	21.37
	Min. Vert	29	-324.94	39.14	21.37
	Min. H _x	12	395.98	-46.76	-25.58
	Min. H _z	12	395.98	-46.76	-25.58
Leg A	Max. Vert	2	397.38	-0.32	53.54
	Max. H _x	16	-287.72	0.45	-39.13
	Max. H _z	2	397.38	-0.32	53.54
	Min. Vert	19	-336.86	0.40	-45.73
	Min. H _x	28	200.57	-0.46	26.67
	Min. H _z	19	-336.86	0.40	-45.73

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	65.77	0.00	0.00	5.67	-9.43	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	78.92	1.36	-76.92	-8355.40	-143.56	-13.86
0.9 Dead+1.0 Wind 0 deg - No Ice	59.19	1.36	-76.92	-8349.67	-140.62	-13.88
1.2 Dead+1.0 Wind 30 deg - No Ice	78.92	37.30	-63.50	-6934.45	-4068.39	8.95
0.9 Dead+1.0 Wind 30 deg - No Ice	59.19	37.30	-63.50	-6929.98	-4061.96	8.94
1.2 Dead+1.0 Wind 45 deg - No Ice	78.92	51.68	-51.46	-5612.93	-5635.62	19.75
0.9 Dead+1.0 Wind 45 deg - No Ice	59.19	51.68	-51.46	-5609.63	-5627.80	19.75
1.2 Dead+1.0 Wind 60 deg - No Ice	78.92	62.37	-36.49	-3987.76	-6801.38	28.91
0.9 Dead+1.0 Wind 60 deg - No Ice	59.19	62.37	-36.49	-3985.91	-6792.52	28.90
1.2 Dead+1.0 Wind 90 deg - No Ice	78.92	72.66	-0.84	-76.53	-7887.95	41.64

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 39 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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 90 deg - No Ice	59.19	72.66	-0.84	-78.18	-7878.15	41.64
Ice						
1.2 Dead+1.0 Wind 120 deg - No Ice	78.92	66.07	38.61	4323.51	-7115.41	46.15
0.9 Dead+1.0 Wind 120 deg - No Ice	59.19	66.07	38.61	4317.89	-7106.31	46.16
1.2 Dead+1.0 Wind 135 deg - No Ice	78.92	52.47	53.33	5918.53	-5659.37	45.16
0.9 Dead+1.0 Wind 135 deg - No Ice	59.19	52.47	53.33	5911.50	-5651.55	45.16
1.2 Dead+1.0 Wind 150 deg - No Ice	78.92	35.56	63.91	7070.89	-3852.21	37.85
0.9 Dead+1.0 Wind 150 deg - No Ice	59.19	35.56	63.92	7062.86	-3845.97	37.84
1.2 Dead+1.0 Wind 180 deg - No Ice	78.92	-0.17	72.72	8038.13	4.93	17.19
0.9 Dead+1.0 Wind 180 deg - No Ice	59.19	-0.17	72.71	8029.25	7.77	17.20
1.2 Dead+1.0 Wind 210 deg - No Ice	78.92	-35.88	64.37	7116.14	3860.75	-8.60
0.9 Dead+1.0 Wind 210 deg - No Ice	59.19	-35.88	64.37	7108.08	3860.18	-8.59
1.2 Dead+1.0 Wind 225 deg - No Ice	78.92	-50.47	52.66	5862.83	5450.84	-21.34
0.9 Dead+1.0 Wind 225 deg - No Ice	59.19	-50.47	52.66	5855.83	5448.86	-21.31
1.2 Dead+1.0 Wind 240 deg - No Ice	78.92	-65.41	39.80	4439.41	7029.02	-32.29
0.9 Dead+1.0 Wind 240 deg - No Ice	59.19	-65.41	39.80	4433.70	7025.66	-32.29
1.2 Dead+1.0 Wind 270 deg - No Ice	78.92	-72.14	0.04	9.44	7814.49	-46.51
0.9 Dead+1.0 Wind 270 deg - No Ice	59.19	-72.14	0.04	7.73	7810.42	-46.51
1.2 Dead+1.0 Wind 300 deg - No Ice	78.92	-61.58	-35.84	-3923.75	6700.34	-46.09
0.9 Dead+1.0 Wind 300 deg - No Ice	59.19	-61.57	-35.84	-3921.93	6697.23	-46.10
1.2 Dead+1.0 Wind 315 deg - No Ice	78.92	-50.82	-50.81	-5548.52	5528.04	-40.69
0.9 Dead+1.0 Wind 315 deg - No Ice	59.19	-50.82	-50.81	-5545.27	5525.98	-40.70
1.2 Dead+1.0 Wind 330 deg - No Ice	78.92	-36.05	-62.99	-6883.80	3922.28	-33.34
0.9 Dead+1.0 Wind 330 deg - No Ice	59.19	-36.05	-63.00	-6879.36	3921.64	-33.33
1.2 Dead+1.0 Ice+1.0 Temp	151.83	-0.00	-0.00	39.27	-5.20	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	151.83	0.15	-13.62	-1446.80	-19.66	-6.19
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	151.83	6.73	-11.53	-1221.76	-738.76	-1.16
1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp	151.83	9.40	-9.38	-986.04	-1031.16	1.56
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	151.83	11.43	-6.65	-688.65	-1252.15	4.14
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	151.83	13.24	-0.09	30.29	-1446.31	8.38
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	151.83	11.74	6.83	797.44	-1277.19	10.69
1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp	151.83	9.45	9.54	1093.05	-1029.92	10.94

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	40 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 150	151.83	6.53	11.57	1313.98	-715.08	10.09
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 180	151.83	-0.02	13.27	1500.10	-3.44	6.55
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 210	151.83	-6.57	11.62	1318.97	708.06	1.19
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 225	151.83	-9.27	9.51	1090.77	1002.95	-1.74
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 240	151.83	-11.67	6.96	810.11	1259.81	-4.51
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270	151.83	-13.18	0.00	39.68	1430.30	-8.91
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300	151.83	-11.34	-6.58	-681.62	1233.09	-10.68
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 315	151.83	-9.31	-9.31	-978.96	1011.39	-10.45
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	151.83	-6.59	-11.47	-1216.17	714.79	-9.60
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	65.77	0.31	-17.72	-1919.88	-39.92	-3.19
Dead+Wind 30 deg - Service	65.77	8.59	-14.63	-1592.67	-943.67	2.06
Dead+Wind 45 deg - Service	65.77	11.91	-11.86	-1288.37	-1304.54	4.55
Dead+Wind 60 deg - Service	65.77	14.37	-8.41	-914.15	-1572.98	6.66
Dead+Wind 90 deg - Service	65.77	16.74	-0.19	-13.54	-1823.18	9.60
Dead+Wind 120 deg - Service	65.77	15.22	8.90	999.63	-1645.31	10.63
Dead+Wind 135 deg - Service	65.77	12.09	12.29	1366.92	-1310.04	10.41
Dead+Wind 150 deg - Service	65.77	8.19	14.73	1632.27	-893.90	8.72
Dead+Wind 180 deg - Service	65.77	-0.04	16.75	1855.00	-5.72	3.96
Dead+Wind 210 deg - Service	65.77	-8.27	14.83	1642.70	882.15	-1.98
Dead+Wind 225 deg - Service	65.77	-11.63	12.13	1354.10	1248.30	-4.91
Dead+Wind 240 deg - Service	65.77	-15.07	9.17	1026.33	1611.72	-7.44
Dead+Wind 270 deg - Service	65.77	-16.62	0.01	6.26	1792.57	-10.72
Dead+Wind 300 deg - Service	65.77	-14.19	-8.26	-899.42	1536.00	-10.62
Dead+Wind 315 deg - Service	65.77	-11.71	-11.71	-1273.55	1266.06	-9.37
Dead+Wind 330 deg - Service	65.77	-8.31	-14.51	-1581.01	896.31	-7.68

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	-65.77	0.00	0.00	65.77	0.00	0.000%
2	1.36	-78.92	-76.92	-1.36	78.92	76.92	0.000%
3	1.36	-59.19	-76.92	-1.36	59.19	76.92	0.000%
4	37.30	-78.92	-63.50	-37.30	78.92	63.50	0.000%
5	37.30	-59.19	-63.50	-37.30	59.19	63.50	0.000%
6	51.68	-78.92	-51.46	-51.68	78.92	51.46	0.000%
7	51.68	-59.19	-51.46	-51.68	59.19	51.46	0.000%
8	62.36	-78.92	-36.49	-62.37	78.92	36.49	0.000%
9	62.36	-59.19	-36.49	-62.37	59.19	36.49	0.000%
10	72.66	-78.92	-0.84	-72.66	78.92	0.84	0.000%
11	72.66	-59.19	-0.84	-72.66	59.19	0.84	0.000%
12	66.07	-78.92	38.61	-66.07	78.92	-38.61	0.000%
13	66.07	-59.19	38.61	-66.07	59.19	-38.61	0.000%
14	52.47	-78.92	53.33	-52.47	78.92	-53.33	0.000%
15	52.47	-59.19	53.33	-52.47	59.19	-53.33	0.000%
16	35.56	-78.92	63.91	-35.56	78.92	-63.91	0.000%
17	35.56	-59.19	63.91	-35.56	59.19	-63.92	0.002%

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 41 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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	
18	-0.17	-78.92	72.71	0.17	78.92	-72.72	0.000%
19	-0.17	-59.19	72.71	0.17	59.19	-72.71	0.000%
20	-35.88	-78.92	64.37	35.88	78.92	-64.37	0.000%
21	-35.88	-59.19	64.37	35.88	59.19	-64.37	0.000%
22	-50.47	-78.92	52.66	50.47	78.92	-52.66	0.000%
23	-50.47	-59.19	52.66	50.47	59.19	-52.66	0.000%
24	-65.41	-78.92	39.80	65.41	78.92	-39.80	0.000%
25	-65.41	-59.19	39.80	65.41	59.19	-39.80	0.000%
26	-72.14	-78.92	0.04	72.14	78.92	-0.04	0.000%
27	-72.14	-59.19	0.04	72.14	59.19	-0.04	0.000%
28	-61.57	-78.92	-35.84	61.57	78.92	35.84	0.001%
29	-61.57	-59.19	-35.84	61.57	59.19	35.84	0.000%
30	-50.82	-78.92	-50.81	50.82	78.92	50.81	0.000%
31	-50.82	-59.19	-50.81	50.82	59.19	50.81	0.000%
32	-36.05	-78.92	-62.99	36.05	78.92	62.99	0.000%
33	-36.05	-59.19	-62.99	36.05	59.19	63.00	0.002%
34	0.00	-151.83	0.00	0.00	151.83	0.00	0.000%
35	0.15	-151.83	-13.62	-0.15	151.83	13.62	0.000%
36	6.73	-151.83	-11.53	-6.73	151.83	11.53	0.000%
37	9.40	-151.83	-9.38	-9.40	151.83	9.38	0.000%
38	11.43	-151.83	-6.65	-11.43	151.83	6.65	0.000%
39	13.24	-151.83	-0.09	-13.24	151.83	0.09	0.000%
40	11.74	-151.83	6.83	-11.74	151.83	-6.83	0.000%
41	9.45	-151.83	9.54	-9.45	151.83	-9.54	0.000%
42	6.53	-151.83	11.57	-6.53	151.83	-11.57	0.000%
43	-0.02	-151.83	13.27	0.02	151.83	-13.27	0.000%
44	-6.57	-151.83	11.62	6.57	151.83	-11.62	0.000%
45	-9.27	-151.83	9.51	9.27	151.83	-9.51	0.000%
46	-11.67	-151.83	6.96	11.67	151.83	-6.96	0.000%
47	-13.18	-151.83	0.00	13.18	151.83	-0.00	0.000%
48	-11.34	-151.83	-6.58	11.34	151.83	6.58	0.000%
49	-9.31	-151.83	-9.31	9.31	151.83	9.31	0.000%
50	-6.59	-151.83	-11.47	6.59	151.83	11.47	0.000%
51	0.31	-65.77	-17.72	-0.31	65.77	17.72	0.000%
52	8.59	-65.77	-14.63	-8.59	65.77	14.63	0.000%
53	11.91	-65.77	-11.86	-11.91	65.77	11.86	0.000%
54	14.37	-65.77	-8.41	-14.37	65.77	8.41	0.000%
55	16.74	-65.77	-0.19	-16.74	65.77	0.19	0.000%
56	15.22	-65.77	8.90	-15.22	65.77	-8.90	0.000%
57	12.09	-65.77	12.29	-12.09	65.77	-12.29	0.000%
58	8.19	-65.77	14.73	-8.19	65.77	-14.73	0.000%
59	-0.04	-65.77	16.75	0.04	65.77	-16.75	0.000%
60	-8.27	-65.77	14.83	8.27	65.77	-14.83	0.000%
61	-11.63	-65.77	12.13	11.63	65.77	-12.13	0.000%
62	-15.07	-65.77	9.17	15.07	65.77	-9.17	0.000%
63	-16.62	-65.77	0.01	16.62	65.77	-0.01	0.000%
64	-14.19	-65.77	-8.26	14.19	65.77	8.26	0.000%
65	-11.71	-65.77	-11.71	11.71	65.77	11.71	0.000%
66	-8.31	-65.77	-14.51	8.31	65.77	14.51	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00000083

<i>tnxTower</i> Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	42 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	Client	AT&T	Designed by	TJL

3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00000246
5	Yes	4	0.00000001	0.00000163
6	Yes	4	0.00000001	0.00000299
7	Yes	4	0.00000001	0.00000151
8	Yes	4	0.00000001	0.00000212
9	Yes	4	0.00000001	0.00000127
10	Yes	4	0.00000001	0.00000209
11	Yes	4	0.00000001	0.00000138
12	Yes	4	0.00000001	0.00000083
13	Yes	4	0.00000001	0.00000001
14	Yes	4	0.00000001	0.00000222
15	Yes	4	0.00000001	0.00000250
16	Yes	4	0.00000001	0.00000260
17	Yes	4	0.00000001	0.00000175
18	Yes	4	0.00000001	0.00000217
19	Yes	4	0.00000001	0.00000130
20	Yes	4	0.00000001	0.00000247
21	Yes	4	0.00000001	0.00000163
22	Yes	4	0.00000001	0.00000134
23	Yes	4	0.00000001	0.00000235
24	Yes	4	0.00000001	0.00000083
25	Yes	4	0.00000001	0.00000001
26	Yes	4	0.00000001	0.00000200
27	Yes	4	0.00000001	0.00000132
28	Yes	4	0.00000001	0.00000207
29	Yes	4	0.00000001	0.00000125
30	Yes	4	0.00000001	0.00000224
31	Yes	4	0.00000001	0.00000152
32	Yes	4	0.00000001	0.00000250
33	Yes	4	0.00000001	0.00000169
34	Yes	4	0.00000001	0.00000001
35	Yes	4	0.00000001	0.00000001
36	Yes	4	0.00000001	0.00000001
37	Yes	4	0.00000001	0.00000001
38	Yes	4	0.00000001	0.00000001
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001
51	Yes	4	0.00000001	0.00000001
52	Yes	4	0.00000001	0.00000001
53	Yes	4	0.00000001	0.00000001
54	Yes	4	0.00000001	0.00000001
55	Yes	4	0.00000001	0.00000001
56	Yes	4	0.00000001	0.00000001
57	Yes	4	0.00000001	0.00000001
58	Yes	4	0.00000001	0.00000001
59	Yes	4	0.00000001	0.00000001
60	Yes	4	0.00000001	0.00000001
61	Yes	4	0.00000001	0.00000001
62	Yes	4	0.00000001	0.00000001
63	Yes	4	0.00000001	0.00000001
64	Yes	4	0.00000001	0.00000001
65	Yes	4	0.00000001	0.00000001
66	Yes	4	0.00000001	0.00000001

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 43 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	195 - 190	3.301	51	0.1271	0.0084
T2	190 - 180	3.169	51	0.1271	0.0084
T3	180 - 160	2.899	51	0.1269	0.0084
T4	160 - 150	2.360	51	0.1230	0.0087
T5	150 - 140	2.097	51	0.1194	0.0085
T6	140 - 120	1.844	51	0.1135	0.0080
T7	120 - 110	1.371	51	0.1009	0.0069
T8	110 - 100	1.156	51	0.0925	0.0065
T9	100 - 80	0.960	51	0.0831	0.0060
T10	80 - 60	0.616	51	0.0668	0.0041
T11	60 - 40	0.352	51	0.0480	0.0028
T12	40 - 20	0.165	51	0.0318	0.0018
T13	20 - 0	0.043	51	0.0144	0.0008

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
188.00	6' Dish	51	3.115	0.1271	0.0084	168747
184.00	OGT9-840	51	3.007	0.1271	0.0084	309545
183.00	ANT150F2	51	2.980	0.1270	0.0084	382770
175.00	ANT220F2	51	2.764	0.1263	0.0085	Inf
168.00	MT6407-77A	51	2.575	0.1250	0.0086	418763
154.00	APXV9ERR18-C-A20	51	2.202	0.1211	0.0086	145423
143.00	ANT220F2	51	1.919	0.1154	0.0082	118021
140.00	7770.00	51	1.844	0.1135	0.0080	117174
137.00	Pirod 12' T-Frame Sector Mount (1)	51	1.770	0.1117	0.0079	111720
125.00	SC2-W100AB	51	1.484	0.1043	0.0072	87918
118.00	Pirod 6-8' Box Arm (1)	51	1.326	0.0993	0.0068	73924
105.00	ANT150D3	51	1.055	0.0878	0.0063	69529
101.00	6' Dish Ice Shield	51	0.978	0.0840	0.0060	82568
98.00	Pirod 6-8' Box Arm (1)	51	0.922	0.0813	0.0058	83906
97.00	6' Dish	51	0.904	0.0805	0.0057	82429
78.00	PD220	51	0.585	0.0650	0.0039	55570
32.00	GPS	51	0.107	0.0248	0.0014	65336

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	195 - 190	14.298	2	0.5487	0.0365
T2	190 - 180	13.725	2	0.5487	0.0364
T3	180 - 160	12.562	2	0.5476	0.0367

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 44 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJJ

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T4	160 - 150	10.235	2	0.5316	0.0376
T5	150 - 140	9.098	2	0.5165	0.0368
T6	140 - 120	8.002	2	0.4912	0.0349
T7	120 - 110	5.952	2	0.4369	0.0301
T8	110 - 100	5.020	2	0.4013	0.0284
T9	100 - 80	4.169	2	0.3607	0.0259
T10	80 - 60	2.675	2	0.2902	0.0178
T11	60 - 40	1.530	2	0.2085	0.0124
T12	40 - 20	0.716	2	0.1379	0.0079
T13	20 - 0	0.186	2	0.0623	0.0035

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
188.00	6' Dish	2	13.495	0.5487	0.0364	39006
184.00	OGT9-840	2	13.030	0.5485	0.0365	73554
183.00	ANT150F2	2	12.913	0.5483	0.0365	95929
175.00	ANT220F2	2	11.978	0.5454	0.0370	220423
168.00	MT6407-77A	2	11.161	0.5401	0.0374	96691
154.00	APXV9ERR18-C-A20	2	9.549	0.5237	0.0372	33884
143.00	ANT220F2	2	8.326	0.4993	0.0356	27591
140.00	7770.00	2	8.002	0.4912	0.0349	27442
137.00	Pirod 12' T-Frame Sector Mount (1)	2	7.681	0.4833	0.0342	26164
125.00	SC2-W100AB	2	6.444	0.4518	0.0312	20476
118.00	Pirod 6-8' Box Arm (1)	2	5.759	0.4305	0.0297	17222
105.00	ANT150D3	2	4.585	0.3809	0.0274	16148
101.00	6' Dish Ice Shield	2	4.251	0.3646	0.0262	18980
98.00	Pirod 6-8' Box Arm (1)	2	4.007	0.3531	0.0252	19250
97.00	6' Dish	2	3.927	0.3494	0.0248	18921
78.00	PD220	2	2.544	0.2825	0.0171	12816
32.00	GPS	2	0.464	0.1076	0.0061	15045

Bolt Design Data

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	195	Leg	A325N	1.0000	6	0.02	54.52	0.000	✓	1	Bolt Tension
		Diagonal	A325N	1.0000	1	0.27	41.76	0.007	✓	1	Member Bearing
		Top Girt	A325N	1.0000	1	0.18	25.45	0.007	✓	1	Member Bearing
T2	190	Leg	A325N	1.0000	6	0.17	54.52	0.003	✓	1	Bolt Tension
		Diagonal	A325N	1.0000	1	1.66	12.72	0.130	✓	1	Member Bearing
T3	180	Leg	A325N	1.0000	6	2.25	54.52	0.041	✓	1	Bolt Tension
		Diagonal	A325N	1.0000	1	5.24	12.72	0.412	✓	1	Member Bearing
T4	160	Diagonal	A325N	1.0000	1	8.03	21.21	0.379	✓	1	Member Bearing

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	45 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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	
T5	150	Secondary Horizontal	A325N	1.0000	1	1.30	21.21	0.061	✓	1	Member Bearing
		Leg	A325N	1.0000	6	7.22	54.52	0.132	✓	1	Bolt Tension
T6	140	Diagonal	A325N	1.0000	1	9.55	21.21	0.450	✓	1	Member Bearing
		Leg	A325N	1.0000	6	13.89	54.52	0.255	✓	1	Bolt Tension
T7	120	Diagonal	A325N	1.0000	1	11.50	21.21	0.542	✓	1	Member Bearing
		Diagonal	A325N	1.0000	1	12.62	21.21	0.595	✓	1	Member Bearing
T8	110	Secondary Horizontal	A325N	1.0000	1	2.15	21.21	0.101	✓	1	Member Bearing
		Leg	A325N	1.0000	6	21.11	54.52	0.387	✓	1	Bolt Tension
T9	100	Diagonal	A325N	1.0000	1	12.57	21.21	0.593	✓	1	Member Bearing
		Leg	A325N	1.2500	6	28.40	87.22	0.326	✓	1	Bolt Tension
T10	80	Diagonal	A325N	1.2500	1	13.45	21.32	0.631	✓	1	Member Bearing
		Leg	A325N	1.2500	6	35.44	87.22	0.406	✓	1	Bolt Tension
T11	60	Diagonal	A325N	1.2500	1	14.31	31.97	0.448	✓	1	Member Bearing
		Leg	A325N	1.2500	6	42.16	87.22	0.483	✓	1	Bolt Tension
T12	40	Diagonal	A325N	1.2500	1	15.23	31.97	0.476	✓	1	Member Bearing
		Leg	A325N	1.2500	6	48.82	87.22	0.560	✓	1	Bolt Tension
T13	20	Diagonal	A325N	1.2500	1	16.89	31.97	0.528	✓	1	Member Bearing
		Leg	A687	2.0000	6	52.39	281.05	0.186	✓	1	Bolt Tension
		Diagonal	A325N	1.0000	2	10.59	56.01	0.189	✓	1	Member Bearing

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 $\frac{P_u}{\phi P_n}$
T1	195 - 190	Pirod 105244	5.00	5.00	45.4 K=1.00	3.6816	-0.19	142.49	0.001
T2	190 - 180	Pirod 105244	10.00	10.00	45.4 K=1.00	3.6816	-2.61	142.49	0.018
T3	180 - 160	Pirod 105216	20.00	10.00	45.4 K=1.00	3.6816	-17.34	142.49	0.122
T4	160 - 150	Pirod 105217	10.00	5.00	37.8 K=1.00	5.3014	-32.20	214.86	0.150
T5	150 - 140	Pirod 105217	10.00	10.00	37.8 K=1.00	5.3014	-52.10	214.86	0.242
T6	140 - 120	Pirod 105218	20.03	10.02	32.4 K=1.00	7.2158	-100.41	300.68	0.334
T7	120 - 110	Pirod 105218	10.02	5.18	32.4 K=1.00	7.2158	-123.74	300.68	0.412

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 46 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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 $\frac{P_u}{\phi P_n}$
T8	110 - 100	Pirod 105218	10.02	10.02	32.4 K=1.00	7.2158	-149.41	300.68	0.497
T9	100 - 80	Pirod 105219	20.03	10.02	28.4 K=1.00	9.4248	-198.54	399.87	0.497
T10	80 - 60	Pirod 105219	20.03	10.02	28.4 K=1.00	9.4248	-247.54	399.87	0.619
T11	60 - 40	Pirod 105220	20.03	10.02	25.2 K=1.00	11.9282	-295.10	512.38	0.576
T12	40 - 20	Pirod 105220	20.03	10.02	25.2 K=1.00	11.9282	-343.57	512.38	0.671
T13	20 - 0	Pirod 112738	20.03	20.03	32.6 K=1.00	14.7262	-367.32	613.14	0.599

Leg Bending Design Data (Compression)

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{uy}}$
T1	195 - 190	Pirod 105244	-1.17	41.30	0.028	0.07	47.69	0.000
T2	190 - 180	Pirod 105244	0.56	41.30	0.014	0.79	47.69	0.016
T3	180 - 160	Pirod 105216	1.67	41.30	0.040	0.11	47.69	0.002
T4	160 - 150	Pirod 105217	2.41	62.39	0.039	-0.04	72.04	0.001
T5	150 - 140	Pirod 105217	3.22	62.39	0.052	0.17	72.04	0.002
T6	140 - 120	Pirod 105218	2.22	87.49	0.025	0.06	101.03	0.001
T7	120 - 110	Pirod 105218	7.36	87.49	0.084	-0.01	101.03	0.000
T8	110 - 100	Pirod 105218	3.64	87.49	0.042	0.16	101.03	0.002
T9	100 - 80	Pirod 105219	4.98	116.63	0.043	0.14	134.68	0.001
T10	80 - 60	Pirod 105219	4.44	116.63	0.038	0.13	134.68	0.001
T11	60 - 40	Pirod 105220	4.24	149.86	0.028	0.03	173.04	0.000
T12	40 - 20	Pirod 105220	7.11	149.86	0.047	-0.12	173.04	0.001
T13	20 - 0	Pirod 112738	4.88	267.42	0.018	0.39	308.79	0.001

Leg Interaction Design Data (Compression)

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	Ratio $\frac{M_{uy}}{\phi M_{uy}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	195 - 190	Pirod 105244	0.001	0.028	0.000	0.030	1.000	4.8.1 ✓
T2	190 - 180	Pirod 105244	0.018	0.014	0.016	0.048	1.000	4.8.1 ✓
T3	180 - 160	Pirod 105216	0.122	0.040	0.002	0.164	1.000	4.8.1 ✓
T4	160 - 150	Pirod 105217	0.150	0.039	0.001	0.189	1.000	4.8.1 ✓
T5	150 - 140	Pirod 105217	0.242	0.052	0.002	0.296	1.000	4.8.1 ✓
T6	140 - 120	Pirod 105218	0.334	0.025	0.001	0.360	1.000	4.8.1 ✓
T7	120 - 110	Pirod 105218	0.412	0.084	0.000	0.496	1.000	4.8.1 ✓

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	47 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	Client	AT&T	Designed by	TJL

Section No.	Elevation ft	Size	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
			$\frac{P_u}{\phi P_n}$	$\frac{M_{ux}}{\phi M_{nx}}$	$\frac{M_{uy}}{\phi M_{ny}}$			
T8	110 - 100	Pirod 105218	0.497	0.042	0.002	0.540	1.000	4.8.1 ✓
T9	100 - 80	Pirod 105219	0.497	0.043	0.001	0.540	1.000	4.8.1 ✓
T10	80 - 60	Pirod 105219	0.619	0.038	0.001	0.658	1.000	4.8.1 ✓
T11	60 - 40	Pirod 105220	0.576	0.028	0.000	0.604	1.000	4.8.1 ✓
T12	40 - 20	Pirod 105220	0.671	0.047	0.001	0.719	1.000	4.8.1 ✓
T13	20 - 0	Pirod 112738	0.599	0.018	0.001	0.619	1.000	4.8.1 ✓

Truss-Leg Diagonal Data

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	$\frac{\phi P_n}{K}$	A in^2	$\frac{V_u}{K}$	$\frac{\phi V_n}{K}$	Stress Ratio
T1	195 - 190	0.5	1.48	121.0	165.67	0.1963	0.31	3.39	0.092
T2	190 - 180	0.5	1.48	121.0	165.67	0.1963	0.91	3.39	0.268
T3	180 - 160	0.5	1.48	121.0	165.67	0.1963	1.49	3.29	0.451
T4	160 - 150	0.5	1.47	120.0	238.57	0.1963	1.76	3.34	0.526
T5	150 - 140	0.5	1.47	120.0	238.57	0.1963	0.63	3.34	0.190
T6	140 - 120	0.5	1.46	119.0	324.71	0.1963	1.24	3.38	0.366
T7	120 - 110	0.5	1.46	119.0	324.71	0.1963	1.53	3.38	0.455
T8	110 - 100	0.5	1.46	119.0	324.71	0.1963	0.68	3.38	0.201
T9	100 - 80	0.625	1.45	94.4	424.12	0.3068	0.76	6.96	0.109
T10	80 - 60	0.625	1.45	94.4	424.12	0.3068	0.64	6.96	0.092
T11	60 - 40	0.625	1.43	93.6	536.77	0.3068	0.64	7.01	0.092
T12	40 - 20	0.625	1.43	93.6	536.77	0.3068	2.56	7.01	0.366
T13	20 - 0	0.75	1.73	93.9	662.68	0.4418	1.33	14.36	0.093

Diagonal Design Data (Compression)

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 48 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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 $\frac{P_u}{\phi P_n}$
T1	195 - 190	2L2 1/2x2 1/2x3/16	7.81	6.83	105.3 K=1.00	1.8000	-0.27	42.21	0.006 ¹ ✓
T2	190 - 180	L2 1/2x2 1/2x3/16	15.62	6.99	169.5 K=1.00	0.9020	-1.59	8.98	0.177 ¹ ✓
T3	180 - 160	L3x3x3/16	15.62	6.99	140.8 K=1.00	1.0900	-5.57	15.74	0.354 ¹ ✓
T4	160 - 150	L3x3x5/16	15.62	6.99	142.5 K=1.00	1.7800	-8.20	25.10	0.327 ¹ ✓
T5	150 - 140	L3x3x5/16	15.62	6.99	142.5 K=1.00	1.7800	-9.83	25.10	0.392 ¹ ✓
T6	140 - 120	L3x3x5/16	16.80	7.92	161.4 K=1.00	1.7800	-11.65	19.55	0.596 ¹ ✓
T7	120 - 110	L3 1/2x3 1/2x5/16	17.62	8.34	145.0 K=1.00	2.0900	-13.26	28.45	0.466 ¹ ✓
T8	110 - 100	L3 1/2x3 1/2x5/16	18.45	8.76	152.3 K=1.00	2.0900	-12.61	25.77	0.489 ¹ ✓
T9	100 - 80	L4x4x1/4	20.16	9.59	144.8 K=1.00	1.9400	-13.55	26.48	0.512 ¹ ✓
T10	80 - 60	L4x4x3/8	21.92	10.48	159.6 K=1.00	2.8600	-14.52	32.14	0.452 ¹ ✓
T11	60 - 40	L5x5x3/8	23.71	11.38	138.0 K=1.00	3.6100	-15.13	54.27	0.279 ¹ ✓
T12	40 - 20	L5x5x3/8	24.62	11.84	143.6 K=1.00	3.6100	-16.72	50.13	0.333 ¹ ✓
T13	20 - 0	2L3 1/2x3 1/2x5/16	32.02	15.40	159.0 K=0.93	4.1800	-25.01	47.34	0.528 ¹ ✓

¹ P_u / φP_n controls

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 $\frac{P_u}{\phi P_n}$
T4	160 - 150	L3x3x5/16	12.00	10.67	138.8 K=1.00	1.7800	-0.94	26.43	0.036 ¹ ✓
T7	120 - 110	L3 1/2x3 1/2x5/16	14.48	13.15	146.1 K=1.00	2.0900	-2.15	28.02	0.077 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	195 - 190	2L2 1/2x2 1/2x3/16	12.00	8.08	93.3	1.8000	-0.13	47.07	0.003 ¹

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job	22007.06- CT1134	Page	49 of 53
	Project	38 Lower Road, North Canaan, CT	Date	16:30:04 05/01/23
	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 $\frac{P_u}{\phi P_n}$
T6	140 - 120	L3x3x5/16	12.00	11.00	K=1.00 184.0 K=0.82	1.7800	-1.74	15.04	0.116 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 $\frac{P_u}{\phi P_n}$
T2	190 - 180	Pirod 105244	10.00	10.00	45.4	3.6816	0.13	165.67	0.001
T3	180 - 160	Pirod 105216	20.00	10.00	45.4	3.6816	11.22	165.67	0.068
T4	160 - 150	Pirod 105217	10.00	5.00	37.8	5.3014	25.82	238.57	0.108
T5	150 - 140	Pirod 105217	10.00	10.00	37.8	5.3014	43.12	238.57	0.181
T6	140 - 120	Pirod 105218	20.03	10.02	32.4	7.2158	83.36	324.71	0.257
T7	120 - 110	Pirod 105218	10.02	5.18	32.4	7.2158	103.57	324.71	0.319
T8	110 - 100	Pirod 105218	10.02	10.02	32.4	7.2158	126.59	324.71	0.390
T9	100 - 80	Pirod 105219	20.03	10.02	28.4	9.4248	170.21	424.12	0.401
T10	80 - 60	Pirod 105219	20.03	10.02	28.4	9.4248	212.43	424.12	0.501
T11	60 - 40	Pirod 105220	20.03	10.02	25.2	11.9282	252.95	536.77	0.471
T12	40 - 20	Pirod 105220	20.03	10.02	25.2	11.9282	292.66	536.77	0.545
T13	20 - 0	Pirod 112738	20.03	20.03	32.6	14.7262	314.32	662.68	0.474

Leg Bending Design Data (Tension)

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{uy}}$
T2	190 - 180	Pirod 105244	0.93	48.02	0.019	0.77	55.45	0.014
T3	180 - 160	Pirod 105216	-1.37	48.02	0.029	-0.93	55.45	0.017
T4	160 - 150	Pirod 105217	-1.72	69.27	0.025	0.04	79.99	0.000
T5	150 - 140	Pirod 105217	-2.52	69.27	0.036	-0.19	79.99	0.002
T6	140 - 120	Pirod 105218	-3.30	94.48	0.035	-0.03	109.10	0.000
T7	120 - 110	Pirod 105218	-5.99	94.48	0.063	-0.00	109.10	0.000
T8	110 - 100	Pirod 105218	-3.30	94.48	0.035	-0.12	109.10	0.001
T9	100 - 80	Pirod 105219	-4.77	123.71	0.039	-0.09	142.84	0.001
T10	80 - 60	Pirod 105219	-4.43	123.71	0.036	-0.07	142.84	0.000
T11	60 - 40	Pirod 105220	-3.53	157.00	0.022	0.01	181.28	0.000
T12	40 - 20	Pirod 105220	-7.13	157.00	0.045	-0.09	181.28	0.000
T13	20 - 0	Pirod 112738	-7.13	289.02	0.025	-0.09	333.74	0.000

Leg Interaction Design Data (Tension)

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 50 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

Section No.	Elevation ft	Size	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
			ϕP_n	M_{ux}	M_{uy}			
T2	190 - 180	Pirod 105244	0.001	0.019	0.014	0.032	1.000	4.8.1 ✓
T3	180 - 160	Pirod 105216	0.068	0.029	0.017	0.113	1.000	4.8.1 ✓
T4	160 - 150	Pirod 105217	0.108	0.025	0.000	0.134	1.000	4.8.1 ✓
T5	150 - 140	Pirod 105217	0.181	0.036	0.002	0.219	1.000	4.8.1 ✓
T6	140 - 120	Pirod 105218	0.257	0.035	0.000	0.292	1.000	4.8.1 ✓
T7	120 - 110	Pirod 105218	0.319	0.063	0.000	0.382	1.000	4.8.1 ✓
T8	110 - 100	Pirod 105218	0.390	0.035	0.001	0.426	1.000	4.8.1 ✓
T9	100 - 80	Pirod 105219	0.401	0.039	0.001	0.441	1.000	4.8.1 ✓
T10	80 - 60	Pirod 105219	0.501	0.036	0.000	0.537	1.000	4.8.1 ✓
T11	60 - 40	Pirod 105220	0.471	0.022	0.000	0.494	1.000	4.8.1 ✓
T12	40 - 20	Pirod 105220	0.545	0.045	0.000	0.591	1.000	4.8.1 ✓
T13	20 - 0	Pirod 112738	0.474	0.025	0.000	0.499	1.000	4.8.1 ✓

Truss-Leg Diagonal Data

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n K	A in^2	V_u K	ϕV_n K	Stress Ratio
T1	195 - 190	0.5	1.48	121.0	165.67	0.1963	0.31	3.39	0.092
T2	190 - 180	0.5	1.48	121.0	165.67	0.1963	0.91	3.39	0.268
T3	180 - 160	0.5	1.48	121.0	165.67	0.1963	1.49	3.29	0.451
T4	160 - 150	0.5	1.47	120.0	238.57	0.1963	1.76	3.34	0.526
T5	150 - 140	0.5	1.47	120.0	238.57	0.1963	0.63	3.34	0.190
T6	140 - 120	0.5	1.46	119.0	324.71	0.1963	1.24	3.38	0.366
T7	120 - 110	0.5	1.46	119.0	324.71	0.1963	1.53	3.38	0.455
T8	110 - 100	0.5	1.46	119.0	324.71	0.1963	0.68	3.38	0.201
T9	100 - 80	0.625	1.45	94.4	424.12	0.3068	0.76	6.96	0.109
T10	80 - 60	0.625	1.45	94.4	424.12	0.3068	0.64	6.96	0.092

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 51 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n K	A in ²	V_u K	ϕV_n K	Stress Ratio
T11	60 - 40	0.625	1.43	93.6	536.77	0.3068	0.64	7.01	0.092
T12	40 - 20	0.625	1.43	93.6	536.77	0.3068	2.56	7.01	0.366
T13	20 - 0	0.75	1.73	93.9	662.68	0.4418	1.33	14.36	0.093

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	195 - 190	2L2 1/2x2 1/2x3/16	7.81	6.83	110.4	1.8000	0.00	58.32	0.000 ¹
T2	190 - 180	L2 1/2x2 1/2x3/16	15.62	6.99	110.4	0.9020	1.66	29.22	0.057 ¹
T3	180 - 160	L3x3x3/16	15.62	6.99	91.5	1.0900	5.24	35.32	0.148 ¹
T4	160 - 150	L3x3x5/16	15.62	6.99	93.2	1.7800	8.03	57.67	0.139 ¹
T5	150 - 140	L3x3x5/16	15.62	6.99	93.2	1.7800	9.55	57.67	0.166 ¹
T6	140 - 120	L3x3x5/16	16.80	7.92	105.3	1.7800	11.50	57.67	0.199 ¹
T7	120 - 110	L3 1/2x3 1/2x5/16	17.62	8.34	94.5	2.0900	12.62	67.72	0.186 ¹
T8	110 - 100	L3 1/2x3 1/2x5/16	18.45	8.76	99.2	2.0900	12.57	67.72	0.186 ¹
T9	100 - 80	L4x4x1/4	19.30	9.17	89.9	1.9400	13.45	62.86	0.214 ¹
T10	80 - 60	L4x4x3/8	21.92	10.48	104.2	2.8600	14.31	92.66	0.154 ¹
T11	60 - 40	L5x5x3/8	23.71	11.38	89.1	3.6100	15.23	116.96	0.130 ¹
T12	40 - 20	L5x5x3/8	25.54	12.30	96.1	3.6100	16.89	116.96	0.144 ¹
T13	20 - 0	2L3 1/2x3 1/2x5/16	32.02	15.40	174.3	4.1800	21.18	135.43	0.156 ¹

¹ $P_u / \phi P_n$ 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 $\frac{P_u}{\phi P_n}$
T4	160 - 150	L3x3x5/16	12.00	10.67	143.2	1.7800	1.30	57.67	0.022 ¹

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 52 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	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 $\frac{P_u}{\phi P_n}$
T7	120 - 110	L3 1/2x3 1/2x5/16	14.48	13.15	149.8	2.0900	2.15	67.72	0.032 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	195 - 190	2L2 1/2x2 1/2x3/16	12.00	8.08	95.2	1.8000	0.18	58.32	0.003 ¹ ✓
T6	140 - 120	L3x3x5/16	12.00	11.00	143.2	1.7800	1.74	57.67	0.030 ¹ ✓

¹ P_u / φP_n controls

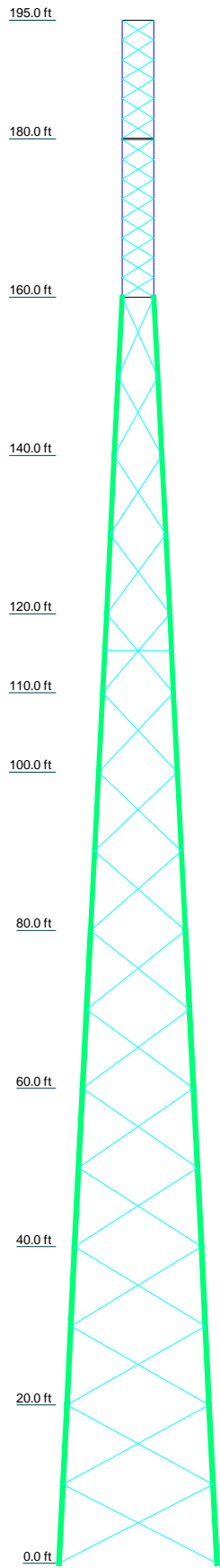
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	φP _{allow} K	% Capacity	Pass Fail
T1	195 - 190	Leg	Pirod 105244	3	-0.19	142.49	9.2	Pass
T2	190 - 180	Leg	Pirod 105244	15	-2.08	142.49	26.8	Pass
T3	180 - 160	Leg	Pirod 105216	22	-16.73	142.49	45.1	Pass
T4	160 - 150	Leg	Pirod 105217	39	-32.20	214.86	52.6	Pass
T5	150 - 140	Leg	Pirod 105217	51	-52.10	214.86	29.6	Pass
T6	140 - 120	Leg	Pirod 105218	58	-99.00	300.68	36.6	Pass
T7	120 - 110	Leg	Pirod 105218	78	-123.74	300.68	49.6	Pass
T8	110 - 100	Leg	Pirod 105218	90	-149.41	300.68	54.0	Pass
T9	100 - 80	Leg	Pirod 105219	99	-198.54	399.87	54.0	Pass
T10	80 - 60	Leg	Pirod 105219	114	-247.54	399.87	65.8	Pass
T11	60 - 40	Leg	Pirod 105220	129	-295.10	512.38	60.4	Pass
T12	40 - 20	Leg	Pirod 105220	144	-343.57	512.38	71.9	Pass
T13	20 - 0	Leg	Pirod 112738	159	-367.32	613.14	61.9	Pass
T1	195 - 190	Diagonal	2L2 1/2x2 1/2x3/16	10	-0.27	42.21	0.6	Pass
T2	190 - 180	Diagonal	L2 1/2x2 1/2x3/16	18	-1.59	8.98	17.7	Pass
T3	180 - 160	Diagonal	L3x3x3/16	27	-5.57	15.74	35.4	Pass
T4	160 - 150	Diagonal	L3x3x5/16	44	-8.20	25.10	41.2 (b)	Pass
T5	150 - 140	Diagonal	L3x3x5/16	56	-9.83	25.10	32.7	Pass
T6	140 - 120	Diagonal	L3x3x5/16	68	-11.65	19.55	37.9 (b)	Pass
T7	120 - 110	Diagonal	L3 1/2x3 1/2x5/16	83	-13.26	28.45	39.2	Pass
T8	110 - 100	Diagonal	L3 1/2x3 1/2x5/16	95	-12.61	25.77	45.0 (b)	Pass
T9	100 - 80	Diagonal	L4x4x1/4	104	-13.55	26.48	48.9	Pass
T10	80 - 60	Diagonal	L4x4x3/8	115	-14.52	32.14	51.2	Pass

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22007.06- CT1134	Page 53 of 53
	Project 38 Lower Road, North Canaan, CT	Date 16:30:04 05/01/23
	Client AT&T	Designed by TJL

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
T11	60 - 40	Diagonal	L5x5x3/8	130	-15.13	54.27	27.9	Pass	
T12	40 - 20	Diagonal	L5x5x3/8	152	-16.72	50.13	47.6 (b) 33.3	Pass	
T13	20 - 0	Diagonal	2L3 1/2x3 1/2x5/16	161	-25.01	47.34	52.8	Pass	
T4	160 - 150	Secondary Horizontal	L3x3x5/16	48	-0.94	26.43	3.6	Pass	
T7	120 - 110	Secondary Horizontal	L3 1/2x3 1/2x5/16	86	-2.15	28.02	6.1 (b) 7.7	Pass	
T1	195 - 190	Top Girt	2L2 1/2x2 1/2x3/16	6	0.17	58.32	10.1 (b) 0.4	Pass	
T6	140 - 120	Top Girt	L3x3x5/16	62	-1.74	15.04	0.7 (b) 11.6	Pass	
							Summary		
							Leg (T12)	71.9	Pass
							Diagonal (T9)	63.1	Pass
							Secondary Horizontal (T7)	10.1	Pass
							Top Girt (T6)	11.6	Pass
							Bolt Checks	63.1	Pass
							RATING =	71.9	Pass

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11
Legs	SR 1 3/4		Pirod 105216		Pirod 105217	Pirod 105218	Pirod 105219		Pirod 105220		
Leg Grade						A572-50					
Diagonals	SR 3/4		L2 1/2x2 1/2x3/16		L3x3x3/16	L3x3x5/16	L3 1/2x3 1/2x5/16	L3 1/2x3 1/2x5/16	L4x4x1/4		
Diagonal Grade	A572-50					A36					
Top Girts	SR 1 3/4					N.A.					
Bottom Girts	SR 1 3/4					N.A.					
Sec. Horizontals			N.A.		L3x3x3/16				N.A.		
Face Width (ft)	4		6	8	9	10	12	14	16	18	20
# Panels @ (ft)						16 @ 10					
Weight (K)	0.8	0.9	1.8	1.8	1.1	3.1	4.3	4.6	5.3	5.3	30.3



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 40 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category III.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 42.5%

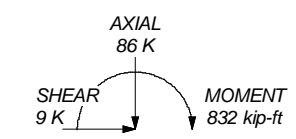


ALL REACTIONS ARE FACTORED

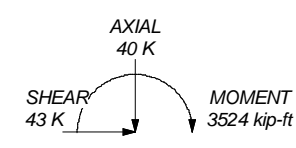
MAX. CORNER REACTIONS AT BASE:

DOWN: 217 K
SHEAR: 27 K

UPLIFT: -185 K
SHEAR: 24 K



TORQUE 10 kip-ft
40 mph WIND - 1.0000 in ICE



TORQUE 28 kip-ft
REACTIONS - 125 mph WIND

Centek Engineering Inc.		
63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587		
Job: 22007.06 - CT1134	Project: 38 Lower Road, North Canaan, CT	
Client: AT&T	Drawn by: T.JL	App'd:
Code: TIA-222-H	Date: 05/01/23	Scale: NTS
Path:	Dwg No. E-1	

Foundation Analysis:

Input Data:

Max Pier Reactions:

Inner Tower

Overturing = Overturing_{In} := 3524·ft·kips *user input*

BaseShear = Shear_{In} := 43·kips *user input*

Base Compression = Axial_{In} := 40·kips *user input*

Max Pier Reactions:

Outter Tower

Overturing = Overturing_{Out} := 8357·ft·kips *user input*

Shear = Shear_{Out} := 77·kips *user input*

Compression = Axial_{Out} := 79·kips *user input*

Leg Compression = Uplift_{leg} := 337·kips *user input*

Leg Uplift = Comp_{leg} := 397·kips *user input*

Concrete Mat

Footing Width = B_{ftg} := 31.5ft *user input*

Footing Length = L_{ftg} := 31.5ft *user input*

Footing Thickness = T_{ftg} := 4.00ft *user input*

Internal FrictionAngle = ϕ := 35deg *user input*

Unit Weight of Earth = γ_{earth} := 120pcf *user input*

Unit Weight of Rock = γ_{rock} := 165pcf *user input*

Unit Weight of Conc = γ_{conc} := 150pcf *user input*

Ultimate Bearing = q_u := 20000·psf *user input*

RockAnchor Properties:

Number of Anchors = N_{anchor} := 4 *user input* Per Leg

RockAnchor Ultimate Strength = F_{u anchor} := 150.0ksi *user input* Williams R71-11 1-3/8' dia. 150ksi

RockAnchor Diameter = d_{ra} := 1.375in *user input*

Required Factor of Safety = F_S := 1.0 *user input*

RockAnchor Lockoff Load = Anchor_{LL} := 133·kips

Stability of Footing:

Concrete Mat

Total Volume of Concrete = $V_{conc} := B_{ftg} \cdot L_{ftg} \cdot T_{ftg} = 3969 \cdot ft^3$

Total Weight of Concrete = $W_{conc} := V_{conc} \cdot \gamma_{conc} = 595.4 \cdot kips$

Resisting Moment = $M_r := (0.9 \cdot W_{conc} + 0.75 \cdot Axial_{In}) \cdot \frac{L_{ftg}}{2} = 8912 \cdot kip \cdot ft$

Overtuning Moment = $M_{ot} := Overtuning_{In} + Shear_{In} \cdot T_{ftg} = 3696 \cdot kip \cdot ft$

Factor of Safety Actual = $FS := \frac{M_r}{M_{ot}} = 2.41$

Factor of Safety Required = $FS_{req} := 1$

OverTurning_Moment_Check := if($FS \geq FS_{req}$, "Okay", "No Good")

OverTurning_Moment_Check = "Okay"

Rock Anchor:

Factor of Safety Actual = $FS := \frac{N_{anchor} \cdot Anchor_{LL}}{Uplift_{leg}} = 1.58$

Factor of Safety Required = $FS_{req} := 1$

OverTurning_Moment_Check := if($FS \geq FS_{req}$, "Okay", "No Good")

OverTurning_Moment_Check = "Okay"

Bearing Pressure Caused by Footing:

Total Load =

$$\text{Load}_{\text{tot}} := W_{\text{conc}} + \text{Axial}_{\text{In}} + \text{Axial}_{\text{Out}} = 714 \text{ kip}$$

Area of the Mat =

$$A_{\text{mat}} := B_{\text{ftg}}^2 = 992.25 \text{ ft}^2$$

Section Modulus of Mat =

$$S := \frac{B_{\text{ftg}}^3}{6} = 5209.31 \text{ ft}^3$$

Maximum Pressure in Mat =

$$P_{\text{max}} := \frac{\text{Load}_{\text{tot}}}{A_{\text{mat}}} + \frac{M_{\text{ot}}}{S} = 1.429 \text{ ksf}$$

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

Max_Pressure_Check = "Okay"

Minimum Pressure in Mat =

$$P_{\text{min}} := \frac{\text{Load}_{\text{tot}}}{A_{\text{mat}}} - \frac{M_{\text{ot}}}{S} = 0.01 \text{ ksf}$$

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

Min_Pressure_Check = "Okay"

Distance to Resultant of Pressure Distribution =

$$X_p := \frac{P_{\text{max}}}{P_{\text{max}} - P_{\text{min}}} \cdot \frac{1}{3} = 10.577 \text{ ft}$$

Distance to Kern =

$$X_k := \frac{B_{\text{ftg}}}{6} = 5.25 \text{ ft}$$

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

Eccentricity =

$$e := \frac{M_{\text{ot}}}{\text{Load}_{\text{tot}}} = 5.174 \text{ ft}$$

Adjusted Soil Pressure =

$$P_a := \frac{2 \cdot \text{Load}_{\text{tot}}}{3 \cdot B_{\text{ftg}} \cdot \left(\frac{L_{\text{ftg}}}{2} - e \right)} = 1.43 \text{ ksf}$$

$$q_{\text{adj}} := \text{if}(P_{\text{min}} < 0, P_a, P_{\text{max}}) = 1.429 \text{ ksf}$$

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

Pressure_Check = "Okay"

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME	CTV1134	DATE	3/12/2022	RF DESIGN ENG	Paminder Singh	RF PERF ENG		RFDS PROGRAM TYPE	2022 LTE Next Carrier
ISSUE	Bronze Standard	Approved? (Y/N)	Yes	RF DESIGN PHONE	210-493-3024	RF PERF PHONE		RFDS TECHNOLOGY	LTE
REVISION	Preliminary	RF MANAGER	John Benedetto	RF DESIGN EMAIL	joeb@batt.com	RF PERF EMAIL		STATUS/STATUS	Final/Approved
INITIATIVE PROJECT	LTE 5C AWS J		ADDITIONAL WORKFLOW NOTIFICATIONS RFDS ID: 5064354 RFDS VERSION: 2.00 Created By: cpe66b Updated By: cpe66b Created: 3/12/2022 Updated: 6/21/2022 LTE FREQUENCY: 700.850-1900.40WS Estimated SQM: 14.036 Explanation: 5G FREQUENCY: 350 RER Initiative: Calculation ID: 202204091632163402 IPLAN JOB # 1: ER - RCTB-22-00279 PRD SUB GRP #1: LTE Next Carrier LTE 5C IPLAN JOB # 2: PRD SUB GRP #2: IPLAN JOB # 3: PRD SUB GRP #3: IPLAN JOB # 4: PRD SUB GRP #4: IPLAN JOB # 5: PRD SUB GRP #5: IPLAN JOB # 6: PRD SUB GRP #6: IPLAN JOB # 7: PRD SUB GRP #7: 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

URID	71296	FA LOCATION CODE	H035410	LOCATION NAME	NORTH CANAN-LOWER	COUNTY RD	ORACLE PRJT # 1	2051A1478B	PAGE JOB # 1	MCTB002160
REGION	NORTHEAST	MARKET CLUSTER	NEW ENGLAND	MARKET	CONNECTICUT		ORACLE PRJT # 2		PAGE JOB # 2	
ADDRESS	38 LOWER ROAD	CITY	NORTH CANAN	STATE	CT		ORACLE PRJT # 3		PAGE JOB # 3	
ZIP CODE	06018	COUNTY	LITCHFIELD	LONG (DEC. DEG.)	-73.3283050		ORACLE PRJT # 4		PAGE JOB # 4	
LATITUDE (D-M-S)	42d 0m 52.77996s	LONGITUDE (D-M-S)	73d -19m 34.698s	LAT (DEC. DEG.)	42.0146611		ORACLE PRJT # 5		PAGE JOB # 5	
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	TRAVELING WEST FROM WINSTON ON ROUTE 44 FOR APPROX. 16 MILES AND AT TRAFFIC LIGHT INTERSECTION OF ROUTE 44 AND ROUTE 7, TAKE A LEFT ONTO ROUTE 7 SOUTH (OTTO GAS STATION ON RIGHT) AND GO FOR ONE TENTH OF A MILE. JUST CROSSING SMALL BRIDGE TAKE A LEFT ON TO LOWER WILEY ROAD. NOW PROCEED FOR 3 TENTHS OF A MILE. THERE WILL BE A GATE ON YOUR RIGHT WHICH YOU WILL GO THRU TO A SECOND GATE AND PROCEED THRU (NOTE TO PLEASE CLOSE BOTH GATES ONCE PASSING!!) AC METER INFORMATION IN CASE OF POWER OUTAGE ---- METER# 89 147 648.2 CONNECTICUT LIGHT & POWER 860-947-2000									
	ORACLE PRJT # 6: PAGE JOB # 6: ORACLE PRJT # 7: PAGE JOB # 7: ORACLE PRJT # 8: PAGE JOB # 8: ORACLE PRJT # 9: PAGE JOB # 9: ORACLE PRJT # 10: PAGE JOB # 10: ORACLE PRJT # 11: PAGE JOB # 11: ORACLE PRJT # 12: PAGE JOB # 12: ORACLE PRJT # 13: PAGE JOB # 13: ORACLE PRJT # 14: PAGE JOB # 14: ORACLE PRJT # 15: PAGE JOB # 15: ORACLE PRJT # 16: PAGE JOB # 16:							BORDER CELL WITH CONTOUR COORDS: AM STUDY REQ'D (Y/N): No SEARCH RING NAME: SEARCH RING ID: RING COORD: BTA, MSA / RSA: LAC(UMTS): 05994 RF DISTRICT: TBD RF ZONE: TBD RNC(UMTS): MIDDLETOWN RNC03 MME POOL ID(LTE): FF01 PARENT NAME(UMTS): MD1WCTNCR003		

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No)	No	CGSA LOSS:		PCS REDUCED - UPS ZIP:		CGSA CALL SIGNS	_2_KNLB312_z_KNLB312_z_KNLB312
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&T OWNED?	No	GROUND ELEVATION (ft)		STRUCTURE TYPE	SELF SUPPORT	MARKET LOCATION 700 MHz Band	
ADDITIONAL REGULATORY?	No	HEIGHT OVERALL (ft)	0.00	FCC APP NUMBER		MARKET LOCATION 800 MHz Band	
SUB-LEASE RIGHTS?	No	STRUCTURE HEIGHT (ft)	150.00			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	PSAP NAME	PSAP ID	E911 PHASE	MPC SVC PROVIDER	LMU REQUIRED	ESRN	DATE LIVE PH1	DATE LIVE PH2
SECTOR A	E911			INTRADO		0		
SECTOR B				INTRADO		0		
SECTOR C				INTRADO		0		
SECTOR D								
SECTOR E								
SECTOR F								
OMN								

Section 5 - E-911 INFORMATION - final

SECTOR	PSAP NAME	PSAP ID	E911 PHASE	MPC SVC PROVIDER	LMU REQUIRED	ESRN	DATE LIVE PH1	DATE LIVE PH2
SECTOR A	E911			INTRADO		0		
SECTOR B				INTRADO		0		
SECTOR C				INTRADO		0		
SECTOR D								
SECTOR E								
SECTOR F								
OMN								

Section 6/7 - BBU INFORMATION - existing

	BBU 1	BBU 2	BBU 3	BBU 4
BBU ID	33096	27281	413933	628277
TECHNOLOGY	LUMTS	LUMTS	LTE	5G
BBU NAME	CTU1134	CTV1134	CTU1134	CTON001134
BBU USID	71296	71296	71296	71296
CELL ID / BCF	CTV1134	CTV1134	CTU1134	CTON001134
BTATED	318W	318U	318L	318N
4-9 DIGIT SITE ID	1134	1134	01134	14001134
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	GROUND	INTERNAL
BASE STATION TYPE	OVERLAY	OVERLAY	BASE	OVERLAY
EQUIPMENT NAME	NORTH CANAAN LOWER COUNTY RD	ERICSSON NODEB	NORTH CANAAN LTE	CTON001134
DISASTER PRIORITY	0	0	0	0
EQUIPMENT VENDOR	ERICSSON	ERICSSON	ERICSSON	ERICSSON
EQUIPMENT TYPE (Mod46)			BASEBAND 6630	BASEBAND 6630
BASEBAND CONFIGURATION				xxxx / 146630 / xxxx - 100e
MARKET STATE CODE			CT	CTC
NODE B NUMBER	0	0	1134	1134
SIDEHAUL SWITCH VENDOR				
SIDEHAUL SWITCH MODEL				
SIDEHAUL SWITCH NAME				
SIDEHAUL SWITCH ADDITIONAL CARDS				
CSS - CTS COMMON ID	CTU1134	CTV1134	CTU1134	CTON001134
CSS - SECONDARY FUNCTION ID				

Section 6/7 - BBU INFORMATION - final

	BBU 1	BBU 2		
BBU ID	413933	628277		
TECHNOLOGY	LTE	LTE 5G		
BBU NAME	CTU01134	CTU001348,CTON001134		
BBU USID	71296	71296		
CELL ID / BCF	CTU01134	CTON001134		
BTATED	318L	318N		
4-9 DIGIT SITE ID	01134	14001134		
COW OR TOY?	No	No		
CELL SITE TYPE	SECTORIZED	SECTORIZED		
SITE TYPE	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL		
BTS LOCATION ID	GROUND	INTERNAL		
BASE STATION TYPE	BASE	OVERLAY		
EQUIPMENT NAME	NORTH CANAAN LTE	CTON001134		
DISASTER PRIORITY	0	0		
EQUIPMENT VENDOR	ERICSSON	ERICSSON		
EQUIPMENT TYPE (Mod46)	BASEBAND 6630	BASEBAND 6630		
BASEBAND CONFIGURATION	146601 / 146630 / 100M003	xxxx / 146630 Mixed Mode / xxxx - 1		
MARKET STATE CODE	CT	CT,CTC		
NODE B NUMBER	1134	134,1134		
SIDEHAUL SWITCH VENDOR				
SIDEHAUL SWITCH MODEL				
SIDEHAUL SWITCH NAME				
SIDEHAUL SWITCH ADDITIONAL CARDS				
CSS - CTS COMMON ID	CTU01134	CTON001134		
CSS - SECONDARY FUNCTION ID				

Section 7b - Radio INFORMATION - existing

Section 7b - Radio INFORMATION - final

Section 8 - RBS/SECTOR ASSOCIATION - existing

	BBU 1	BBU 2	BBU 3	BBU 4
CTS Common ID	CTU1134	CTV1134	CTU1134	CTON001134
Soft Sector IDs	CTU11347	CTV11341	CTU1134_7A_1	CTON001134_N005A_1
	CTU11348	CTV11342	CTU1134_7A_3_F	CTON001134_N005B_1
	CTU11349	CTV11343	CTU1134_7B_1	CTON001134_N005C_1
			CTU1134_7B_3_F	
			CTU1134_7C_1	
			CTU1134_7C_3_F	
			CTU1134_8A_1	
			CTU1134_8B_1	
			CTU1134_8C_1	
			CTU1134_9A_1	
			CTU1134_9A_2	
			CTU1134_9B_1	
			CTU1134_9B_2	
			CTU1134_9C_1	
			CTU1134_9C_2	

Section 8 - RBS/SECTOR ASSOCIATION - final

	BBU 1	BBU 2
CTS Common ID	CTI01134	CTI00134R,CTON00134
Soft Sector IDs	CTI01134_7A_1	CTON00134_N005A_1
	CTI01134_7A_3_F	CTON00134_N005B_1
	CTI01134_7B_1	CTON00134_N005C_1
	CTI01134_7B_3_F	CTI00134_2A_2
	CTI01134_7C_1	CTI00134_2B_2
	CTI01134_7C_3_F	CTI00134_2C_2
		CTI00134_9A_1
		CTI00134_9B_2
		CTI00134_9B_1
		CTI00134_9B_2
		CTI00134_9C_1
		CTI00134_9C_2

Section 9 - SOFT SECTOR ID - existing

	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 2ND 700	LTE 2ND 1900	LTE 4TH AWS	5G 1ST 850
USBD (excluding Hard Sector)	71296,850,3G,1	71296,1900,3G,2							
SECTOR A SOFT SECTOR ID	CTV11341	CTU11347	CTI01134_7A_1	CTI01134_8A_1	CTI01134_9A_1	CTI01134_7A_3_F	CTI01134_9A_2		CTON00134_N005A_1
SECTOR B	CTV11342	CTU11348	CTI01134_7B_1	CTI01134_8B_1	CTI01134_9B_1	CTI01134_7B_3_F	CTI01134_9B_2		CTON00134_N005B_1
SECTOR C	CTV11343	CTU11349	CTI01134_7C_1	CTI01134_8C_1	CTI01134_9C_1	CTI01134_7C_3_F	CTI01134_9C_2		CTON00134_N005C_1
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 2ND 700	LTE 2ND 1900	LTE 4TH AWS	5G 1ST 850
USBD (excluding Hard Sector)									
SECTOR A SOFT SECTOR ID			CTI01134_7A_1	CTI00134_9A_1	CTI01134_7A_3_F	CTI00134_9A_2	CTI01134_2A_2		CTON00134_N005A_1
SECTOR B			CTI01134_7B_1	CTI00134_9B_1	CTI01134_7B_3_F	CTI00134_9B_2	CTI01134_2B_2		CTON00134_N005B_1
SECTOR C			CTI01134_7C_1	CTI00134_9C_1	CTI01134_7C_3_F	CTI00134_9C_2	CTI01134_2C_2		CTON00134_N005C_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 2ND 700	LTE 2ND 1900	LTE 4TH AWS	5G 1ST 850
USBD (excluding Hard Sector)	71296,850,3G,1	71296,1900,3G,2							
SECTOR A CELL NUMBER			15	1	8	171	178		25
SECTOR B			16	2	9	172	179		49
SECTOR C			17	3	10	173	180		73
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 2ND 700	LTE 2ND 1900	LTE 4TH AWS	5G 1ST 850
USBD (excluding Hard Sector)									
SECTOR A CELL NUMBER			15		8	171	178	192	25
SECTOR B			16		9	172	179	193	49
SECTOR C			17		10	173	180	194	73
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 2ND 700	LTE 2ND 1900	LTE 4TH AWS	5G 1ST 850
SECTOR A CID/SAC	11341	11347							
SECTOR B	11342	11348							
SECTOR C	11343	11349							
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 2ND 700	LTE 2ND 1900	LTE 4TH AWS	5G 1ST 850
SECTOR A CID/SAC									
SECTOR B									
SECTOR C									
SECTOR D									
SECTOR E									
SECTOR F									
OMNI									

Section 11 - CURRENT RADIO COUNTS existing

Section 12 - CURRENT T1 COUNTS existing

Section 13 - NEW/PROPOSED RADIO COUNTS

Section 14 - NEW/PROPOSED T1 COUNTS

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

ANTENNA POSITION n 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	OPMSR-BUADA		OPMSR-BUADA	7770			
ANTENNA VENDOR	CCI		CCI	Powerwave			
ANTENNA SIZE (H x W x D)	48.2X21X7.8		48.2X21X7.8	55X11X5			
ANTENNA WEIGHT	52.5		52.5	35			
AZIMUTH	113		113	150			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	140		140	140			
ANTENNA TIP HEIGHT	142		142	142			
MECHANICAL DOWNTILT	0		0	0			
FEEDER AMOUNT				4			
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 # if of inches)							
Antenna RET Motor (QTY/MODEL)	Internal		Internal	2	KATHREN 850-10025		
SURGE ARRESTOR (QTY/MODEL)	3	DC-Fiber Squid					
DUPLEXER (QTY/MODEL)				2	Powerwave / LSP 21901		
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		LTE RRH		LTE RRH	1	Powerwave 7070	
DC BLOCK (QTY/MODEL)							
TMA/NA (QTY/MODEL)				1	08BP111-001 Twin 1920 w/		
CURRENT INJECTORS FOR TMA (QTY/MODEL)				2	Polphasor 1000950		
PDU FOR TMAs (QTY/MODEL)				1	1900-AND-800 Bosch TMA		
FILTER (QTY/MODEL)							
SOLID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		with another band	1	4478 B14			
RRH - 850 band (QTY/MODEL)	1	4449 B5/B12					
RRH - 1900 band (QTY/MODEL)	1	RRUS-32 Bz					
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
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 FEIDS	PORT NUMBER	USED (CSSng)	USED (AtoB)	ATOLL TXID	ATOLL CELL ID	TXRX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	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)	SGP/AMCPA MODULE?	HATCH/PLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(CSSng)	
ANTENNA POSITION 1	PORT 1			CTL01134_7A_1	CTL01134_7A_1		LTE 700	BU4DA_725MHz_02DT	11.2	113	2	TOP	FIBER	0					1475.7065			1		
	PORT 2			CTL01134_8A_1	CTL01134_8A_1		LTE 850	BU4DA_850MHz_02DT	12.4	113	2	TOP	FIBER	0					1000			1		
	PORT 3			CTL01134_9A_1	CTL01134_9A_1		LTE 1900	BU4DA_1930MHz_2_02DT	15.6	113	2	TOP	FIBER	0					4842.058			2		
	PORT 4			CTL01134_9A_2	CTL01134_9A_2		LTE 1900	BU4DA_1930MHz_2_02DT	15.6	113	2	TOP	FIBER	0					4842.058			2		
	PORT 5			CTCN001134_N006A_1	CTCN001134_N006A_1		4G 850	BU4DA_850MHz_02DT	12.4	113	2	TOP	FIBER	0						1000			1	
ANTENNA POSITION 3	PORT 1			CTL01134_7A_3_F	CTL01134_7A_3_F		LTE 700	BU4DA_720MHz_02DT	11.9	113	2	TOP	FIBER	0						2951.413			3	
ANTENNA POSITION 4	PORT 1			CTV11341	CTV11341		UMTS 850	7770.00.850.05	13.5	150	5	None	RFS 1-6.8 (850)	175.044806						316.23			7	

Section 15B - CURRENT TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION n 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	TPA65R-BUGDAJK		TPA65R-BUGDAJK	7770			
ANTENNA VENDOR	CCI		CCI	Powerwave			
ANTENNA SIZE (H x W x D)	71.2X20.7X7.7		71.2X20.7X7.7	55X11X5			
ANTENNA WEIGHT	52.6		52.6	35			
AZIMUTH	233		233	270			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	140		140	140			
ANTENNA TIP HEIGHT	143		143	142			
MECHANICAL DOWNTILT	0		0	0			
FEEDER ANGLE				4			
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 #? ft. or inches)							
Antenna RET Motor (QTY/MODEL)	Internal		Internal	2	KATHREN 850-10025		
SURGE ARRESTOR (QTY/MODEL)							
DUPLEXER (QTY/MODEL)				2	Powerwave / LSP 21901		
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)	LTE RRH		LTE RRH				
DC BLOCK (QTY/MODEL)							
TMA/NA (QTY/MODEL)				1	08BP111-001 Twin 1920 or Polphasor 1000850		
CURRENT INJECTORS FOR TMA (QTY/MODEL)				2			
PDU FOR TMAs (QTY/MODEL)							
FILTER (QTY/MODEL)							
SOLID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)	with another band		1	4478 B14			
RRH - 850 band (QTY/MODEL)	1	4449 B5/B12					
RRH - 1900 band (QTY/MODEL)	1	RRUS-32 B2					
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
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 FEEDS	PORT NUMBER	USED (CSS#)	USED (AtoB)	ATOLL TXID	ATOLL CELL ID	TXRX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	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)	SGP/AMCPA MODULE?	HATCH/PLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(css#)	
ANTENNA POSITION 1	PORT 1			CTL01134_7B_1	CTL01134_7B_1		LTE 700	BUGDA_725MHz_02DT	13.2	233	2	TOP	FIBER	0					1475.7065			9		
	PORT 2			CTL01134_8B_1	CTL01134_8B_1		LTE 850	BUGDA_850MHz_02DT	13.1	233	2	TOP	FIBER	0					1000			9		
	PORT 3			CTL01134_9B_1	CTL01134_9B_1		LTE 1900	BUGDA_1930MHz_2_02DT	16.7	233	2	TOP	FIBER	0					4842.058			10		
	PORT 4			CTL01134_9B_2	CTL01134_9B_2		LTE 1900	BUGDA_1930MHz_2_02DT	16.7	233	2	TOP	FIBER	0					4842.058			10		
	PORT 5			CTCN001134_N 010B_1	CTCN001134_N 010B_1		4G 850	BUGDA_850MHz_02DT	13.1	233	2	TOP	FIBER	0						1000			9	
ANTENNA POSITION 3	PORT 1			CTL01134_7B_3_F	CTL01134_7B_3_F		LTE 700	BUGDA_720MHz_02DT	13.7	233	2	TOP	FIBER	0						2951.413			11	
ANTENNA POSITION 4	PORT 1			CTV11342	CTV11342		UMTS 850	7770.00.850.06	13.5	270	6	None	RFS 1.6B (850)	175.044806						316.23			15	

Section 15C - CURRENT TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION 1 LEFT TO RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	TPA65R-BUSD4K		TPA65R-BUSD4K	7770		
ANTENNA VENDOR	CCI		CCI	Powerwave		
ANTENNA SIZE (H x W x D)	71.2X20.7X7.7		71.2X20.7X7.7	55X135		
ANTENNA WEIGHT	52.6		52.6	35		
AZIMUTH	353		353	30		
MAGNETIC DECLINATION						
RADIATION CENTER (feet)	140		140	140		
ANTENNA TIP HEIGHT	143		143	142		
MECHANICAL DOWNTILT	0		0	0		
FEEDER AMOUNT				4		
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 #? ft. or inches)						
Antenna RET Motor (QTY/MODEL)	Internal		Internal	2	KATHREN 850-10025	
SURGE ARRESTOR (QTY/MODEL)						
DUPLEXER (QTY/MODEL)				2	Powerwave / LSP 21901	
DUPLEXER (QTY/MODEL)						
Antenna RET CONTROL UNIT (QTY/MODEL)	LTE RRH		LTE RRH			
DC BLOCK (QTY/MODEL)						
TMA/NA (QTY/MODEL)				1	08BP111-001 Twin 1920 w/	
CURRENT INJECTORS FOR TMA (QTY/MODEL)				2	Polyphase 1000850	
PDU FOR TMAs (QTY/MODEL)						
FILTER (QTY/MODEL)						
SOLID (QTY/MODEL)						
FIBER TRUNK (QTY/MODEL)						
DC TRUNK (QTY/MODEL)						
REPEATER (QTY/MODEL)						
RRH - 700 band (QTY/MODEL)	with another band		1	4478 B14		
RRH - 850 band (QTY/MODEL)	1					
RRH - 1900 band (QTY/MODEL)	1					
RRH - AWS band (QTY/MODEL)						
RRH - WCS band (QTY/MODEL)						
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 FEILDS	PORT NUMBER	USEID (CSSmg)	USEID (AtoB)	ATOLL TXID	ATOLL CELL ID	TXRX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	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)	SGP/AMCPA MODULE?	HATCH/PLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssmg)	
ANTENNA POSITION 1	PORT 1			CTL01134_7C_1	CTL01134_7C_1		LTE 700	BURDA_725MHz_04DT	13	353	4	TOP	FIBER	0					1475.7065			17		
	PORT 2			CTL01134_8C_1	CTL01134_8C_1		LTE 850	BURDA_850MHz_04DT	13.1	353	4	TOP	FIBER	0					1000			17		
	PORT 3			CTL01134_9C_1	CTL01134_9C_1		LTE 1900	BURDA_1930MHz_2_04DT	17.1	353	4	TOP	FIBER	0					4842.058			18		
	PORT 4			CTL01134_9C_2	CTL01134_9C_2		LTE 1900	BURDA_1930MHz_2_04DT	17.1	353	4	TOP	FIBER	0					4842.058			18		
	PORT 5			CTCN001134_N05C_1	CTCN001134_N05C_1		4G 850	BURDA_850MHz_04DT	13.1	353	4	TOP	FIBER	0					1000			17		
ANTENNA POSITION 3	PORT 1			CTL01134_7C_3_F	CTL01134_7C_3_F		LTE 700	BURDA_770MHz_04DT	13.5	353	4	TOP	FIBER	0						2951.413			19	
ANTENNA POSITION 4	PORT 1			CTV11343	CTV11343		UMTS 850	7770.00.850.06	13.5	30	6	None	RFS 1-6B (850)	175.044806					316.23			23		

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

ANTENNA POSITION n 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
Existing Antenna?			Yes				
ANTENNA MAKE - MODEL							
ANTENNA VENDOR							
ANTENNA SIZE (H x W x D)							
ANTENNA WEIGHT							
AZIMUTH							
MAGNETIC DECLINATION							
RADIATION CENTER (feet)							
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT							
FEEDER AMOUNT							
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)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMALNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMA (QTY/MODEL)							
FILTER (QTY/MODEL)							
SOLID (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)			1	4426 B66			
RRH - WCS band (QTY/MODEL)							
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	Arrange antenna and radio positions as per PD. Add LTE radios Decomm LIMITS.						
Local Market Note 2							
Local Market Note 3	2x6030 / 1x0M + IDLc						

PORT SPECIFIC RELOS	PORT NUMBER	USED (CSB/sg)	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/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CS/sg)
ANTENNA POSITION 3	PORT 4			CTL00134_2A_2	CTL00134_2A_2		LTE AWS	BU40A_2170MHz_6.020T	0	113	2	TOP	FIBER	0						5070.2572		6	

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

ANTENNA POSITION n 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
Existing Antenna?			Yes				
ANTENNA MAKE - MODEL							
ANTENNA VENDOR							
ANTENNA SIZE (H x W x D)							
ANTENNA WEIGHT							
AZIMUTH							
MAGNETIC DECLINATION							
RADIATION CENTER (feet)							
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT							
FEEDER AMOUNT							
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)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMALNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMA (QTY/MODEL)							
FILTER (QTY/MODEL)							
SOLID (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)			1	4426 B66			
RRH - WCS band (QTY/MODEL)							
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	Arrange antenna and radio positions as per PD. Add LTE radios Decomm UMFS.						
Local Market Note 2							
Local Market Note 3	2x6030 / 1x0M + IDLc						

PORT SPECIFIC RELOS	PORT NUMBER	USED (CSB)mg	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/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSB)mg
ANTENNA POSITION 3	PORT 4			CTL00134_2B_2	CTL00134_2B_2		LTE AWS	ISURDA_2170MHZ_0202T	17.4	233	2	TOP	FIBER	0					5070.2572			14	

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

ANTENNA POSITION n 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
Existing Antenna?			Yes				
ANTENNA MAKE - MODEL							
ANTENNA VENDOR							
ANTENNA SIZE (H x W x D)							
ANTENNA WEIGHT							
AZIMUTH							
MAGNETIC DECLINATION							
RADIATION CENTER (feet)							
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT							
FEEDER AMOUNT							
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)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMALNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMA (QTY/MODEL)							
FILTER (QTY/MODEL)							
SOLID (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)			1	4426 B66			
RRH - WCS band (QTY/MODEL)							
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	Arrange antenna and radio positions as per PD. Add LTE radios Decomm UMTS.						
Local Market Note 2							
Local Market Note 3	2x6030 / 1x0M + IDLc						

PORT SPECIFIC RELOS	PORT NUMBER	USED (CS&Sng)	USED (AorB)	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/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(C&Sng)
ANTENNA POSITION 3	PORT 4			CTL00134_2C_2	CTL00134_2C_2		LTE AWS	BURDA_2170MHZ_0402T	0	353	4	TOP	FIBER	0					5070.2572			22	

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	OP#6SR-BU4DA		OP#6SR-BU4DA	7770			
ANTENNA VENDOR	CCI		CCI	Powerwave			
ANTENNA SIZE (H x W x D)	48.2X21X7.8		48.2X21X7.8	55X11X5			
ANTENNA WEIGHT	52.5		52.5	35			
AZIMUTH	113		113	150			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	140		140	140			
ANTENNA TIP HEIGHT	142		142	142			
MECHANICAL DOWNTILT	0		0	0			
FEEDER AMOUNT				2			
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)	Internal		Internal				
SURGE ARRESTOR (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMALNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMA (QTY/MODEL)							
FILTER (QTY/MODEL)							
SOLID (QTY/MODEL)	1	DC6-48-60-18					
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		with another band	1	4478 B14			
RRH - 850 band (QTY/MODEL)	1	4449 B5/B12					
RRH - 1900 band (QTY/MODEL)	1	RRUS-32 B2					
RRH - AWS band (QTY/MODEL)			1	4426 B66			
RRH - WCS band (QTY/MODEL)							
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	Arrange antenna and radio positions as per PD. Add LTE radios Decomm LIMITS.						
Local Market Note 2							
Local Market Note 3	2x6930 / 1x8M + IDLx						

PORT SPECIFIC REIDS	PORT NUMBER	USBD (CS&Sng)	USED (AorB)	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/MPCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(C&Sng)
ANTENNA POSITION 1	PORT 1	71296.A.700.4G.5		CTL01134_7A_1	CTL01134_7A_1		LTE 700	BU4DA_725MHz_020T	11.2	113	2	TOP	FIBER	0						1475.7065		1	
	PORT 2	71296.A.850.5G.2		CTCN001134_N205A_1	CTCN001134_N205A_1		5G 850	BU4DA_850MHz_020T	12.4	113	2	TOP	FIBER	0						1000		1	
	PORT 3	71296.A.1900.4G.3mp1		CTL00134_9A_1	CTL00134_9A_1		LTE 1900	BU4DA_1930MHz_020T	15.6	113	2	TOP	FIBER	0						4842.058		2	
	PORT 4	71296.A.1900.4G.3mp2		CTL00134_9A_2	CTL00134_9A_2		LTE 1900	BU4DA_1930MHz_020T	15.6	113	2	TOP	FIBER	0						4842.058		2	
ANTENNA POSITION 3	PORT 1	71296.A.700.4G.5		CTL01134_7A_3	CTL01134_7A_3		LTE 700	BU4DA_720MHz_020T	11.9	113	2	TOP	FIBER	0						2951.413		5	
	PORT 4	71296.A.AWS.4G.3mp4		CTL00134_2A_2	CTL00134_2A_2		LTE AWS	BU4DA_2170MHz_020T	0	113	2	TOP	FIBER	0						5070.2572		6	
ANTENNA POSITION 4	PORT 1									150	0												

Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION N 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	TPA65R-BUGDAJK		TPA65R-BUGDAJK	7770			
ANTENNA VENDOR	CCI		CCI	Powerwave			
ANTENNA SIZE (H x W x D)	71.2X20.7X7.7		71.2X20.7X7.7	55X135			
ANTENNA WEIGHT	52.6		52.6	35			
AZIMUTH	233		233	270			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	140		140	140			
ANTENNA TIP HEIGHT	143		143	142			
MECHANICAL DOWNTILT	0		0	0			
FEEDER AMOUNT				2			
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 # if of inches)							
Antenna RET Motor (QTY/MODEL)	Internal		Internal				
SURGE ARRESTOR (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/NA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SOLID (QTY/MODEL)	1	DC6-48-60-18					
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		with another band	1	4478 B14			
RRH - 850 band (QTY/MODEL)	1	4449 B5/B12					
RRH - 1900 band (QTY/MODEL)	1	RRUS-32 Bz					
RRH - AWS band (QTY/MODEL)			1	4426 B66			
RRH - WCS band (QTY/MODEL)							
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	Arrange antenna and radio positions as per PD. Add L TE radios Decomm UMFS.						
Local Market Note 2							
Local Market Note 3	2x6030 / 1x0M1 + 0DLs						

PORT SPECIFIC REIDS	PORT NUMBER	USEID (CSSng)	USEID (AtoB)	ATOLL TXID	ATOLL CELL ID	TXRX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	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)	SGP/AMCPA MODULE?	HATCH/PLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(CSSng)
ANTENNA POSITION 1	PORT 1	71296.B.700.4G		CTL01134_7B_1	CTL01134_7B_1		LTE 700	BUGDA_725M4z_02DT	13.2	233	2	TOP	FIBER	0					1475.7065			9	
	PORT 2	71296.B.850.5G		CTCN001134_N 0026_1	CTCN001134_N 0026_1		5G 850	BUGDA_850M4z_02DT	13.1	233	2	TOP	FIBER	0					1000			9	
	PORT 3	71296.B.1900.4		CTL00134_9B_1	CTL00134_9B_1		LTE 1900	BUGDA_1930M4z_02DT	16.7	233	2	TOP	FIBER	0					4842.058			10	
	PORT 4	71296.B.1900.4		CTL00134_9B_2	CTL00134_9B_2		LTE 1900	BUGDA_1930M4z_02DT	16.7	233	2	TOP	FIBER	0					4842.058			10	
ANTENNA POSITION 3	PORT 1	71296.B.700.4G		CTL01134_7B_3 F	CTL01134_7B_3 F		LTE 700	BUGDA_770M4z_02DT	13.7	233	2	TOP	FIBER	0					2951.413			13	
	PORT 4	71296.B.AWS-4G Imp4		CTL00134_2B_2	CTL00134_2B_2		LTE AWS	BUGDA_2170M4z_02DT	17.4	233	2	TOP	FIBER	0					5070.2572			14	
ANTENNA POSITION 4	PORT 1								270	0													

Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION 1 LEFT TO RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	TPA65R-BUGDAJK		TPA65R-BUGDAJK	7770		
ANTENNA VENDOR	CCI		CCI	Powerwave		
ANTENNA SIZE (H x W x D)	71.2X20.7X7.7		71.2X20.7X7.7	55X135		
ANTENNA WEIGHT	52.6		52.6	35		
AZIMUTH	353		353	30		
MAGNETIC DECLINATION						
RADIATION CENTER (feet)	140		140	140		
ANTENNA TIP HEIGHT	143		143	142		
MECHANICAL DOWNTILT	0		0	0		
FEEDER AMOUNT				2		
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 # if of inches)						
Antenna RET Motor (QTY/MODEL)	Internal		Internal			
SURGE ARRESTOR (QTY/MODEL)						
DUPLEXER (QTY/MODEL)						
DUPLEXER (QTY/MODEL)						
Antenna RET CONTROL UNIT (QTY/MODEL)						
DC BLOCK (QTY/MODEL)						
TMA/NA (QTY/MODEL)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)						
PDU FOR TMAS (QTY/MODEL)						
FILTER (QTY/MODEL)						
SOLID (QTY/MODEL)	1	DC6-48-60-18				
FIBER TRUNK (QTY/MODEL)						
DC TRUNK (QTY/MODEL)						
REPEATER (QTY/MODEL)						
RRH - 700 band (QTY/MODEL)		with another band	1	4478 B14		
RRH - 850 band (QTY/MODEL)	1	4449 B5/B12				
RRH - 1900 band (QTY/MODEL)	1	RRUS-32 Bz				
RRH - AWS band (QTY/MODEL)			1	4426 B66		
RRH - WCS band (QTY/MODEL)						
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	Arrange antenna and radio positions as per PD. Add LTE radios Decomm UMFS.					
Local Market Note 2						
Local Market Note 3	2x6030 / 1x0MU + 0DLs					

PORT SPECIFIC REIDS	PORT NUMBER	USEID (CSSng)	USEID (AtoB)	ATOLL TXID	ATOLL CELL ID	TXRX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	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)	SGPAM/CPA MODULE?	HATCH/PLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(CSSng)	
ANTENNA POSITION 1	PORT 1	71296.C.700.4G.1		CTL01134_7C_1	CTL01134_7C_1		LTE 700	BUGDA_725Mhz_04DT	13	353	4	TOP	FIBER	0					1475.7065			17		
	PORT 2	71296.C.850.5G.1		CTCN001134_N 8005_1	CTCN001134_N 8005_1		5G 850	BUGDA_850Mhz_04DT	13.1	353	4	TOP	FIBER	0					1000			17		
	PORT 3	71296.C.1900.4G.1		CTL00134_9C_1	CTL00134_9C_1		LTE 1900	BUGDA_1930MHz_04DT	17.1	353	4	TOP	FIBER	0					4842.058			18		
	PORT 4	71296.C.1900.4G.2		CTL00134_9C_2	CTL00134_9C_2		LTE 1900	BUGDA_1930MHz_04DT	17.1	353	4	TOP	FIBER	0						4842.058			18	
ANTENNA POSITION 3	PORT 1	71296.C.700.4G.1		CTL01134_7C_3_F	CTL01134_7C_3_F		LTE 700	BUGDA_770MHz_04DT	13.5	353	4	TOP	FIBER	0						2951.413			21	
	PORT 4	71296.C.AWS.4G.1		CTL00134_2C_2	CTL00134_2C_2		LTE AWS	BUGDA_2170MHz_04DT	0	353	4	TOP	FIBER	0						5070.2572			22	
ANTENNA POSITION 4	PORT 1								30	0														

Exhibit E

Mount Analysis

July 15, 2022
April 18, 2023 (Rev.1)



SAI Communications
12 Industrial Way
Salem NH, 03079

RE: AT&T Site Number: CT1134
FA Number: 10035410
PACE Number: MRCTB062160
PT Number: 2051A147MB
TEP Project Number: 350554
Site Name: NORTH CANAAN-LOWER COUNTY RD
Site Address: 38 Lower Road
North Canaan, CT 06018

To Whom It May Concern:

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

- (4) TPA65R-BU6DA-K Antennas (71.2"x20.7"x7.7" – Wt. = 69 lbs. /each)
- (2) OPA65R-BU4DA Antennas (48.0"x20.7"x7.7" – Wt. = 47 lbs. /each)
- (3) 7770 Antennas (55.0"x11.0"x5.0" - Wt. = 35 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) 4449 B5/B12 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each)
- (3) DC6-48-60-18 Surge Arrestors (31.4"x10.2"Ø – Wt. = 29 lbs. /each) (tower mounted)
- **(3) 4426 B66 RRH's (14.9"x13.2"x5.8" – Wt. = 49 lbs. /each)**

**Proposed equipment shown in bold.*

No original structural design documents or fabrication drawings were available for the existing mounts. TEP NE's, conducted a survey climb and mapping of the existing AT&T antenna mounts on May 29, 2019. TEP NE conducted a ground audit on the existing AT&T antenna mounts on April 1, 2022.

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 2021 with 2022 Connecticut State Building Code, and AT&T Mount Technical Directive – R22.
- TEP NE 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 P of the Connecticut State Building Code, the max basic wind speed for this site is equal to 115 mph with a max basic wind speed with ice of 40 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.28 in was used for this analysis.
- TEP NE considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- TEP NE considers this site to be topographic category 3; tower is located at the upper half of a hill.
- TEP NE considers this site to have a spectral response acceleration parameter at short periods, S_s , of 0.164 and a spectral response acceleration parameter at a period of 1 second, S_1 , of 0.054.
- 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 1.
- The mounts have been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mounts are secured to the existing guyed tower with threaded rods and steel plates tightened around the tower leg. TEP NE considers the threaded rods as the governing connection members.

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

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing Mount Rating	45	LC33	95%	PASS

Reference Documents:

- Mount mapping report prepared by TEP NE, dated June 17, 2019.

This determination was based on the following limitations and assumptions:

1. TEP NE is not responsible for any modifications completed prior to and hereafter which TEP NE was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mounts have 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. TEP NE 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,
TEP Northeast



Michael Cabral
Director



Daniel P. Hamm, PE
Vice President

FIELD PHOTOS:



FIELD PHOTOS (CONT.):





Wind & Ice Calculations

ANSI/TIA-222H - WIND, ICE & SEISMIC LOAD CALCULATIONS

Site Code/Name
State
County
Structure Class
Exposure Category
Topographic Category
Mean Elevation of base of structure
Height Above Ground

CT1134 - NORTH CANAAN-LOWER COUNTY RD

Connecticut
Litchfield
II
B
3 - Kzt = 1.335
z _s 963.8 ft
z 140 ft

Reference
 Table 2-1
 Section 2.6.5.1.2
 Section 2.6.6.2.1
 ASCE7-16 Hazards

Wind Parameters	
Basic wind speed	
Wind direction probability factor	
Gust effect factor	
Velocity Pressure (K _a = 0.9)	

V 115 mph
K _d 0.95
G _f 1
40.60 psf

Appendix P of Connecticut Building Code
 Section 16.6
 Section 16.6
 Section 2.6.11.6

Wind & Ice Parameters	
Base windspeed in conjunction with ice, V	
Base Ice thickness	
Ice Velocity Pressure (K _a = 0.9)	
Design Ice Thickness	

40 mph
t _i 1.00 in
q _{ice} 4.91 psf
t _{iz} 1.28 in

ASCE7-16 Hazards Tool
 ASCE7-16 Hazards Tool
 Section 2.6.11.6
 Section 2.6.10

Seismic Parameters	
Site Soil Class	
Seismic Design Category	
Spectral Response at Short Periods	
Spectral Response at 1sec	
Long Period Transition Period	
Seismic Importance Factor	
Response modification coefficient	
Short-Period Site Coefficient	
Design Spectral Response at Short Periods	
Seismic Response Coefficient	

D - Default
B
S _s 0.164
S ₁ 0.054
T _L 6
I _s 1
R 2
F _a 1.6
S _{DS} 0.185
C _s 0.092

Table 2-10
 ASCE7-16 Hazards Tool
 Appendix P of Connecticut Building Code
 Appendix P of Connecticut Building Code
 ASCE7-16 Hazards Tool
 Table 2-3
 Section 16.7
 Table 2-11
 Section 2.7.5
 Section 2.7.7.1

ALPHA SECTOR

Appurtenance properties						Wind		Ice	Seismic
Manufacturer	Model	L [in]	W [in]	D [in]	Weight [lbs]	0° [lbs]	90° [lbs]	IceWeight [lbs]	E _H [lbs]
CCI	OPA65R-BU4DA	48.0	20.7	7.7	47.0	336.2	142.3	149.9	4.3
CCI	OPA65R-BU4DA	48.0	20.7	7.7	47.0	336.2	142.3	149.9	4.3
Powerwave	7770	55.0	11.0	5.0	35.0	223.7	118.9	97.9	3.2
Ericsson	4449 B5/B12	17.9	13.2	9.4	73.0	56.9	79.9	43.6	6.7
Ericsson	RRUS-32 B2	27.2	12.1	7.0	60.0	67.7	111.4	56.6	5.5
Ericsson	4478 B14	18.1	13.4	8.3	60.0	50.8	82.1	43.0	5.5
Ericsson	4426 B66	14.9	13.2	5.8	49.0	29.3	66.5	33.1	4.5

BETA SECTOR

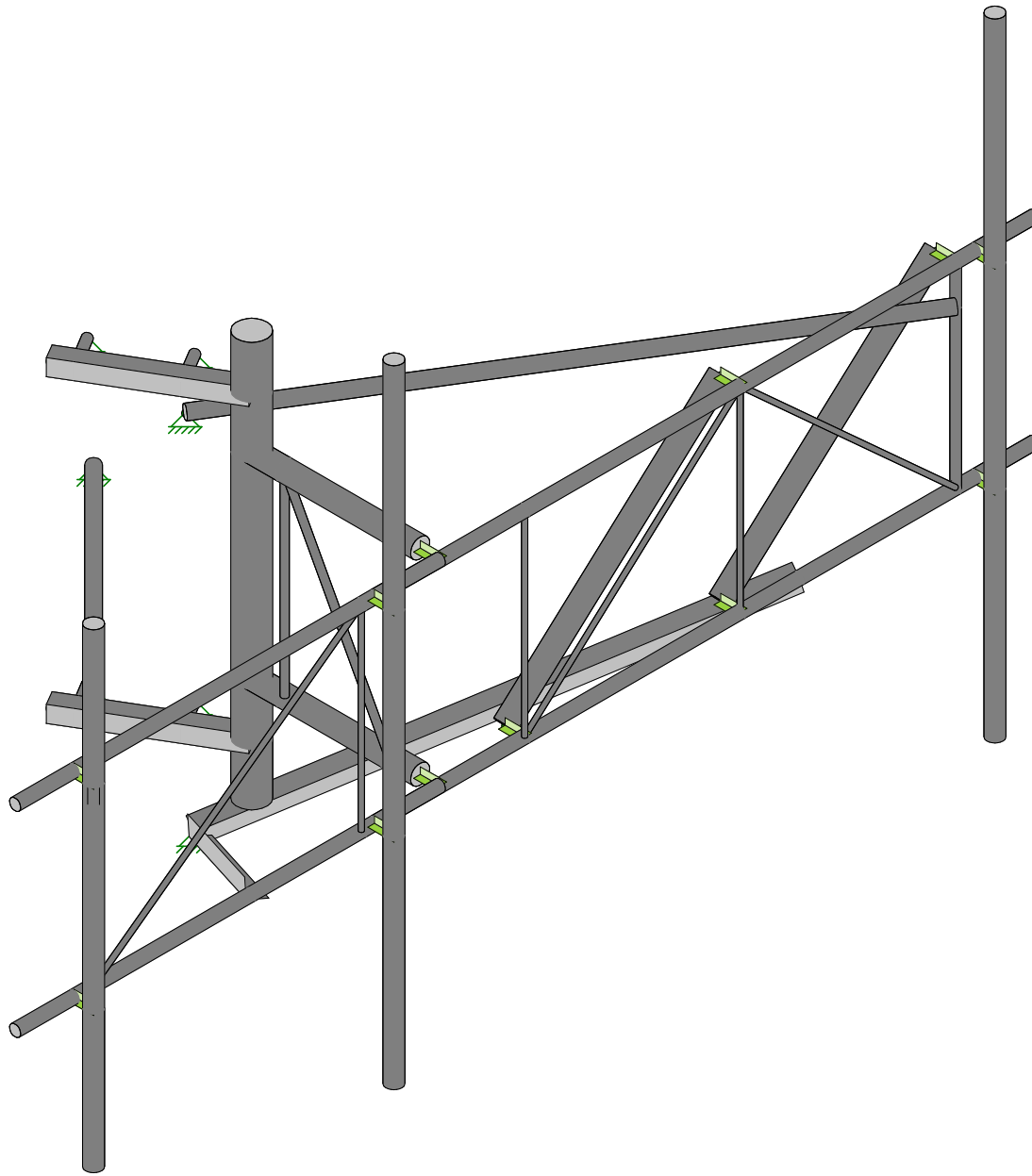
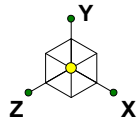
Appurtenance properties						Wind		Ice	Seismic
Manufacturer	Model	L [in]	W [in]	D [in]	Weight [lbs]	0° [lbs]	90° [lbs]	IceWeight [lbs]	E _H [lbs]
CCI	TPA65R-BU6DA-K	71.2	20.7	7.7	69.0	300.0	444.0	220.4	6.4
CCI	TPA65R-BU6DA-K	71.2	20.7	7.7	69.0	300.0	444.0	220.4	6.4
Powerwave	7770	55.0	11.0	5.0	35.0	145.1	197.5	97.9	3.2
Ericsson	4449 B5/B12	17.9	13.2	9.4	73.0	74.2	62.7	43.6	6.7
Ericsson	RRUS-32 B2	27.2	12.1	7.0	60.0	100.4	78.6	56.6	5.5
Ericsson	4478 B14	18.1	13.4	8.3	60.0	74.3	58.6	43.0	5.5
Ericsson	4426 B66	14.9	13.2	5.8	49.0	57.2	38.6	33.1	4.5

GAMMA SECTOR

Appurtenance properties						Wind		Ice	Seismic
Manufacturer	Model	L [in]	W [in]	D [in]	Weight [lbs]	0° [lbs]	90° [lbs]	IceWeight [lbs]	E _H [lbs]
CCI	TPA65R-BU6DA-K	71.2	20.7	7.7	69.0	300.0	444.0	220.4	6.4
CCI	TPA65R-BU6DA-K	71.2	20.7	7.7	69.0	300.0	444.0	220.4	6.4
Powerwave	7770	55.0	11.0	5.0	35.0	145.1	197.5	97.9	3.2
Ericsson	4449 B5/B12	17.9	13.2	9.4	73.0	74.2	62.7	43.6	6.7
Ericsson	RRUS-32 B2	27.2	12.1	7.0	60.0	100.4	78.6	56.6	5.5
Ericsson	4478 B14	18.1	13.4	8.3	60.0	74.3	58.6	43.0	5.5
Ericsson	4426 B66	14.9	13.2	5.8	49.0	57.2	38.6	33.1	4.5



**Mount Calculations
(Existing Conditions)**



Envelope Only Solution

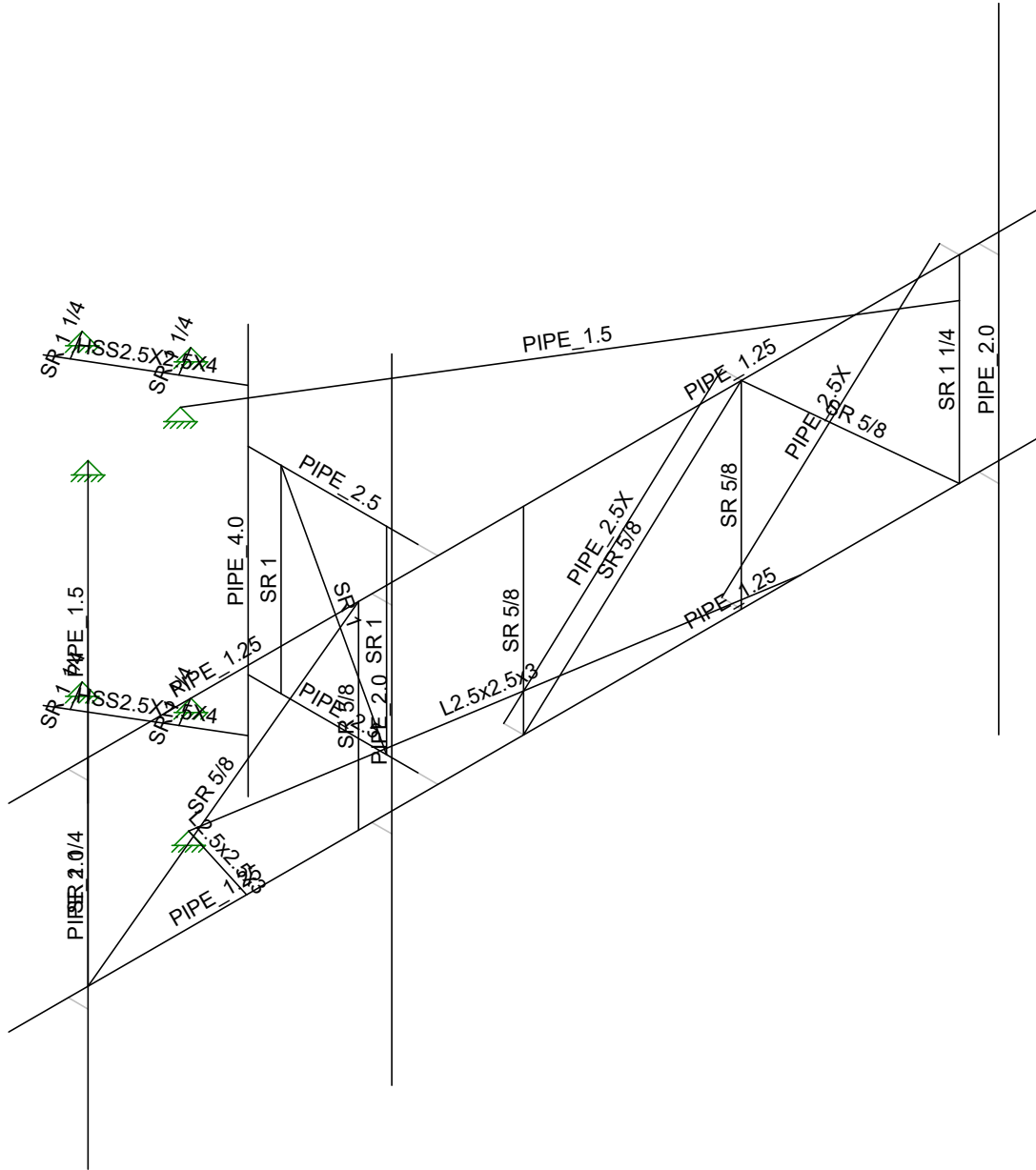
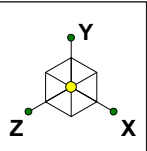
Hudson Design Group, LLC
SAM
CT1134

NORTH CANAAN-LOWER COUNTY RD

SK - 1

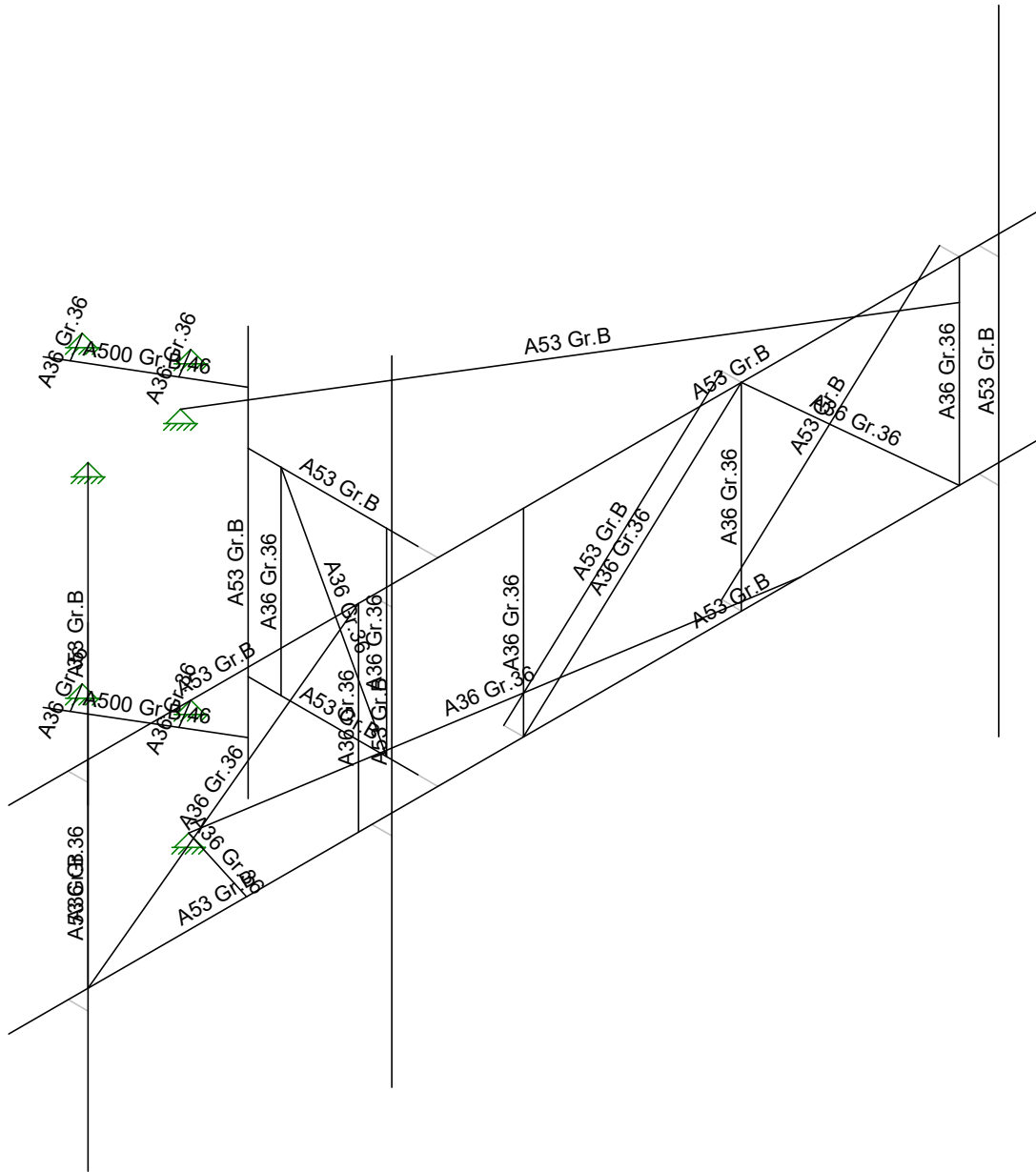
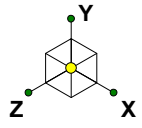
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CT1134.r3d



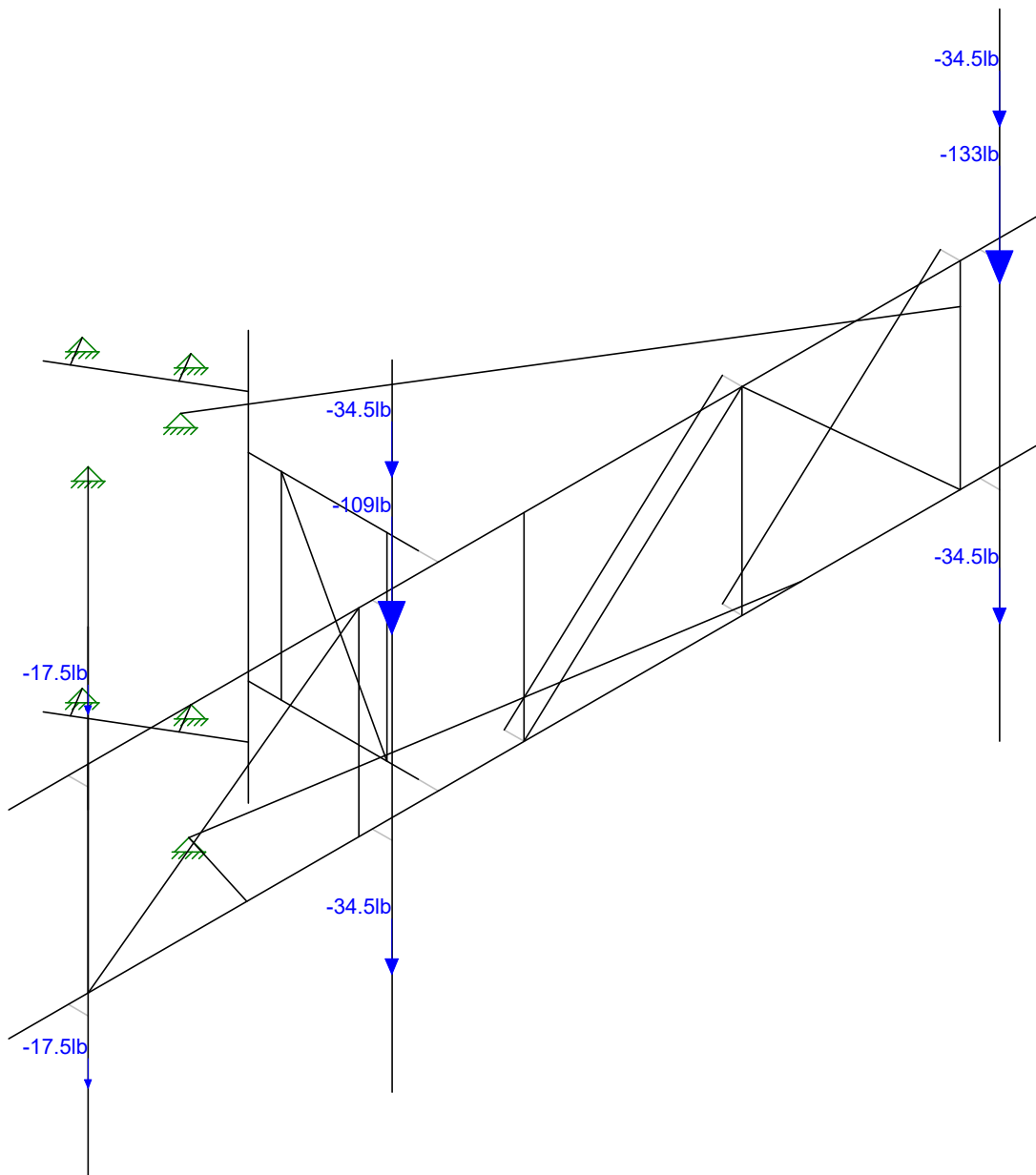
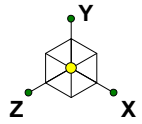
Envelope Only Solution

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Envelope Only Solution

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SAM		July 15, 2022 at 6:09 PM
CT1134		CT1134.r3d



Loads: BLC 2, We
Envelope Only Solution

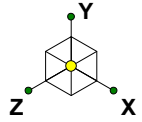
Hudson Design Group, LLC
SAM
CT1134

NORTH CANAAN-LOWER COUNTY RD

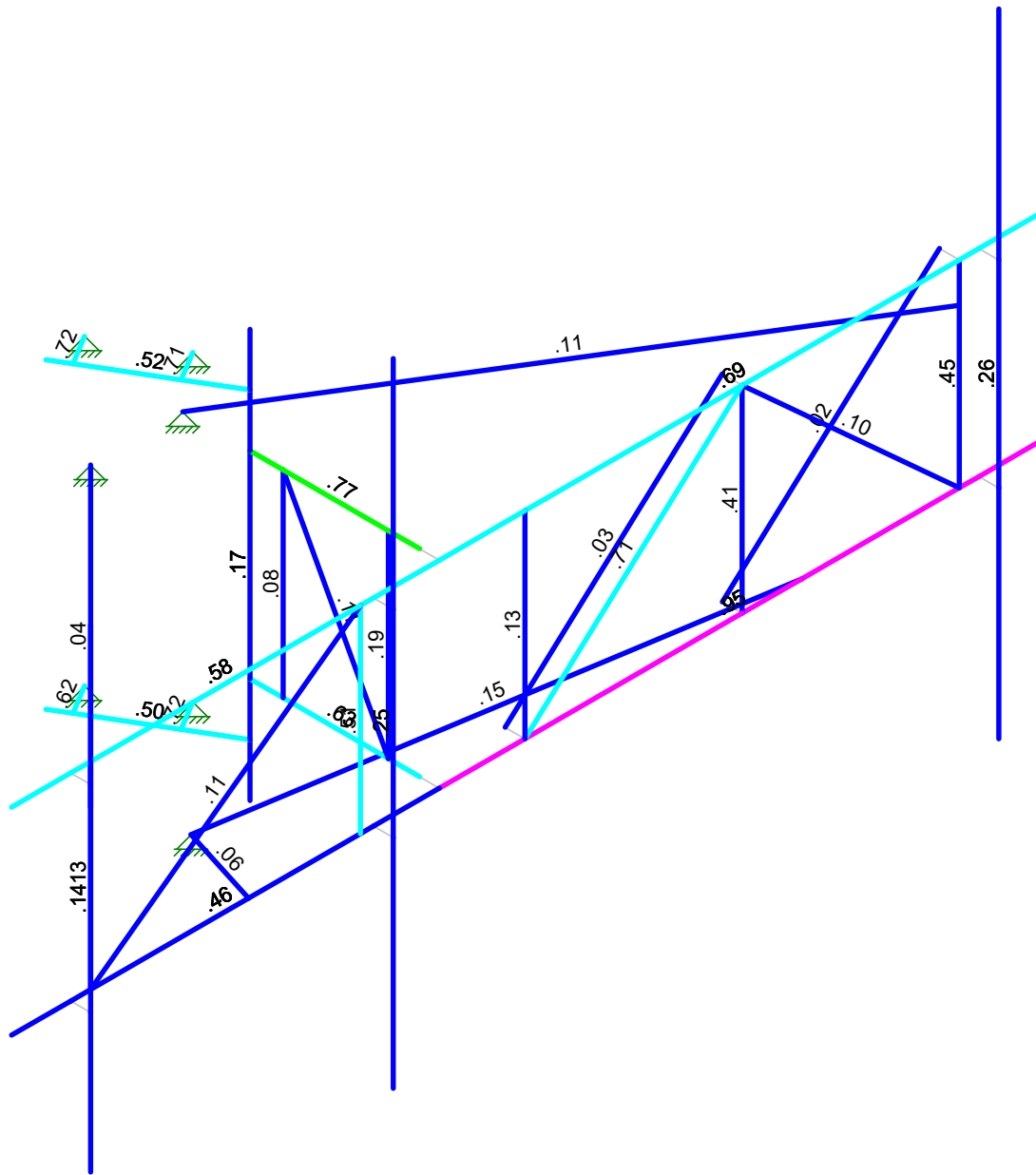
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July 15, 2022 at 6:09 PM

CT1134.r3d



Code Check (Env)	
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Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0.-.50

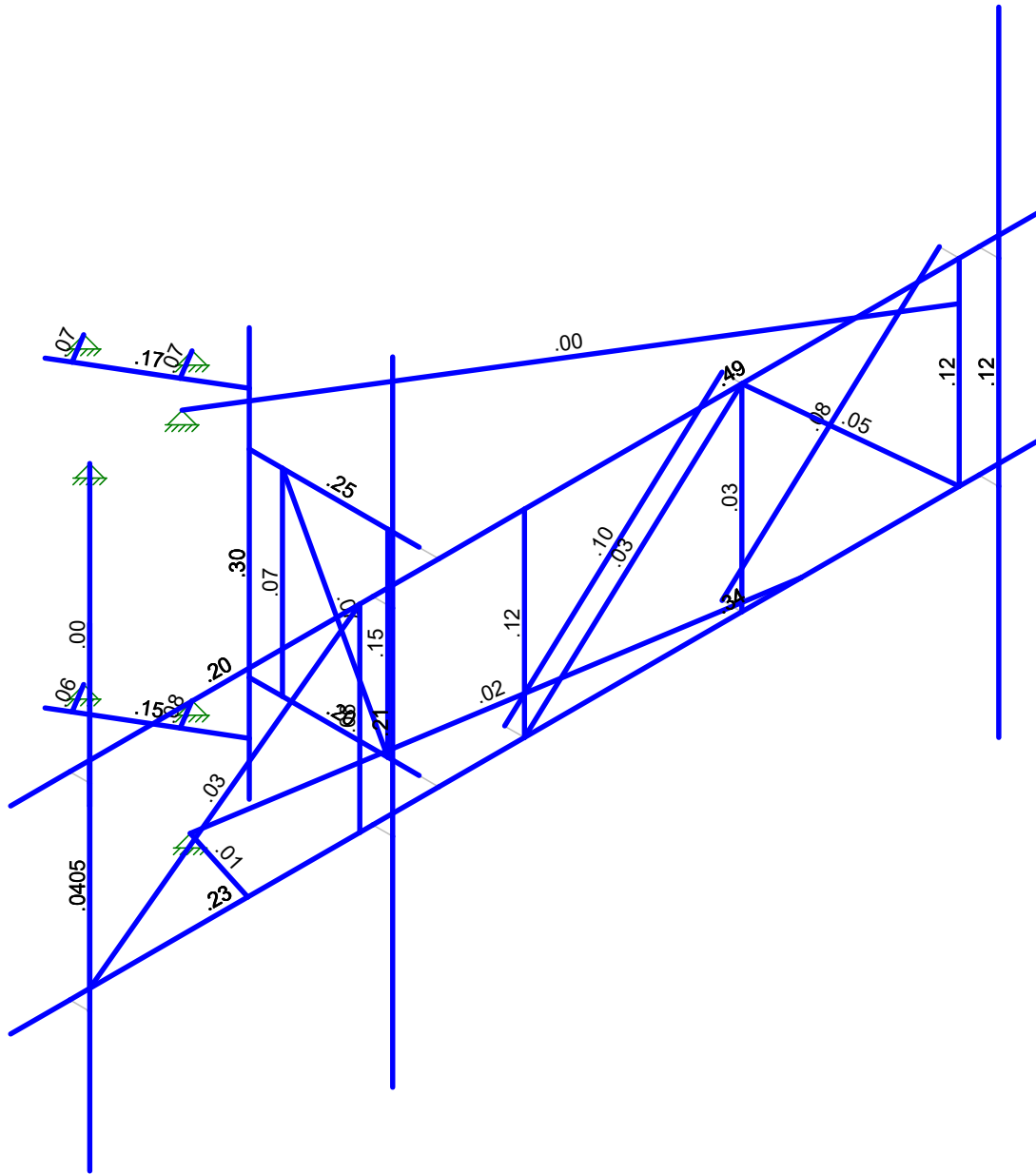
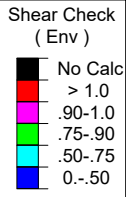
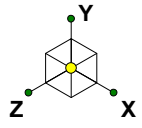


Member Code Checks Displayed (Enveloped)
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Hudson Design Group, LLC
SAM
CT1134

NORTH CANAAN-LOWER COUNTY RD

SK - 5
July 15, 2022 at 6:10 PM
CT1134.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Hudson Design Group, LLC
SAM
CT1134

NORTH CANAAN-LOWER COUNTY RD

SK - 6
July 15, 2022 at 6:10 PM
CT1134.r3d



(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	Yes(Iterative)
RISACONNECTION CODE	AISC 15th(360-16): LRFD
Cold Formed Steel Code	AISI S100-16: LRFD
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parame Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR SET ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8



(Global) Model Settings, Continued

Seismic Code	ASCE 7-16
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	1
Cd X	1
Rho Z	1
Rho X	1

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	PIPE 1.5	PIPE 1.5	None	None	A53 Gr.B	Typical	.749	.293	.293	.586
2	SR 3/4	SR 3/4	None	None	A36 Gr.36	Typical	.442	.016	.016	.031
3	PIPE 1.0	PIPE 1.0	None	None	A53 Gr.B	Typical	.469	.083	.083	.166
4	PIPE 4.0	PIPE 4.0	None	None	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
5	PIPE 2.5	PIPE 2.5	None	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
6	SR1	SR 1	None	None	A36 Gr.36	Typical	.785	.049	.049	.098
7	PIPE 2.0	PIPE 2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
8	HSS2.5X2.5...	HSS2.5X2.5X4	None	None	A500 Gr.B 46	Typical	1.97	1.63	1.63	2.79
9	L2.5x2.5x3	L2.5x2.5x3	None	None	A36 Gr.36	Typical	.901	.535	.535	.011
10	PIPE 2.5X	PIPE 2.5X	None	None	A53 Gr.B	Typical	2.1	1.83	1.83	3.66
11	SR 1 1/4	SR 1 1/4	None	None	A36 Gr.36	Typical	1.227	.12	.12	.24
12	SR 5/8	SR 5/8	None	None	A36 Gr.36	Typical	.307	.007	.007	.015
13	PIPE 1.25	PIPE 1.25	None	None	A53 Gr.B	Typical	.625	.184	.184	.368



Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N57	Reaction	Reaction	Reaction			
2	N58	Reaction	Reaction	Reaction			
3	N59	Reaction	Reaction	Reaction			
4	N71	Reaction	Reaction	Reaction			
5	N73	Reaction	Reaction	Reaction			
6	N70	Reaction	Reaction	Reaction			
7	N72	Reaction	Reaction	Reaction			

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N4			RIGID	None	None	RIGID	Typical
2	M2	N4	N5			PIPE_2.5	None	None	A53 Gr.B	Typical
3	M3	N7	N6			RIGID	None	None	RIGID	Typical
4	M4	N9	N11			RIGID	None	None	RIGID	Typical
5	M5	N11	N12			PIPE_2.5	None	None	A53 Gr.B	Typical
6	M6	N14	N13			RIGID	None	None	RIGID	Typical
7	M7	N15	N16			PIPE_2.0	None	None	A53 Gr.B	Typical
8	M8	N20	N17			SR 1	None	None	A36 Gr.36	Typical
9	M9	N19	N20			SR 1	None	None	A36 Gr.36	Typical
10	M10	N17	N18			SR 1	None	None	A36 Gr.36	Typical
11	M11	N24	N21			SR 5/8	None	None	A36 Gr.36	Typical
12	M12	N25	N22			SR 5/8	None	None	A36 Gr.36	Typical
13	M13	N26	N23			SR 1 1/4	None	None	A36 Gr.36	Typical
14	M14	N60	N62			PIPE_2.5X	None	None	A53 Gr.B	Typical
15	M15	N25	N23			SR 5/8	None	None	A36 Gr.36	Typical
16	M16	N29	N28			SR 5/8	None	None	A36 Gr.36	Typical
17	M17	N27	N28			SR 5/8	None	None	A36 Gr.36	Typical
18	M18	N29	N30			SR 1 1/4	None	None	A36 Gr.36	Typical
19	M19	N8	N9			PIPE_1.25	None	None	A53 Gr.B	Typical
20	M20	N1	N2			PIPE_1.25	None	None	A53 Gr.B	Typical
21	M21	N32	N31			RIGID	None	None	RIGID	Typical
22	M22	N34	N33			RIGID	None	None	RIGID	Typical
23	M23	N35	N36			PIPE_2.0	None	None	A53 Gr.B	Typical
24	M24	N37	N38			PIPE_4.0	None	None	A53 Gr.B	Typical
25	M25	N64	N39			HSS2.5X2.5X4	None	None	A500 Gr.B...	Typical
26	M26	N65	N40			HSS2.5X2.5X4	None	None	A500 Gr.B...	Typical
27	M27	N48	N47			RIGID	None	None	RIGID	Typical
28	M28	N50	N49			RIGID	None	None	RIGID	Typical
29	M29	N51	N52			PIPE_2.0	None	None	A53 Gr.B	Typical
30	M30	N53	N57			L2.5x2.5x3	None	None	A36 Gr.36	Typical
31	M31	N54	N57		270	L2.5x2.5x3	None	None	A36 Gr.36	Typical
32	M32	N61	N63			PIPE_2.5X	None	None	A53 Gr.B	Typical
33	M33	N56	N58			PIPE_1.5	None	None	A53 Gr.B	Typical
34	M34	N55	N59			PIPE_1.5	None	None	A53 Gr.B	Typical
35	M35	N21	N25			SR 5/8	None	None	A36 Gr.36	Typical
36	M36	N22	N61			RIGID	None	None	RIGID	Typical
37	M37	N26	N63			RIGID	None	None	RIGID	Typical
38	M38	N21	N60			RIGID	None	None	RIGID	Typical
39	M39	N25	N62			RIGID	None	None	RIGID	Typical
40	M40	N66	N70			SR 1 1/4	None	None	A36 Gr.36	Typical
41	M41	N68	N72			SR 1 1/4	None	None	A36 Gr.36	Typical
42	M42	N69	N73			SR 1 1/4	None	None	A36 Gr.36	Typical
43	M43	N67	N71			SR 1 1/4	None	None	A36 Gr.36	Typical
44	M44	N9	N10			PIPE_1.25	None	None	A53 Gr.B	Typical
45	M45	N2	N3			PIPE_1.25	None	None	A53 Gr.B	Typical



Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat..	Analysis ...	Inactive	Seismic...
1	M1						Yes	** NA **			None
2	M2						Yes	** NA **			None
3	M3						Yes	** NA **			None
4	M4						Yes	** NA **			None
5	M5						Yes	** NA **			None
6	M6						Yes	** NA **			None
7	M7						Yes	** NA **			None
8	M8						Yes	** NA **			None
9	M9						Yes	** NA **			None
10	M10						Yes	** NA **			None
11	M11						Yes	** NA **			None
12	M12						Yes	** NA **			None
13	M13						Yes	** NA **			None
14	M14						Yes	** NA **			None
15	M15						Yes	** NA **			None
16	M16						Yes	** NA **			None
17	M17						Yes	** NA **			None
18	M18						Yes	** NA **			None
19	M19						Yes	** NA **			None
20	M20						Yes	** NA **			None
21	M21						Yes	** NA **			None
22	M22						Yes	** NA **			None
23	M23						Yes	** NA **			None
24	M24						Yes	** NA **			None
25	M25						Yes	** NA **			None
26	M26						Yes	** NA **			None
27	M27						Yes	** NA **			None
28	M28						Yes	** NA **			None
29	M29						Yes	** NA **			None
30	M30	BenPIN					Yes	** NA **			None
31	M31	BenPIN					Yes	** NA **			None
32	M32						Yes	** NA **			None
33	M33	BenPIN					Yes	** NA **			None
34	M34	BenPIN					Yes	** NA **			None
35	M35						Yes	** NA **			None
36	M36	OOOXOX					Yes	** NA **			None
37	M37	OOOXOX					Yes	** NA **			None
38	M38	OOOXOX					Yes	** NA **			None
39	M39	OOOXOX					Yes	** NA **			None
40	M40						Yes	** NA **			None
41	M41						Yes	** NA **			None
42	M42						Yes	** NA **			None
43	M43						Yes	** NA **			None
44	M44						Yes	** NA **			None
45	M45						Yes	** NA **			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	M2	PIPE 2.5	25.75									Lateral
2	M5	PIPE 2.5	25.75									Lateral
3	M7	PIPE 2.0	96									Lateral
4	M8	SR 1	34									Lateral
5	M9	SR 1	30									Lateral
6	M10	SR 1	30									Lateral



Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
7	M11	SR 5/8	30									Lateral
8	M12	SR 5/8	30									Lateral
9	M13	SR 1 1/4	30									Lateral
10	M14	PIPE 2.5X	44.598									Lateral
11	M15	SR 5/8	44.598									Lateral
12	M16	SR 5/8	50.804									Lateral
13	M17	SR 5/8	30									Lateral
14	M18	SR 1 1/4	30									Lateral
15	M19	PIPE 1.25	65									Lateral
16	M20	PIPE 1.25	65									Lateral
17	M23	PIPE 2.0	72									Lateral
18	M24	PIPE 4.0	62									Lateral
19	M25	HSS2.5X2.5	22.665									Lateral
20	M26	HSS2.5X2.5	22.665									Lateral
21	M29	PIPE 2.0	96									Lateral
22	M30	L2.5x2.5x3	53.769									Lateral
23	M31	L2.5x2.5x3	71.239									Lateral
24	M32	PIPE 2.5X	44.598									Lateral
25	M33	PIPE 1.5	63.64					Lbyy				Lateral
26	M34	PIPE 1.5	85.755					Lbyy				Lateral
27	M35	SR 5/8	44.598									Lateral
28	M40	SR 1 1/4	5.25									Lateral
29	M41	SR 1 1/4	5.25									Lateral
30	M42	SR 1 1/4	5.25									Lateral
31	M43	SR 1 1/4	5.25									Lateral
32	M44	PIPE 1.25	91									Lateral
33	M45	PIPE 1.25	91									Lateral

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Self We	DL		-1.1					
2	We	DL					10		
3	Ice We	DL					10	29	
4	W0	WL					10	29	
5	W30	WL					20	58	
6	W60	WL					20	58	
7	W90	WL					10	29	
8	W120	WL					20	58	
9	W150	WL					20	58	
10	W0 + Ice	WL					10	29	
11	W30 + Ice	WL					20	58	
12	W60 + Ice	WL					20	58	
13	W90 + Ice	WL					10	29	
14	W120 + Ice	WL					20	58	
15	W150 + Ice	WL					20	58	
16	500lbs LM 1	LL				1			
17	500lbs LM 2	LL							
18	500lbs LM 3	LL				1			
19	500lbs LM 4	LL				1			
20	250lbs LV 5	LL				1			
21	250lbs LV 6	LL				1			
22	E0	EL	-.09				10		
23	E90	EL			.09		10		



Load Combinations

	Description	Sol.	PD	SR	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.
1	Dead	Yes	Y		1	1.4	2	1.4	0	0					
2	Dead + Wi...	Yes	Y		1	1.2	2	1.2	4	1	0				
3	Dead + Wi...	Yes	Y		1	1.2	2	1.2	5	1	0				
4	Dead + Wi...	Yes	Y		1	1.2	2	1.2	6	1	0				
5	Dead + Wi...	Yes	Y		1	1.2	2	1.2	7	1	0				
6	Dead + Wi...	Yes	Y		1	1.2	2	1.2	8	1	0				
7	Dead + Wi...	Yes	Y		1	1.2	2	1.2	9	1	0				
8	Dead + Wi...	Yes	Y		1	1.2	2	1.2	4	-1	0				
9	Dead + Wi...	Yes	Y		1	1.2	2	1.2	5	-1	0				
10	Dead + Wi...	Yes	Y		1	1.2	2	1.2	6	-1	0				
11	Dead + Wi...	Yes	Y		1	1.2	2	1.2	7	-1	0				
12	Dead + Wi...	Yes	Y		1	1.2	2	1.2	8	-1	0				
13	Dead + Wi...	Yes	Y		1	1.2	2	1.2	9	-1	0				
14	Dead + Ic...	Yes	Y		1	1.2	2	1.2	10	1	3	1			
15	Dead + Ic...	Yes	Y		1	1.2	2	1.2	11	1	3	1			
16	Dead + Ic...	Yes	Y		1	1.2	2	1.2	12	1	3	1			
17	Dead + Ic...	Yes	Y		1	1.2	2	1.2	13	1	3	1			
18	Dead + Ic...	Yes	Y		1	1.2	2	1.2	14	1	3	1			
19	Dead + Ic...	Yes	Y		1	1.2	2	1.2	15	1	3	1			
20	Dead + Ic...	Yes	Y		1	1.2	2	1.2	10	-1	3	1			
21	Dead + Ic...	Yes	Y		1	1.2	2	1.2	11	-1	3	1			
22	Dead + Ic...	Yes	Y		1	1.2	2	1.2	12	-1	3	1			
23	Dead + Ic...	Yes	Y		1	1.2	2	1.2	13	-1	3	1			
24	Dead + Ic...	Yes	Y		1	1.2	2	1.2	14	-1	3	1			
25	Dead + Ic...	Yes	Y		1	1.2	2	1.2	15	-1	3	1			
26	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	4	.068			
27	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	5	.068			
28	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	6	.068			
29	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	7	.068			
30	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	8	.068			
31	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	9	.068			
32	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	4	-.068			
33	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	5	-.068			
34	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	6	-.068			
35	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	7	-.068			
36	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	8	-.068			
37	Dead + L...	Yes	Y		1	1.2	2	1.2	16	1.5	9	-.068			
38	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	4	.068			
39	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	5	.068			
40	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	6	.068			
41	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	7	.068			
42	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	8	.068			
43	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	9	.068			
44	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	4	-.068			
45	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	5	-.068			
46	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	6	-.068			
47	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	7	-.068			
48	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	8	-.068			
49	Dead + L...	Yes	Y		1	1.2	2	1.2	17	1.5	9	-.068			
50	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	4	.068			
51	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	5	.068			
52	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	6	.068			
53	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	7	.068			
54	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	8	.068			
55	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	9	.068			
56	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	4	-.068			



Load Combinations (Continued)

	Description	Sol.	PD	SR	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.
57	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	5	-0.068		
58	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	6	-0.068		
59	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	7	-0.068		
60	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	8	-0.068		
61	Dead + L...	Yes	Y		1	1.2	2	1.2	18	1.5	9	-0.068		
62	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	4	.068		
63	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	5	.068		
64	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	6	.068		
65	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	7	.068		
66	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	8	.068		
67	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	9	.068		
68	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	4	-0.068		
69	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	5	-0.068		
70	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	6	-0.068		
71	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	7	-0.068		
72	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	8	-0.068		
73	Dead + L...	Yes	Y		1	1.2	2	1.2	19	1.5	9	-0.068		
74	Dead + LV...	Yes	Y		1	1.2	2	1.2	20	1.5	0			
75	Dead + LV...	Yes	Y		1	1.2	2	1.2	21	1.5	0			
76	Service 60...	Yes	Y		1	1	2	1	4	.272	0			
77	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22	1	23			
78	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22	.866	23	.5		
79	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22	.5	23	.866		
80	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22		23	1		
81	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22	-.5	23	.866		
82	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22	-.866	23	.5		
83	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22	-1	23			
84	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22	-.866	23	-.5		
85	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22	-.5	23	-.866		
86	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22		23	-1		
87	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22	.5	23	-.866		
88	(1.2 + 0.2...	Yes	Y		1	1.237	2	1.237	22	.866	23	-.5		

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-in]	LC	MY [lb-in]	LC	MZ [lb-in]	LC
1	N57	max	680.992	3	419.909	3	290.52	69	0	88	0	88	0	88
2		min	-420.967	9	-207.477	9	-1217.437	27	0	1	0	1	0	1
3	N58	max	311.015	3	22.519	15	285.522	3	0	88	0	88	0	88
4		min	-274.964	9	7.606	76	-247.344	9	0	1	0	1	0	1
5	N59	max	517.859	2	35.442	20	1225.037	8	0	88	0	88	0	88
6		min	-783.273	8	8.603	13	-820.651	2	0	1	0	1	0	1
7	N71	max	2496.822	5	60.296	5	2049.137	5	0	88	0	88	0	88
8		min	-1857.817	11	-52.09	11	-2037.402	11	0	1	0	1	0	1
9	N73	max	2590.38	11	1079.003	21	2937.696	11	0	88	0	88	0	88
10		min	-1952.451	5	313.441	4	-3159.119	5	0	1	0	1	0	1
11	N70	max	1920.41	5	59.569	11	2022.823	5	0	88	0	88	0	88
12		min	-2872.155	11	-51.205	5	-2269.011	11	0	1	0	1	0	1
13	N72	max	2304.316	12	1061.784	20	3659.545	11	0	88	0	88	0	88
14		min	-2604.738	6	258.478	2	-3039.1	5	0	1	0	1	0	1
15	Totals:	max	1930.235	2	2405.964	17	2052.822	11						
16		min	-1930.229	8	875.282	76	-2052.837	5						



Company : Hudson Design Group, LLC
 Designer : SAM
 Job Number : CT1134
 Model Name : NORTH CANAAN-LOWER COUNTY RD

July 15, 2022
 6:11 PM
 Checked By: SC

Envelope AISC 15th(360-16): LRFD Steel Code Checks

Member	Shape	Code C...	Loc[in]	LC Shear ...	Loc[in]	Dir	LC phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-...	phi*Mn z-...	Cb	Eqn			
1	M45	PIPE 1.25	.949	0	33	.337	0	33	5019.667	19687.5	9607.5	9607.5	3...	H3-6	
2	M5	PIPE 2.5	.765	25.75	11	.255	25.75	35	48839.531	50715	43155	43155	1...	H1-1b	
3	M40	SR 1 1/4	.720	0	11	.072	5.25	11	39174.389	39760.794	9940.175	9940.175	1...	H1-1b	
4	M42	SR 1 1/4	.720	0	23	.075	5.25	23	39174.389	39760.794	9940.175	9940.175	1...	H1-1b	
5	M41	SR 1 1/4	.710	0	19	.075	5.25	19	39174.389	39760.794	9940.175	9940.175	1...	H1-1b	
6	M35	SR 5/8	.705	8.362	70	.032	44.598	33	850.72	9940.19	1242.501	1242.501	1...	H1-1a	
7	M44	PIPE 1.25	.687	0	33	.489	81.521	9	5019.667	19687.5	9607.5	9607.5	4...	H3-6	
8	M2	PIPE 2.5	.626	25.75	5	.203	25.75	30	48839.531	50715	43155	43155	1...	H1-1b	
9	M43	SR 1 1/4	.618	0	5	.061	5.25	5	39174.389	39760.794	9940.175	9940.175	1...	H1-1b	
10	M19	PIPE 1.25	.582	55.521	35	.199	53.49	3	9444.744	19687.5	9607.5	9607.5	4...	H1-1b	
11	M25	HSS2.5X2.5X4	.524	15.11	11	.169	14.874	z	11	78221.978	81558	67482	67482	3...	H1-1b
12	M17	SR 5/8	.505	0	3	.056	0	33	1880.092	9940.19	1242.501	1242.501	3...	H1-1a	
13	M26	HSS2.5X2.5X4	.503	15.11	11	.152	14.874	z	5	78221.978	81558	67482	67482	3...	H1-1b
14	M20	PIPE 1.25	.464	55.521	29	.225	65	26	9444.744	19687.5	9607.5	9607.5	2...	H1-1b	
15	M13	SR 1 1/4	.453	0	8	.118	0	31	24476.393	39760.794	9940.175	9940.175	1...	H1-1b	
16	M12	SR 5/8	.410	30	27	.034	0	9	1880.092	9940.19	1242.501	1242.501	2...	H1-1b	
17	M7	PIPE 2.0	.263	63	10	.115	63	27	14916.096	32130	22459.5	22459.5	2...	H1-1b	
18	M29	PIPE 2.0	.254	63	9	.213	63	33	14916.096	32130	22459.5	22459.5	2...	H1-1b	
19	M10	SR 1	.190	30	35	.152	0	36	11923.462	25446.895	5089.34	5089.34	2...	H1-1b	
20	M24	PIPE 4.0	.166	15.5	11	.297	8.396	11	85608.663	93240	127575	127575	2...	H3-6	
21	M31	L2.5x2.5x3	.149	32.651	36	.021	71.239	z	33	9317.884	29192.4	10470.885	18336.051	1...	H2-1
22	M23	PIPE 2.0	.138	51	75	.042	21	3	20866.733	32130	22459.5	22459.5	2...	H1-1b	
23	M18	SR 1 1/4	.135	30	3	.046	24.063	3	24476.393	39760.794	9940.175	9940.175	1...	H1-1b	
24	M11	SR 5/8	.134	0	35	.122	30	37	1880.092	9940.19	1242.501	1242.501	2...	H1-1b	
25	M16	SR 5/8	.110	0	62	.034	50.804	29	655.592	9940.19	1242.501	1242.501	2...	H1-1b	
26	M34	PIPE 1.5	.108	85.755	2	.004	85.755	25	9000.857	23593.5	13261.5	13261.5	1...	H1-1b*	
27	M8	SR 1	.107	0	30	.071	34	29	9592.869	25446.895	5089.34	5089.34	2...	H1-1b	
28	M15	SR 5/8	.100	44.598	2	.053	44.598	28	850.72	9940.19	1242.501	1242.501	1...	H1-1b	
29	M9	SR 1	.080	0	21	.065	30	36	11923.462	25446.895	5089.34	5089.34	2...	H1-1b*	
30	M30	L2.5x2.5x3	.062	28.004	10	.008	53.769	z	9	15162.055	29192.4	10470.885	19971.448	1...	H2-1
31	M33	PIPE 1.5	.040	31.82	3	.003	0	22	13888.754	23593.5	13261.5	13261.5	1...	H1-1b	
32	M14	PIPE 2.5X	.035	44.598	29	.104	0	29	58856.594	66150	55755	55755	1...	H1-1b	
33	M32	PIPE 2.5X	.020	0	29	.076	44.598	27	58856.594	66150	55755	55755	1...	H1-1b*	



Connection Check

SITE DETAILS

Site Name/Code	CT1134 - NORTH CANAAN-LOWER COUNTY RD
Date	7/15/2022
Engineer	SAM

CONNECTION PARAMETERS

Number of bolts	2
B - horizontal bolt spacing	2.50 in
Bolt Diameter	d 1/2 in
Tensile Area	A _b 0.20 in ²
Tensile Area	A _n 0.14 in ²
Grade	G. 36
Bolt Ultimate Strength	F _{ub} 58 ksi
Connection length reduction factor	R _b 1



Connection Sketch/Photo

FLANGE LOADS

Loadcase #	11
Bending Moment	M _{zz} 0.00 kips-in
Bending Moment	M _{yy} 0.00 kips-in
Torsional Moment	M _{xx} 0.00 kips-in
Shear Force	V _y 0.41 kips
Shear Force	V _z 0.01 kips
Axial Force	P _x 4.27 kips

BOLT CHECK

Bolt Tension Capacity

$$\phi R_{nt} = 0.75 * F_{ub} * A_n$$
$$\phi R_{nt} = 6.2 \text{ kips}$$

Bolt Shear Capacity

$$\phi R_{nv} = 0.75 * 0.625 * 0.8 * F_{ub} * A_b * R_b$$
$$\phi R_{nv} = 4.3 \text{ kips}$$

Maximum Bolt Tension

$$T_{ub} = F_{Mxx} + F_{Mzz} + T_v/4$$
$$T_{ub} = 2.14 \text{ kips}$$

Maximum Bolt Shear

$$V_{ub} = \text{sqrt}((V_x/4)^2 + (V_y/4)^2) + F_{Myy}$$
$$V_{ub} = 0.20 \text{ kips}$$

Tension Ratio:

34.6% %

PASS

Shear Ratio:

4.8% %

PASS

$$(T_{ub} / \phi R_{nt})^2 + (V_{ub} / \phi R_{nv})^2 < 1.0$$

OK

Ratio

12.2%

PASS

Exhibit F

Power Density/RF Emissions Report



Radio Frequency Exposure Theoretical Study

Prepared For:

AT&T Mobility



Site Name: North Canaan-Lower County Rd
FA#: 10035410
Site ID: CTL01134
Address: 38 Lower Road, North Canaan, CT 06018

Prepared by: **SAI Group**
12 Industrial Way
Salem, NH 03079
(603) 421-0470

Date of Report: April 14, 2023

Statement of Compliance

AT&T's proposed antenna installation along with other existing antennas is calculated to be within 3.2% of FCC Standard for General Public/Uncontrolled Maximum Permissible Exposure (MPE).



Table of Contents

1	General Summary	3
2	Site Compliance Summary	3
3	RF Design Specifications.....	4
4	Conclusion	6
	Appendix A – FCC Rules and Regulations.....	7
	Appendix B – Calculations Methodology and Assumptions	9
	Appendix C – Informative References	10

1 General Summary

SAI Group was contracted by AT&T Mobility to conduct a Radio Frequency (RF) Analysis for a wireless facility located at 38 Lower Road, North Canaan, CT to determine whether the radio facility is in compliance with Federal Communications Commission (FCC) regulations and standards regarding RF exposure.

RF exposure is calculated in accordance with FCC's suggested prediction methods.

2 Site Compliance Summary

Compliance Summary (General Public Limit)	
Site Compliance	Yes
Maximum Calculated %MPE at 0-6' Ground Level (Cumulative)	3.2% at about 380ft South from the tower.

3 RF Design Specifications

Table below shows the technical data used for the calculation of cumulative %MPE results.

Ant ID	Operator	Antenna Make	Antenna Model	Type	TX Freq (MHz)	Az (Deg)	Ant Gain (dBi)	Total ERP (Watts)	Z Rad Center (ft)
1	AT&T	CCI	OPA65R-BU4DA	Panel	700	113	10.45	887	140.00
1	AT&T	CCI	OPA65R-BU4DA	Panel	850	113	11.05	1000	140.00
1	AT&T	CCI	OPA65R-BU4DA	Panel	1900	113	13.65	1854	140.00
1	AT&T	CCI	OPA65R-BU4DA	Panel	1900	113	13.65	1854	140.00
2	AT&T	CCI	OPA65R-BU4DA	Panel	700	113	10.45	1775	140.00
2	AT&T	CCI	OPA65R-BU4DA	Panel	2100	113	14.05	6098	140.00
3	AT&T	POWERWAVE	7770 [DECOM]	Panel	1900	150	13.35	0	140.00
4	AT&T	CCI	TPA65R-BU6DA	Panel	700	233	11.75	1197	140.00
4	AT&T	CCI	TPA65R-BU6DA	Panel	850	233	12.45	1000	140.00
4	AT&T	CCI	TPA65R-BU6DA	Panel	1900	233	14.85	2444	140.00
4	AT&T	CCI	TPA65R-BU6DA	Panel	1900	233	14.85	2444	140.00
5	AT&T	CCI	TPA65R-BU6DA	Panel	700	233	11.75	2394	140.00
5	AT&T	CCI	TPA65R-BU6DA	Panel	2100	233	15.85	9230	140.00
6	AT&T	POWERWAVE	7770 [DECOM]	Panel	1900	270	13.35	0	140.00
7	AT&T	CCI	TPA65R-BU6DA	Panel	700	353	11.75	1197	140.00
7	AT&T	CCI	TPA65R-BU6DA	Panel	850	353	12.35	1000	140.00
7	AT&T	CCI	TPA65R-BU6DA	Panel	1900	353	15.25	2680	140.00
7	AT&T	CCI	TPA65R-BU6DA	Panel	1900	353	15.25	2680	140.00
8	AT&T	CCI	TPA65R-BU6DA	Panel	700	353	11.75	2394	140.00
8	AT&T	CCI	TPA65R-BU6DA	Panel	2100	353	15.95	9445	140.00
9	AT&T	POWERWAVE	7770 [DECOM]	Panel	1900	30	13.35	0	140.00
10	VZW	AMPHENOL	LPA-80080-4CF-EDIN-4	Panel	850	330	12.5	651	168.00
11	VZW	COMMSCOPE	NHH-65B-R2B	Panel	700	340	12.29	2711	168.00
11	VZW	COMMSCOPE	NHH-65B-R2B	Panel	1900	340	15.65	4407	168.00
12	VZW	COMMSCOPE	NHH-65B-R2B	Panel	850	340	12.7	2979	168.00
12	VZW	COMMSCOPE	NHH-65B-R2B	Panel	2100	340	16.22	5026	168.00
13	VZW	SAMSUNG	MT6407	Panel	3700	340	23.45	26557	168.00
14	VZW	AMPHENOL	LPA-80080-4CF-EDIN-4	Panel	850	330	12.5	651	168.00
15	VZW	AMPHENOL	LPA-80090-4CF	Panel	850	90	12.5	651	168.00
16	VZW	COMMSCOPE	NHH-65B-R2B	Panel	700	90	12.29	2711	168.00
16	VZW	COMMSCOPE	NHH-65B-R2B	Panel	1900	90	15.65	4407	168.00
17	VZW	COMMSCOPE	NHH-65B-R2B	Panel	850	90	12.7	2979	168.00
17	VZW	COMMSCOPE	NHH-65B-R2B	Panel	2100	90	16.22	5026	168.00
18	VZW	SAMSUNG	MT6407	Panel	3700	90	23.45	26557	168.00
19	VZW	AMPHENOL	LPA-80090-4CF	Panel	850	90	12.5	651	168.00
20	VZW	AMPHENOL	LPA-80090-4CF	Panel	850	190	12.5	651	168.00
21	VZW	COMMSCOPE	NHH-65B-R2B	Panel	700	220	11.83	2438	168.00
21	VZW	COMMSCOPE	NHH-65B-R2B	Panel	1900	220	15.24	4010	168.00
22	VZW	COMMSCOPE	NHH-65B-R2B	Panel	850	220	12.09	2589	168.00
22	VZW	COMMSCOPE	NHH-65B-R2B	Panel	2100	220	15.58	4337	168.00
23	VZW	SAMSUNG	MT6407	Panel	3700	220	23.45	26557	168.00
24	VZW	AMPHENOL	LPA-80090-4CF	Panel	850	190	12.5	651	168.00
25	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	30	12.95	4734	125.00
25	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	30	13.65	3708	125.00
26	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	1900	30	15.25	4020	125.00
26	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	1900	30	15.25	1340	125.00
26	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	2100	30	15.87	6182	125.00
27	T-Mobile	ERICSSON	AIR6449	Panel	2500	30	22.35	27487	125.00
28	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	120	12.95	4734	125.00
28	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	120	13.65	3708	125.00
29	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	1900	120	15.25	4020	125.00
29	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	1900	120	15.25	1340	125.00
29	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	2100	120	15.87	6182	125.00



30	T-Mobile	ERICSSON	AIR6449	Panel	2500	120	22.35	27487	125.00
31	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	210	12.95	4734	125.00
31	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	210	13.65	3708	125.00
32	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	1900	210	15.25	4020	125.00
32	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	1900	210	15.25	1340	125.00
32	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	2100	210	15.87	6182	125.00
33	T-Mobile	ERICSSON	AIR6449	Panel	2500	210	22.35	27487	125.00
34	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	300	12.95	4734	125.00
34	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	300	13.65	3708	125.00
35	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	1900	300	15.25	4020	125.00
35	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	1900	300	15.25	1340	125.00
35	T-Mobile	COMMSCOPE	VV-65A-R1B	Panel	2100	300	15.87	6182	125.00
36	T-Mobile	ERICSSON	AIR6449	Panel	2500	300	22.35	27487	125.00
37	T-Mobile	RFS	SC2-W100AB	Dish	11000	300	32.35	429	125.00
38	SPRINT	COMMSCOPE	DT465B-2XR	Panel	850	350	13.82	2410	154.00
38	SPRINT	COMMSCOPE	DT465B-2XR	Panel	850	350	13.82	2410	154.00
38	SPRINT	COMMSCOPE	DT465B-2XR	Panel	2500	350	15.62	5836	154.00
39	SPRINT	RFS	APXV9ERR18-C	Panel	1900	350	14.55	5132	154.00
40	SPRINT	COMMSCOPE	DT465B-2XR	Panel	850	90	13.82	2410	154.00
40	SPRINT	COMMSCOPE	DT465B-2XR	Panel	850	90	13.82	2410	154.00
40	SPRINT	COMMSCOPE	DT465B-2XR	Panel	2500	90	15.62	5836	154.00
41	SPRINT	RFS	APXV9ERR18-C	Panel	1900	90	14.55	5132	154.00
42	SPRINT	COMMSCOPE	DT465B-2XR	Panel	850	230	13.82	2410	154.00
42	SPRINT	COMMSCOPE	DT465B-2XR	Panel	850	230	13.82	2410	154.00
42	SPRINT	COMMSCOPE	DT465B-2XR	Panel	2500	230	15.62	5836	154.00
43	SPRINT	RFS	APXV9ERR18-C	Panel	1900	230	14.55	5132	154.00
44	EVERSOURCE	TELEWAVE	ANT220F2	Omni	195	0	2.5	124	146.00
45	UNKNOWN	GENERIC	MICROWAVE 6FT	Dish	6000	0	38.65	5549	188.00
46	UNKNOWN	KATHREIN	OGT9-840	Omni	840	0	9	200	184.00
47	UNKNOWN	KATHREIN	OGT9-840	Omni	840	0	9	200	184.00
48	UNKNOWN	KATHREIN	OGT9-840	Omni	840	0	9	200	184.00
49	UNKNOWN	KATHREIN	OGT9-840	Omni	840	0	9	200	184.00
50	UNKNOWN	TELEWAVE	ANT150D3	Omni	150	0	5.03	419	184.00
51	UNKNOWN	TELEWAVE	ANT150F2	Omni	150	0	2.5	300	183.00
52	UNKNOWN	TELEWAVE	ANT150D3	Omni	150	0	5.03	250	105.00
53	UNKNOWN	TELEWAVE	ANT150F2	Omni	150	0	2.5	300	183.00
54	UNKNOWN	CELWAVE	PD458-2	Omni	460	0	8	300	98.00
55	UNKNOWN	GENERIC	MICROWAVE 6FT	Dish	6000	0	38.65	5818	97.00
56	UNKNOWN	AMPHENOL	BCD-80609	Omni	850	0	8.85	200	78.00
57	UNKNOWN	COMMSCOPE	DB222A 150.ant	Dipole	150	0	3	100	78.00
58	UNKNOWN	CELWAVE	PD220	Omni	151	0	5.25	100	78.00
59	UNKNOWN	CELWAVE	PD1142	Omni	68	0	0	100	78.00

NOTE: The Z value indicates the distance of radiation center of the antenna height above the ground site level unless otherwise indicated. Effective Radiated Power (ERP) is provided by the operator or calculated based on SAI Group experience. SAI Group has assumed transmission parameters for “Unknown” RF emitters based on either similar installations found at other radio communications sites or from the latest data available for the site. “Generic” antenna models have been used where existing antenna part numbers or radiation patterns are not available. The frequencies presented in this table may have been assumed in order to represent the approximate band of operation and to support a worst-case calculation of power density

4 Conclusion

I certify to the best of my knowledge that the statements contained in this report are true and accurate. The theoretical computations contained are based on FCC recommended methods, with industry standard assumptions & formulas, and complies with FCC mandated Maximum Permissible RF Exposure requirements.

A comprehensive field survey was not performed prior to the generation of this report. If questions arise regarding the calculations herein, SAI Group recommends that a comprehensive field survey be performed to resolve any disputes.



Sanket Joshi
RF Engineer
SAI Group

April 14, 2023

Date



Matthew Smelcer
RF Engineering Manager

April 14, 2023

Date

Appendix A – FCC Rules and Regulations

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

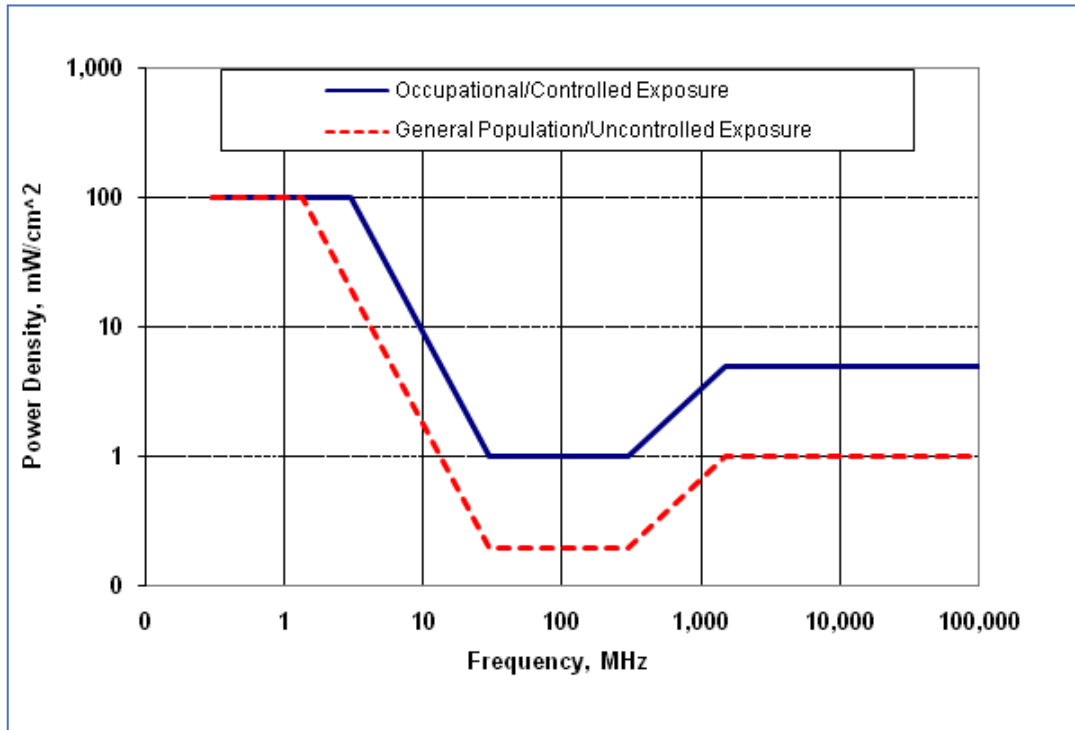
Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following Tables and diagram:

Table 1. MPE Limits for General Population/ Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time for 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		

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 can’t exercise control over their exposure. A site is evaluated with General Public limits if there is no access controls or no RF warning signage present.

Table 2. MPE Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time for 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	--	--	5.0	6
f = frequency in MHz		* = Plane wave equivalent power density		

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 such occupational/controlled limits apply provided he or she is made aware of the potential for exposure. Typical criteria to remediate controlled environment are restricted access to the areas where antennas are located along with appropriate RF warning signage. A site with Controlled environment is evaluated with Occupational limits.



Maximum Permissible Exposures. Occupational/Controlled and General Population/Uncontrolled MPE's are functions of frequency.

Appendix B – Calculations Methodology and Assumptions

SAI Group has performed theoretical analysis using Waterford Consultants' RoofMaster™ 2020 Version 30.5.26.2022 which uses a cylindrical model for very conservative power density calculations within the near field of the antenna where the antenna pattern has not truly formed yet. The Cylindrical Model is used to determine the spatially averaged power density in the near field directly in front of an antenna. In order to implement this model in all directions, the calculations utilize the antenna manufacturer horizontal pattern data. Additionally, the model also incorporates factors that reduce the power density by inverse square of horizontal and vertical distances beyond the near field region.

RoofMaster™ uses far field model to calculate the spatial peak power density. The RoofMaster™ implementation of this model incorporated manufacturer's horizontal and vertical pattern data to determine the power density in all directions.

The calculations are based on worst-case assumptions that, all antennas are always operating at full power.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur, but are shown as a prediction that could be realized.

Appendix C – Informative References

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

FCC Radio Frequency Safety

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

FCC OET Bulletin 56

https://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf

FCC OET Bulletin 65

https://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65.pdf

National Council on Radiation Protection and Measurements (NCRP)

<http://www.ncrponline.org>

American National Standards Institute (ANSI)

<http://www.ansi.org>

Environmental Protection Agency (EPA)

<https://www3.epa.gov/radtown/wireless-technology.html>

National Institutes of Health (NIH)

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

Occupational Safety and Health Agency (OSHA)


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

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

<http://www.icnirp.org/>

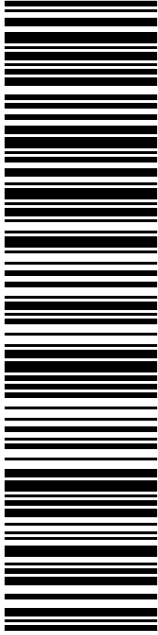
Exhibit G

Recipient Mailings



CHARLES PEROTTI
TOWN OF NORTH CANAAN
CC: GEORGE MARTIN, ZEO
100 PEASE ST
CANAAN CT 06018-2067

USPS TRACKING #



9405 5036 9930 0536 6021 80

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usps.com 9405 5036 9930 0536 6021 80 0096 5000 0010 6018

US POSTAGE
Flat Rate Envoy

U.S. POSTAGE PAID
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Mailed from 06268 986758306634393

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


PRIORITY MAIL®

Expected Delivery Date: 05/08/23

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Electronic Rate Approved #038555749





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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.
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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0536 6021 80

Trans. #: 587712605	Priority Mail® Postage: \$9.65
Print Date: 05/03/2023	Total: \$9.65
Ship Date: 05/06/2023	
Expected Delivery Date: 05/08/2023	

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

To: CHARLES PEROTTI
TOWN OF NORTH CANAAN
CC: GEORGE MARTIN, ZEO
100 PEASE ST
CANAAN CT 06018-2067

* 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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Tracking Number:

Remove X

9405503699300536602180

Copy

Add to Informed Delivery (<https://informedelivery.usps.com/>)

Expected Delivery by

MONDAY

8

May
2023 ⓘ

by

9:00pm ⓘ

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Arrived at USPS Regional Facility

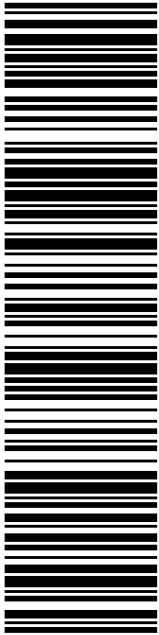
SPRINGFIELD MA NETWORK DISTRIBUTION CENTER
May 6, 2023, 11:37 pm

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DAN SOULE
LITCHFIELD COUNTY DISPATCH
111 WATER ST
TORRINGTON CT 06790-5321

USPS TRACKING #



9405 5036 9930 0536 6022 27


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usps.com 9405 5036 9930 0536 6022 27 0096 5000 0020 6790

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USPS TRACKING # :
9405 5036 9930 0536 6022 27

Trans. #:	587712605	Priority Mail® Postage:	\$9.65
Print Date:	05/03/2023	Total:	\$9.65
Ship Date:	05/06/2023		
Expected Delivery Date:	05/08/2023		

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

To: DAN SOULE
LITCHFIELD COUNTY DISPATCH
111 WATER ST
TORRINGTON CT 06790-5321

* 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

Tracking Number:

Remove X

9405503699300536602227

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Add to Informed Delivery (<https://informedelivery.usps.com/>)

Expected Delivery by

MONDAY

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May
2023 ⓘ

by

9:00pm ⓘ

Your item arrived at our USPS facility in SPRINGFIELD MA NETWORK DISTRIBUTION CENTER on May 6, 2023 at 11:37 pm. The item is currently in transit to the destination.

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Arrived at USPS Regional Facility

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May 6, 2023, 11:37 pm

Accepted at USPS Origin Facility

STORRS MANSFIELD, CT 06268

May 6, 2023, 10:22 pm

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