STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

March 3, 2023

Mark Roberts
SAI Group
12 Industrial Way
Salem, NH 03079
Mark.Roberts@QCDevelopment.net

RE: **EM-AT&T-153-230214** – AT&T notice of intent to modify an existing telecommunications facility located at 27 Siemon Company Drive, Watertown, Connecticut.

Dear Mark Roberts:

The Connecticut Siting Council (Council) is in receipt of your correspondence of March 2, 2023 submitted in response to the Council's February 28, 2023 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie Bachman
Executive Director

MAB/ANM/laf

From: Mark Roberts <mark.roberts@qcdevelopment.net>
Sent: Thursday, March 2, 2023 9:09 AM
To: Fontaine, Lisa <Lisa.Fontaine@ct.gov>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: RE: Council Incomplete - EM-AT&T-153-230214 (Siemon Company Drive) - Watertown
Importance: High

Hello – In response to your attached incompleteness letter, please find attached the corrected Structural Analysis. A hard copy will follow by mail.

Thanks

Mark Roberts
QC Development
860-670-9068

Chimney Design Calculations by ICC Commonwealth
795 Wurlitzer Drive, North Tonawanda, NY 14120

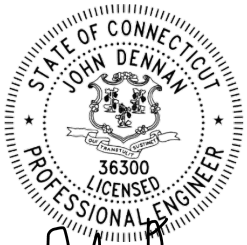
Customer: TEP Northeast
ICC Project Number: 2248
Site: 76 Westbury Park Road | Watertown, CT 06795
Chimney Description: 140' Radial Brick Chimney

Summary:

The following is a structural analysis of a 140' radial brick chimney at site mentioned in title above. With the proposed AT&T cellular equipment modifications at the 135' elevation, it was found that the chimney shell is not overstressed. This analysis assumes the brick chimney is in good condition with sound brick and mortar throughout its height. Therefore, the chimney must have the repairs noted below to make the chimney usable for AT&T to install their proposed equipment. This analysis assumes all repairs required from list below have been completed and all antenna mounts have been designed by others. If repairs are ignored, this chimney will likely be overstressed structurally which may lead to further damage and possible chimney failure. The existing foundation was not analyzed and therefore is not a design responsibility of ICC Commonwealth.

Repairs required:
1) Rake out and point all loose and open mortar joints on the exterior of radial section of the chimney column. Approximately 20% to 25% is required.
2) Replace spalled brick faces in the radial section of the chimney. Approximately (12) to (15) are required.
3) Rake out and point all loose and open mortar joints throughout the common brick pedestal. Approximately 10% to 15% is required.
4) Remove and replace loose brickwork in the corbel section of the pedestal on the East side.
5) Partial removal and replace the deteriorated sections of the cement water table at the top of the pedestal.
6) Cut out and point the 8' to 9' vertical crack found on the South side of the pedestal.
7) Cut out and point the vertical crack on the West side of the brick pedestal.
8) Remove loose and deteriorated spalls withing exterior of the foundation and repair with Sika Top 123 Plus. Repair remaining cracks with Sika Flex 11FC.
9) Repair and replace (2) broken downlead anchors and reattached lightning protection downlead on the East side.
10) Install new self-taping screws to hold down the roof access panel on the side lifting.

	Analysis Results
	Approved – Structure can accommodate the proposed changes. No repairs required.
X	Conditional Approval - Structure can accommodate the proposed changes. Repairs required.
	Not Approved - Structure cannot accommodate the proposed changes without reinforcement.
	All repairs should be supervised under a qualified and experienced professional. If repairs are required and not performed and supervised by a licensed professional engineer, additional inspection is required.

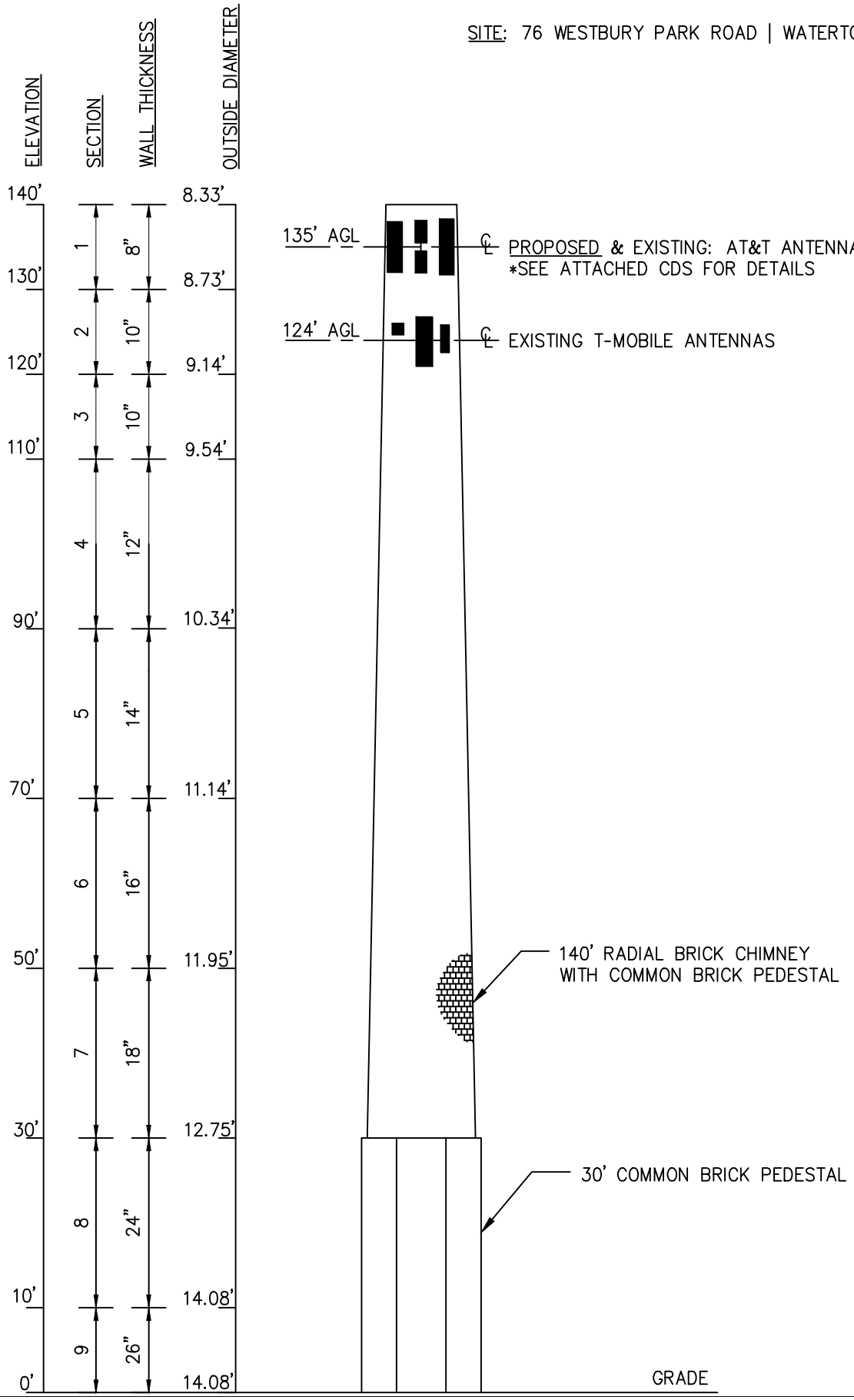


John Dennan
02/07/2023

Completed by: John Dennan, P.E., 02/07/2023

ICC JOB: 2248

SITE: 76 WESTBURY PARK ROAD | WATERTOWN, CT 06795



PROJECT INFORMATION

SCOPE OF WORK:	ITEMS TO BE MOUNTED ON THE EXISTING SMOKESTACK: • NEW AT&T ANTENNAS: AIR6419 B77G (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T ANTENNAS: AIR6449 B77D (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T ANTENNAS: DMP65R-BU6EA-K (TYP. OF 1 PER SECTOR, TOTAL OF 3). • EXISTING AT&T ANTENNAS: 800-10965 (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE RELOCATED TO POS. 2). • NEW AT&T RRUS: 8843 B2/B66A (PCS/AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • EXISTING AT&T RRUS: 4415 B30 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE RELOCATED TO POS. 2). • NEW AT&T RRUS: 4478 B14 (700) (TOTAL OF 1 PER ALPHA SECTOR). • EXISTING AT&T RRUS: 4478 B14 (700) (TYP. OF 1 PER BETA & GAMMA SECTOR, TOTAL OF 2) (TO BE MOVED TO THE TOWER @ POS. 2). • NEW AT&T DC & FIBER SURGE ARRESTOR DC6-48-60-18-8F (TOTAL OF 1) WITH (2) AWG6DC DC TRUNK & (1) 18-PAIR FIBER LINE. • ADD (6) Y-CABLES. ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION: • ADD (1) 6648 + XCEDE CABLE • ADD (1) DC12 • ADD (3) RECTIFIERS ITEMS TO BE REMOVED: • EXISTING AT&T ANTENNAS: P65-15-XLH-RR (TYP. OF 1 PER SECTOR, TOTAL OF 3). • EXISTING AT&T ANTENNAS: HPA-65R-BU6AA(TYP. OF 1 PER SECTOR, TOTAL OF 3). • EXISTING AT&T RRUS: RRUS-12 B2 (TYP. OF 1 PER SECTOR, TOTAL OF 3) • EXISTING AT&T TMA'S: TT19-08BP111 (TYP. OF 1 PER SECTOR, TOTAL OF 6). • EXISTING AT&T DIPLEXER: CM1007-DBPXBC-003 (TYP. OF 2 PER SECTOR, TOTAL OF 6). • EXISTING AT&T (12) COAX CABLES. ITEMS TO REMAIN: • (3) ANTENNAS, (8) RRU'S, (2) DC6 SURGE ARRESTORS, (4) DC POWER & (2) FIBER.
SITE ADDRESS:	76 WESTBURY PARK ROAD WATERTOWN, CT 06795
LATITUDE:	41.6033250 N, 41° 36' 11.97" N
LONGITUDE:	73.1116661 W, 73° 06' 42.00" W
TYPE OF SITE:	SMOKESTACK / INDOOR EQUIPMENT
STRUCTURE HEIGHT:	140'-0"±
RAD CENTER:	135'-0"± LTE, 136'-8"± 3.45GHZ, 133'-0"± C-BAND
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

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

SITE NUMBER: CT1130

SITE NAME: WATERTOWN

FA CODE: 10035384

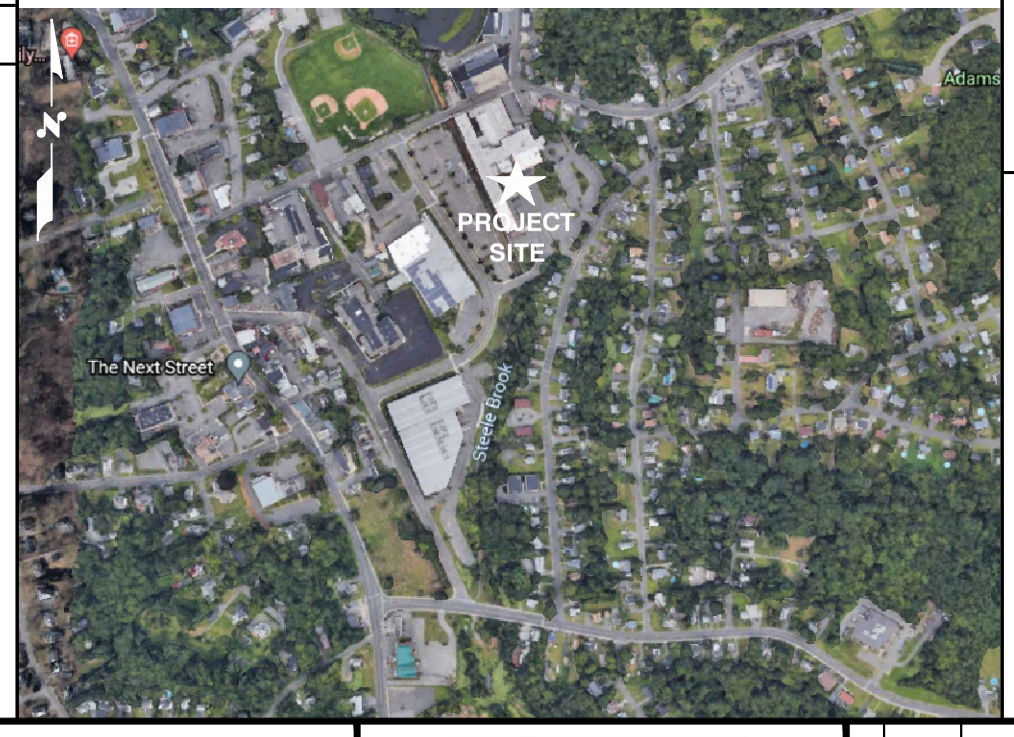
PACE ID: MRCTB055444, MRCTB053352, MRCTB054358, MRCTB061738, MRCTB056234, MRCTB054363

PROJECT: 5G NR 1SR CBAND, 4T4R RETROFIT, 5G NR SR UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD. 0.3 MILES. TURN LEFT AT CAPITAL BLVD. 0.3 MILES. TURN LEFT AT WEST ST. 0.3 MILES. TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN. 9.1 MILES. TAKE EXIT 18 TO MERGE ONTO I-691 W TOWARD MERIDEN/WATERBURY. 8.0 MILES. TAKE EXIT 1 TO MERGE ONTO I-84 W TOWARD WATERBURY/DANBURY. 8.7 MILES. TAKE EXIT 20 TO MERGE ONTO CT-8 N TOWARD TORRINGTON. 1.1 MILES. TAKE EXIT 35 ON THE LEFT FOR CT-73 TOWARD OAKVILLE/WATERTOWN. 0.5 MILES. SLIGHT LEFT AT E AURORA ST. 62 FT. CONTINUE STRAIGHT ONTO RUDY AVE. 0.2 MILES. CONTINUE ONTO WATERTOWN AVE. 1.5 MILES. CONTINUE ONTO MAIN ST. 2.4 MILES. TURN RIGHT AT ECHO LAKE RD. 0.2 MILES. TAKE THE 2ND RIGHT ONTO PRINCETON RD. DESTINATION WILL BE ON THE LEFT. 0.1 MILES. END AT PRINCETON RD, WATERTOWN, CT 06795



GENERAL NOTES

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

72 HOURS

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

UNDERGROUND SERVICE ALERT

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

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT1130
SITE NAME: WATERTOWN

76 WESTBURY PARK ROAD
WATERTOWN, CT 06795
LITCHFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
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1	07/21/22	ISSUED FOR CONSTRUCTION	TF	HC	DPH
A	02/11/22	ISSUED FOR REVIEW	NP	HC	DPH

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

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

AT&T

TITLE SHEET
5G NR 1SR CBAND, 4T4R RETROFIT, 5G NR SR

SITE NUMBER	DRAWING NUMBER	REV
CT1130	T-1	2

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 CENTER LINE OF ANTENNAS	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT1130
SITE NAME: WATERTOWN

76 WESTBURY PARK ROAD
WATERTOWN, CT 06795
LITCHFIELD COUNTY

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

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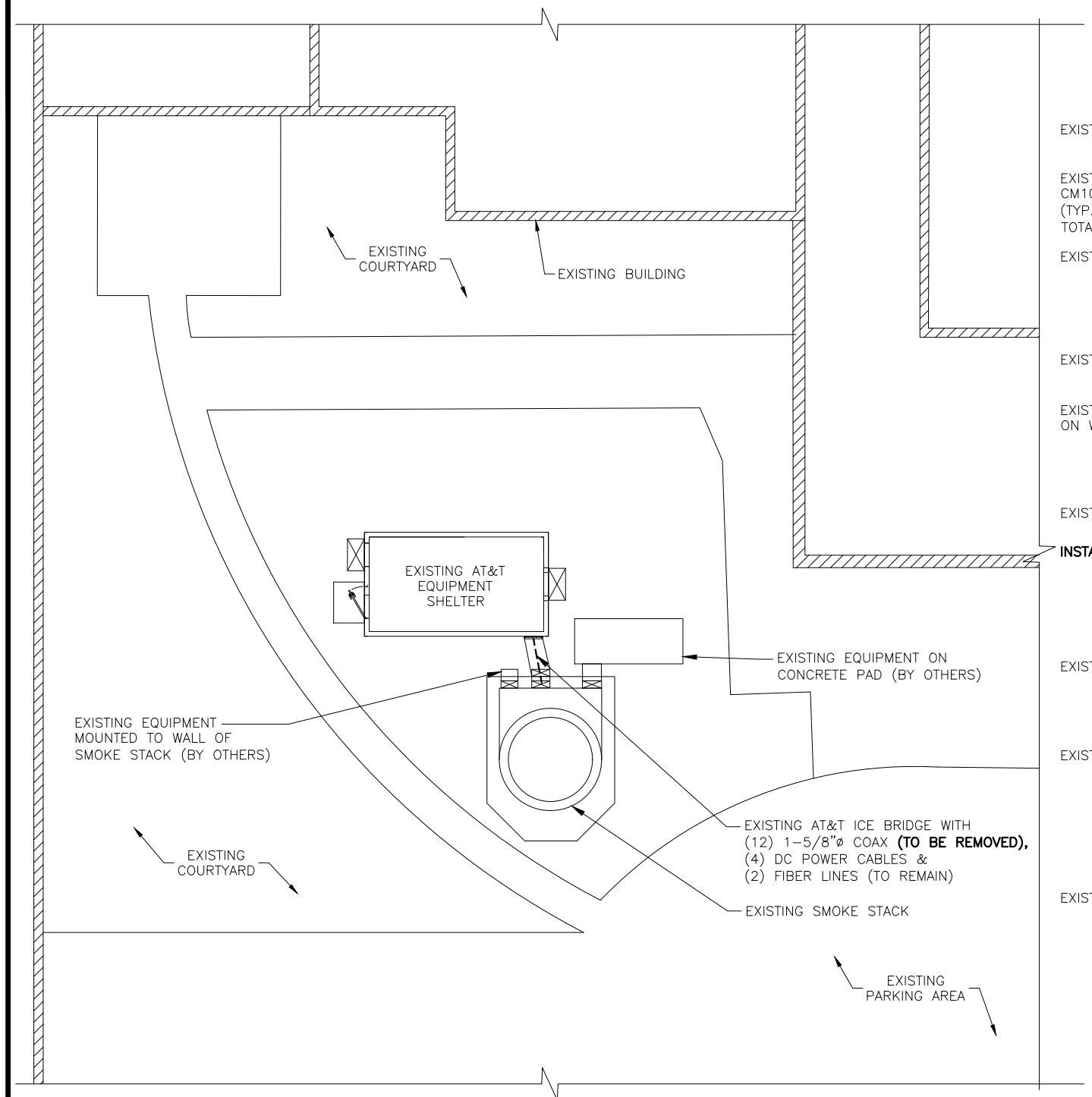
SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: JP

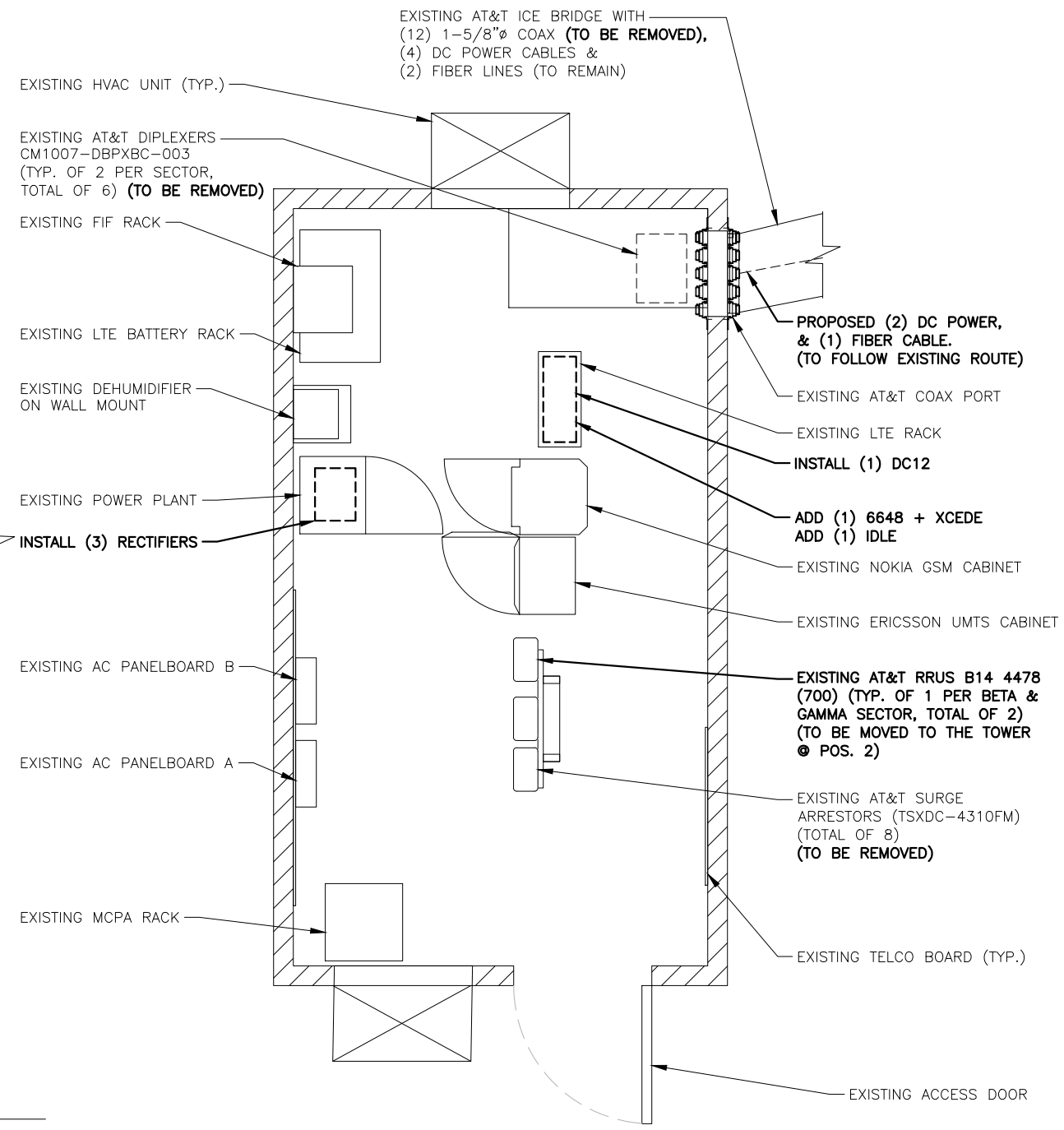
STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES
5G NR 1SR CBAND, 4T4R RETROFIT, 5G NR SR

SITE NUMBER	DRAWING NUMBER	REV
CT1130	GN-1	2





NOTE:

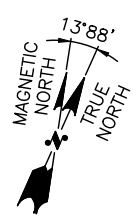
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
TEP NORTHEAST.
DATED: FEBRUARY 6, 2023 (REV. 1)

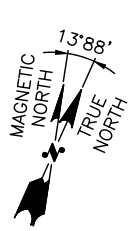
NOTE:

REFER TO **STRUCTURAL ANALYSIS**
BY: ICC COMMONWEALTH
DATED: FEBRUARY 7, 2023
FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.



COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"

0 2'-0" 4'-0" 8'-0" 12'-0"



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

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

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ROCKY HILL, CT 06067

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2	01/30/23	ISSUED FOR CONSTRUCTION	YK	HC	DPH
1	07/21/22	ISSUED FOR CONSTRUCTION	JP	HC	DPH
A	02/11/22	ISSUED FOR REVIEW	JP	HC	DPH

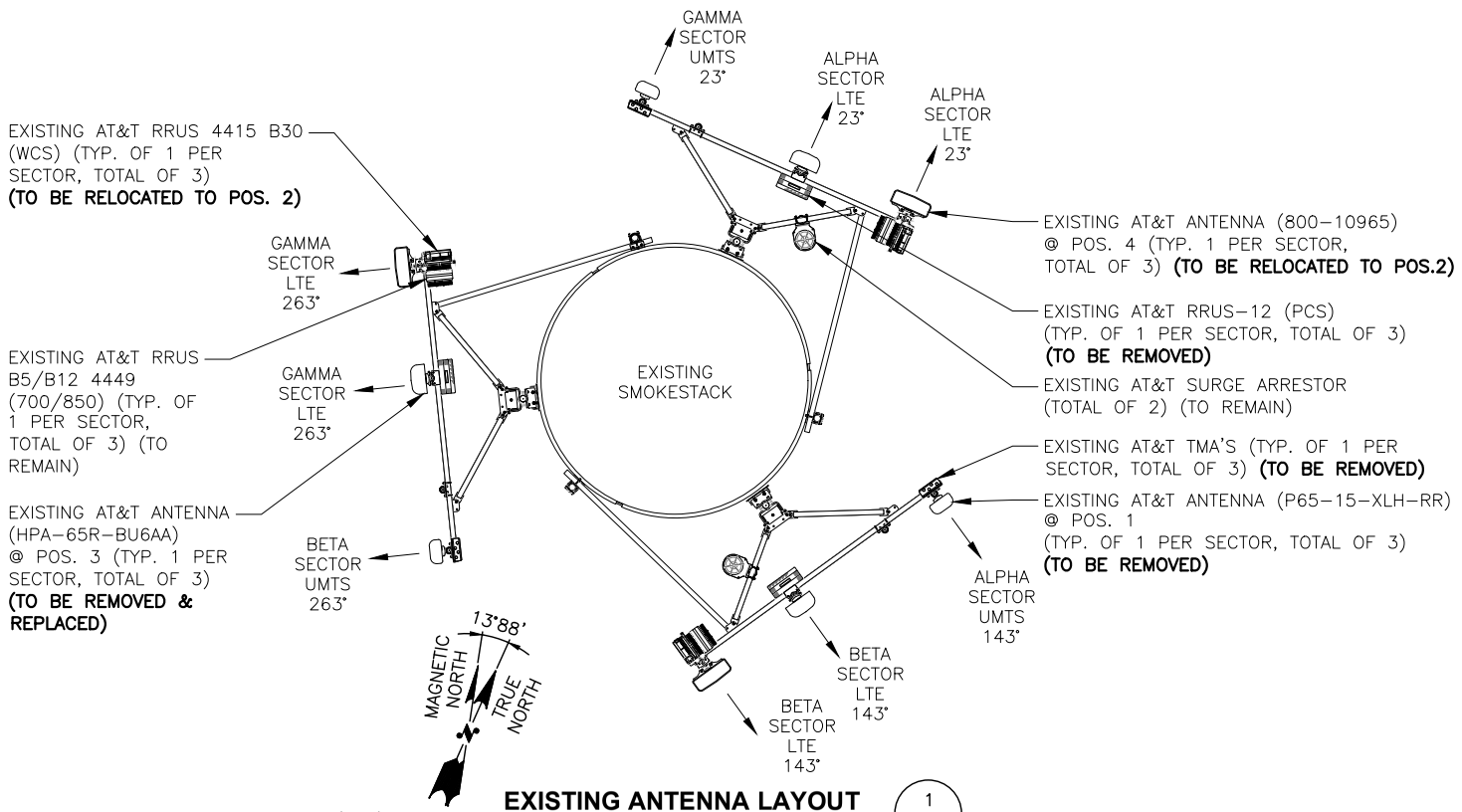
SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: JP

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

AT&T

COMPOUND & EQUIPMENT PLANS
5G NR 1SR CBAND, 4T4R RETROFIT, 5G NR SR

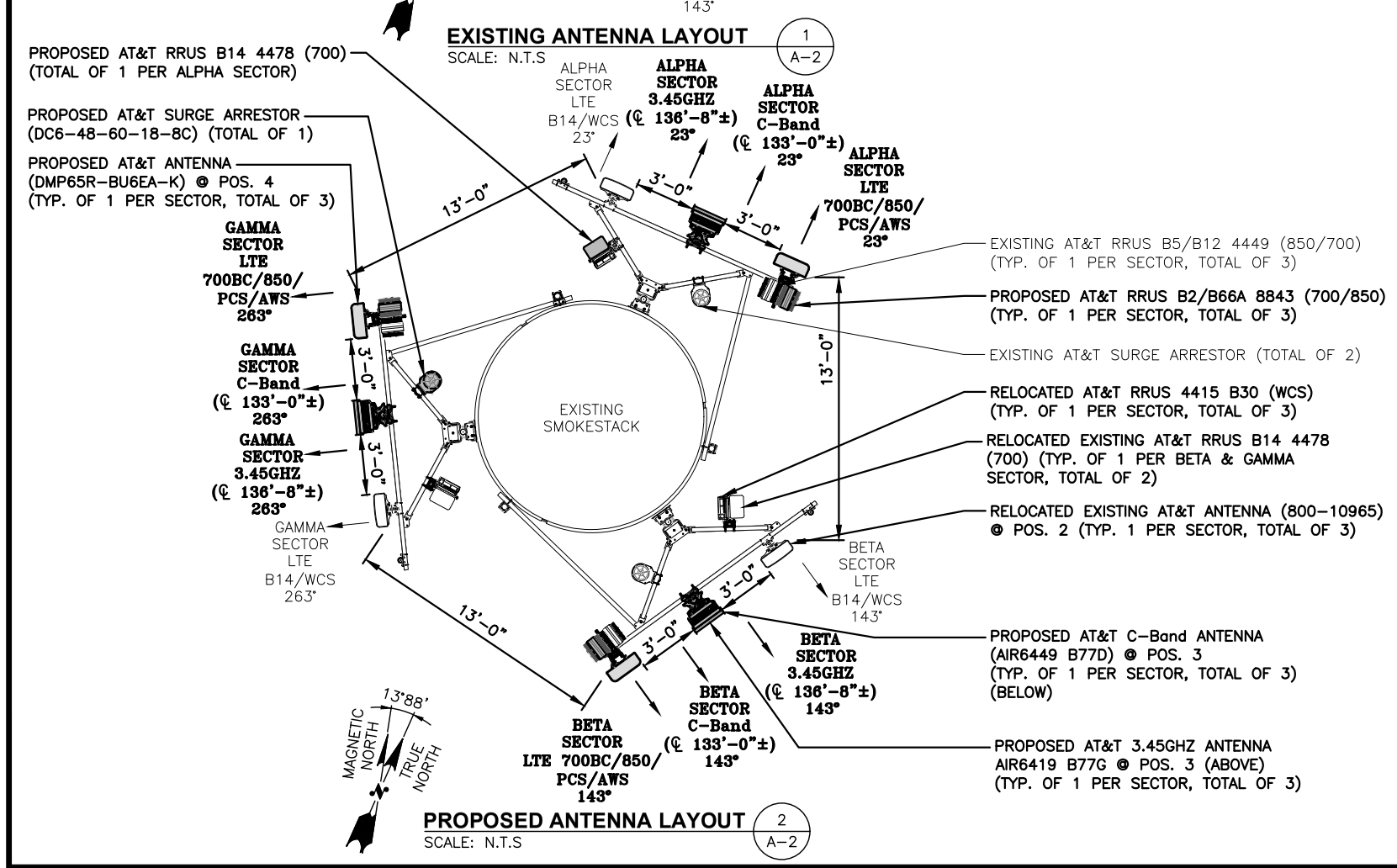
SITE NUMBER	DRAWING NUMBER	REV
CT1130	A-1	2



EXISTING ANTENNA LAYOUT

1 / A-2

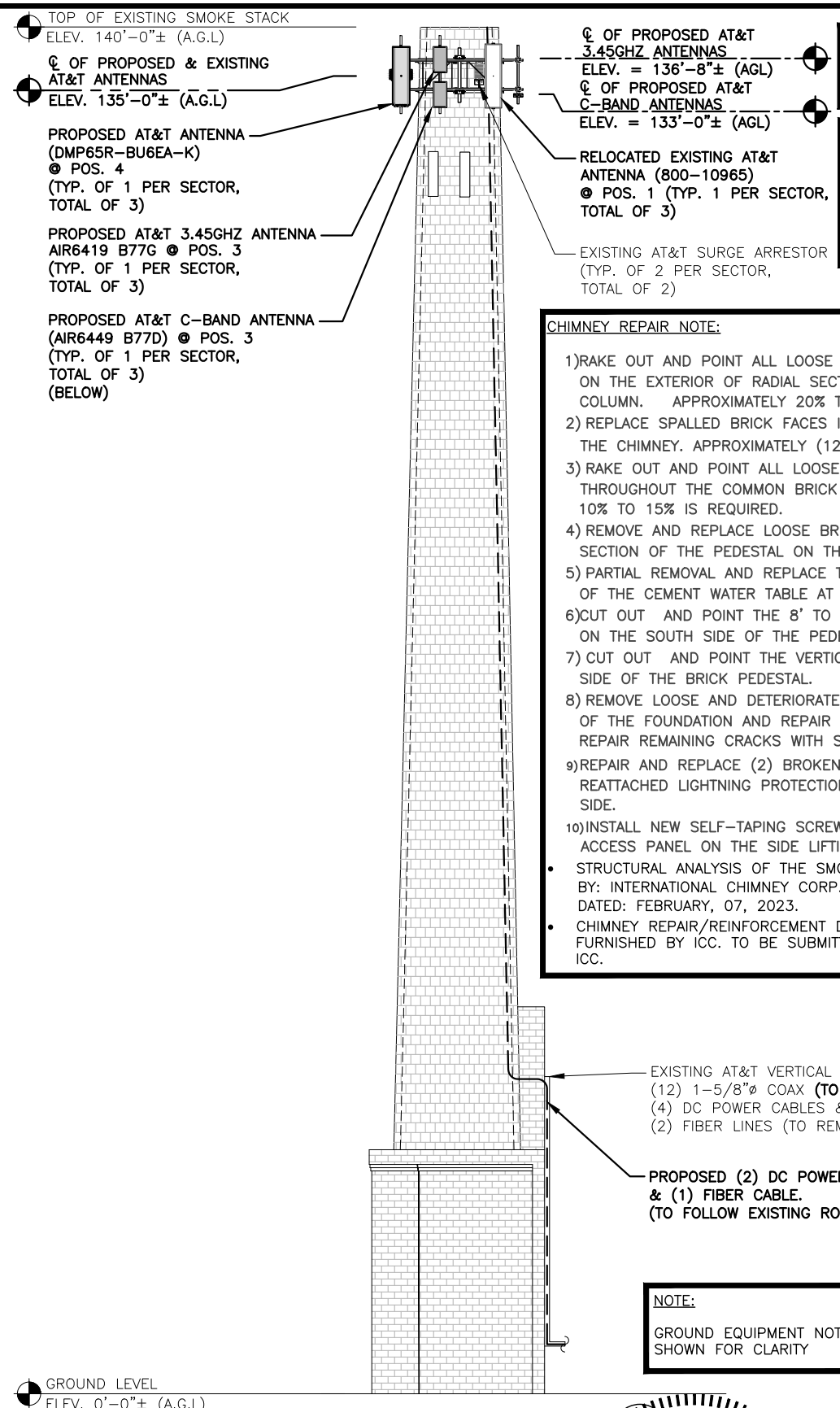
SCALE: N.T.S



PROPOSED ANTENNA LAYOUT

2 / A-2

SCALE: N.T.S



ELEVATION

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

NOTE:

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

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
TEP NORTHEAST.
DATED: FEBRUARY 6, 2023 (REV. 1)

CHIMNEY REPAIR NOTE:

1) RAKE OUT AND POINT ALL LOOSE AND OPEN MORTAR JOINTS ON THE EXTERIOR OF RADIAL SECTION OF THE CHIMNEY COLUMN. APPROXIMATELY 20% TO 25% IS REQUIRED.
2) REPLACE SPALLED BRICK FACES IN THE RADIAL SECTION OF THE CHIMNEY. APPROXIMATELY (12) TO (15) ARE REQUIRED.
3) RAKE OUT AND POINT ALL LOOSE AND OPEN MORTAR JOINTS THROUGHOUT THE COMMON BRICK PEDESTAL. APPROXIMATELY 10% TO 15% IS REQUIRED.
4) REMOVE AND REPLACE LOOSE BRICKWORK IN THE CORBEL SECTION OF THE PEDESTAL ON THE EAST SIDE.
5) PARTIAL REMOVAL AND REPLACE THE DETERIORATED SECTIONS OF THE CEMENT WATER TABLE AT THE TOP OF THE PEDESTAL.
6) CUT OUT AND POINT THE 8' TO 9' VERTICAL CRACK FOUND ON THE SOUTH SIDE OF THE PEDESTAL.
7) CUT OUT AND POINT THE VERTICAL CRACK ON THE WEST SIDE OF THE BRICK PEDESTAL.
8) REMOVE LOOSE AND DETERIORATED SPALLS WITHING EXTERIOR OF THE FOUNDATION AND REPAIR WITH SIKA TOP 123 PLUS. REPAIR REMAINING CRACKS WITH SIKA FLEX LLFC.
9) REPAIR AND REPLACE (2) BROKEN DOWNLEAD ANCHORS AND REATTACHED LIGHTNING PROTECTION DOWNLEAD ON THE EAST SIDE.
10) INSTALL NEW SELF-TAPING SCREWS TO HOLD DOWN THE ROOF ACCESS PANEL ON THE SIDE LIFTING.

- STRUCTURAL ANALYSIS OF THE SMOKESTACK HAS BEEN COMPLETED BY: INTERNATIONAL CHIMNEY CORP. DATED: FEBRUARY, 07, 2023.
- CHIMNEY REPAIR/REINFORCEMENT DETAILS TO BE DESIGN AND FURNISHED BY ICC. TO BE SUBMITTED UNDER SEPARATE COVER BY ICC.

NOTE:

GROUND EQUIPMENT NOT SHOWN FOR CLARITY

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

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT1130
SITE NAME: WATERTOWN

76 WESTBURY PARK ROAD
WATERTOWN, CT 06795
LITCHFIELD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
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SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: JP

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

AT&T

ANTENNA LAYOUTS & ELEVATION
5G NR 1SR CBAND, 4T4R RETROFIT, 5G NR SR

SITE NUMBER	DRAWING NUMBER	REV
CT1130	A-2	2

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	ANTENNA TIP HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	–	–	–	–	–	–	–	–	–	–	–	(E) (1) RAYCAP DC6-48-60-18-8F
A2	EXISTING	LTE B14/WCS	800-10965	78.7X20X6.9	135'-0"±	138'-3"±	23°	–	**(P)(1) 4478 B14 (700)** (E)(1) 4415 B30 (WCS)	**18.1"X13.4"X8.3"** –	(E)(2) DC POWER & (1) FIBER	
A3	**PROPOSED**	**3.45GHZ + CBAND**	**AIR6419 B77G + AIR6449 B77D (STACKED)**	**31.1X16.1X7.3 30.6X15.9X10.6**	**136'-8"± 133'-0"±**	**138'-0"± 134'-5"±**	**23°**	–	–	–	–	
A4	**PROPOSED**	**LTE 700BC/850/PCS/AWS**	**DMP65R-BU6EA-K**	**71.2X20.7X9.7**	**135'-0"±**	**138'-0"±**	**23°**	–	(E)(1) 4449 B5/B12 (850/700) **(P)(1) 8843 B2/B66A (PCS/AWS)**	– –	**(P)(1) Y-CABLE**	
B1	–	–	–	–	–	–	–	–	–	–	–	(E) (1) RAYCAP DC6-48-60-18-8F
B2	EXISTING	LTE B14/WCS	800-10965	78.7X20X6.9	135'-0"±	138'-3"±	143°	–	(E)(1) 4478 B14 (700) (E)(1) 4415 B30 (WCS)	– –	(E)(2) DC POWER & (1) FIBER	
B3	**PROPOSED**	**3.45GHZ + CBAND**	**AIR6419 B77G + AIR6449 B77D (STACKED)**	**31.1X16.1X7.3 30.6X15.9X10.6**	**136'-8"± 133'-0"±**	**138'-0"± 134'-5"±**	**143°**	–	–	– –	–	
B4	**PROPOSED**	**LTE 700BC/850/PCS/AWS**	**DMP65R-BU6EA-K**	**71.2X20.7X9.7**	**135'-0"±**	**138'-0"±**	**143°**	–	(E)(1) 4449 B5/B12 (850/700) **(P)(1) 8843 B2/B66A (PCS/AWS)**	– –	**(P)(1) Y-CABLE**	
C1	–	–	–	–	–	–	–	–	–	–	–	**(P) (1) RAYCAP DC6-48-60-18-8F**
C2	EXISTING	LTE B14/WCS	800-10965	78.7X20X6.9	135'-0"±	138'-3"±	263°	–	(E)(1) 4478 B14 (700) (E)(1) 4415 B30 (WCS)	– –	**(P)(2) DC POWER & (1) FIBER**	
C3	**PROPOSED**	**3.45GHZ + CBAND**	**AIR6419 B77G + AIR6449 B77D (STACKED)**	**31.1X16.1X7.3 30.6X15.9X10.6**	**136'-8"± 133'-0"±**	**138'-0"± 134'-5"±**	**263°**	–	–	– –	–	
C4	**PROPOSED**	**LTE 700BC/850/PCS/AWS**	**DMP65R-BU6EA-K**	**71.2X20.7X9.7**	**135'-0"±**	**138'-0"±**	**263°**	–	(E)(1) 4449 B5/B12 (850/700) **(P)(1) 8843 B2/B66A (PCS/AWS)**	– –	**(P)(1) Y-CABLE**	

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

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

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
TEP NORTHEAST.
DATED: FEBRUARY 6, 2023 (REV. 1)

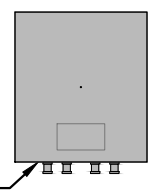
NOTE:
REFER TO **STRUCTURAL ANALYSIS**
BY: ICC COMMONWEALTH
DATED: FEBRUARY 7, 2023
FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
E(3)	4449 (850/700)	17.9"x13.2"x10.4"
P(3)	**8843 (PCS/AWS)**	**14.9"x13.2"x10.9"**
P(1) E(2)	4478 B14 (700)	18.1"x13.4"x8.3"
E(3)	4415	16.5"x13.4"x5.9"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

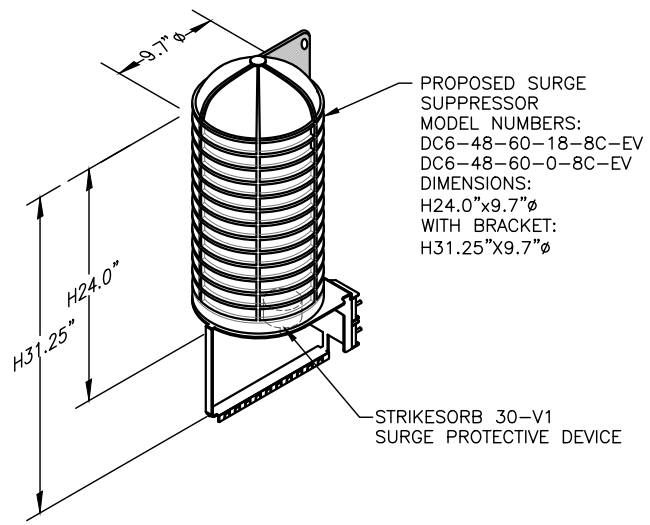
NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



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

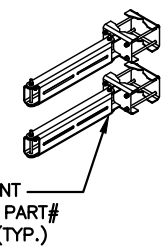
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

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

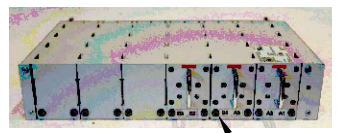


NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

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

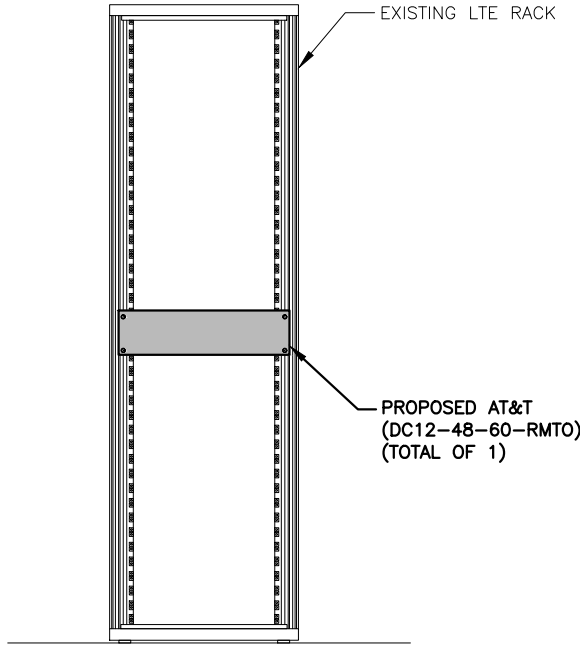


DUAL RRU MOUNT DETAIL (4 / A-3)
SCALE: N.T.S



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC12 DETAIL (5 / A-3)
SCALE: N.T.S



PROPOSED DC12 MOUNTING DETAIL (6 / A-3)
SCALE: N.T.S

HUDSON Design Group LLC
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SALEM, NH 03079

SITE NUMBER: CT1130
SITE NAME: WATERTOWN

76 WESTBURY PARK ROAD
WATERTOWN, CT 06795
LITCHFIELD COUNTY

at&t
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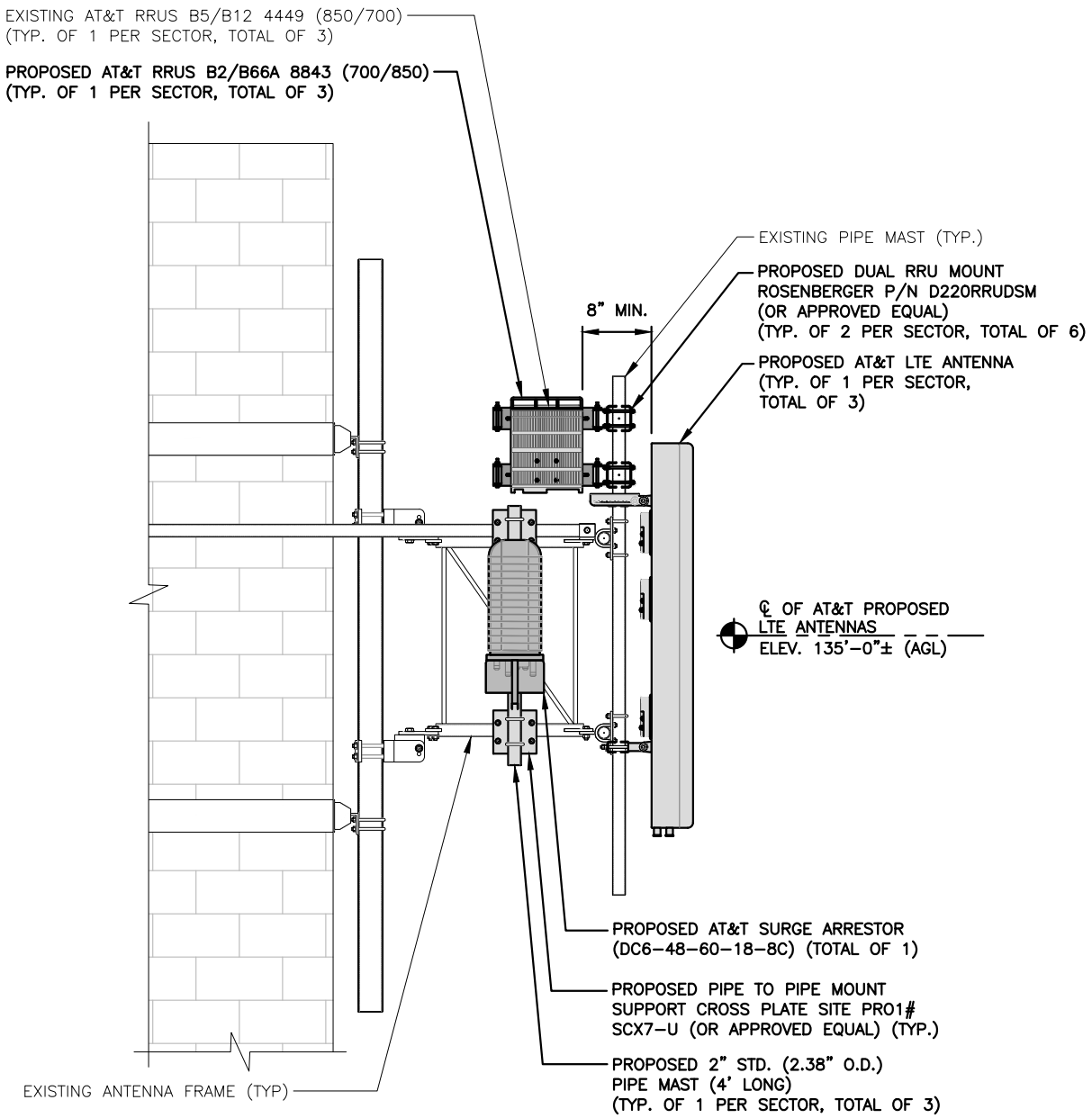
DETAILS
5G NR 1SR CBAND, 4T4R RETROFIT, 5G NR SR

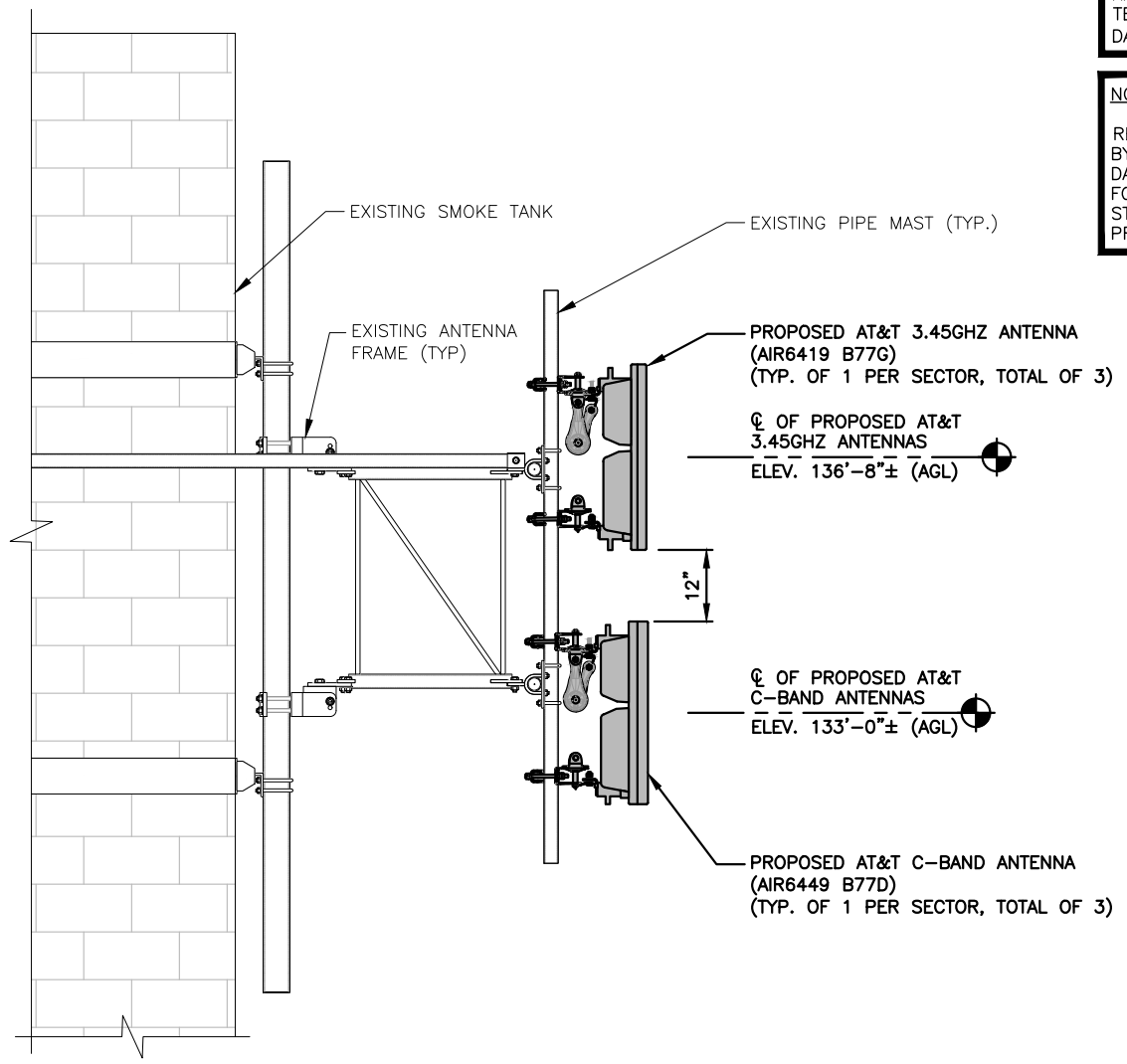
SITE NUMBER	DRAWING NUMBER	REV
CT1130	A-3	2



PROPOSED LTE ANTENNA MOUNTING DETAIL 1 / A-4

22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

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



PROPOSED C-BAND ANTENNA MOUNTING DETAIL 2 / A-4

22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

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

NOTE:

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

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
TEP NORTHEAST.
DATED: FEBRUARY 6, 2023 (REV. 1)

NOTE:

REFER TO **STRUCTURAL ANALYSIS**
BY: ICC COMMONWEALTH
DATED: FEBRUARY 7, 2023
FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

HUDSON Design Group LLC
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STATE OF CONNECTICUT
DANIEL P. HAMM
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AT&T

DETAILS
5G NR 1SR CBAND, 4T4R RETROFIT, 5G NR SR

SITE NUMBER	DRAWING NUMBER	REV
CT1130	A-4	2

STRUCTURAL NOTES:

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

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

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

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

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

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

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:	

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT1130
SITE NAME: WATERTOWN

76 WESTBURY PARK ROAD
WATERTOWN, CT 06795
LITCHFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	01/30/23	ISSUED FOR CONSTRUCTION	YF	HC	DPH
1	07/21/22	ISSUED FOR CONSTRUCTION	YF	HC	DPH
A	02/11/22	ISSUED FOR REVIEW	NP	HC	DPH

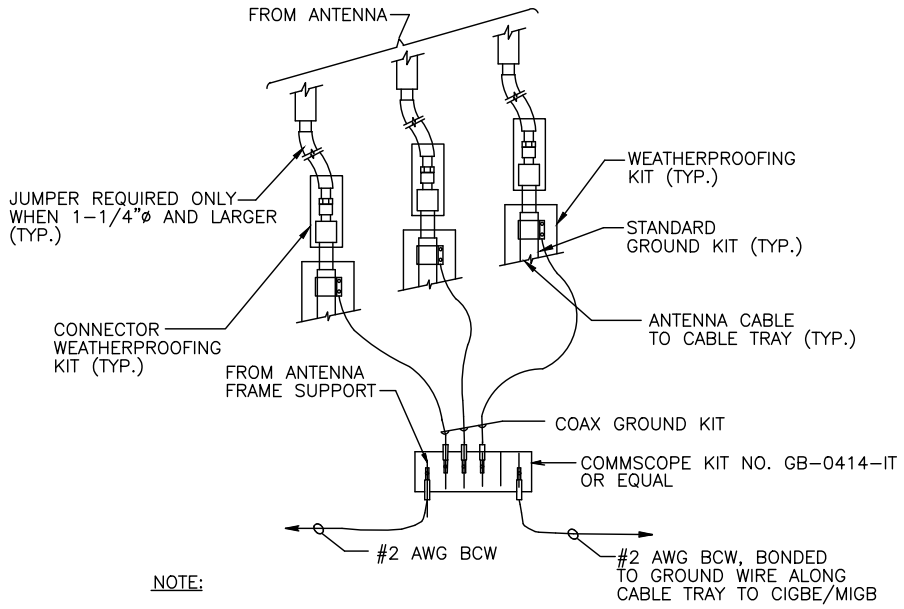
SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: JP

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

AT&T

STRUCTURAL NOTES
5G NR 1SR CBAND, 4T4R RETROFIT, 5G NR SR

SITE NUMBER	DRAWING NUMBER	REV
CT1130	SN-1	2

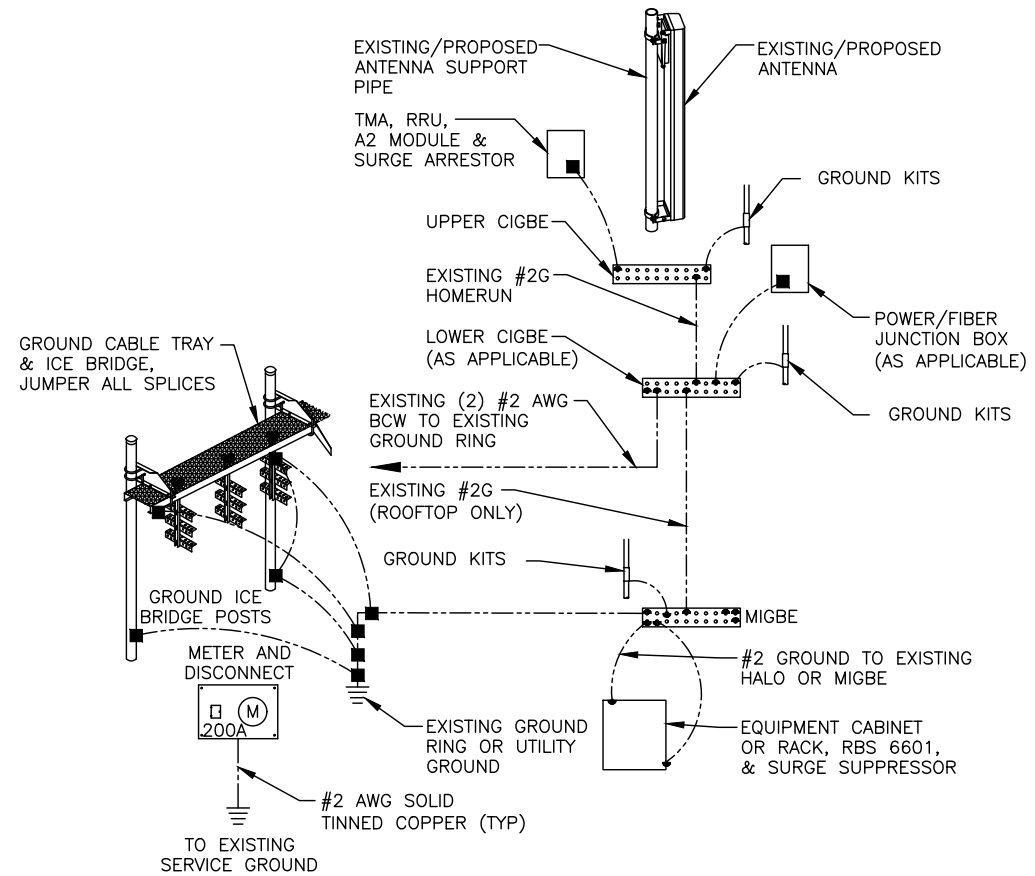


NOTE:

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

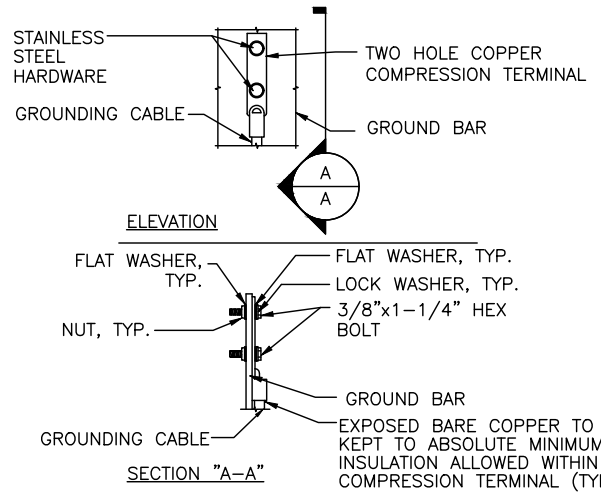
GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

SCALE: N.T.S



GROUNDING RISER DIAGRAM (2 / G-1)

SCALE: N.T.S



NOTES:

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

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

SCALE: N.T.S

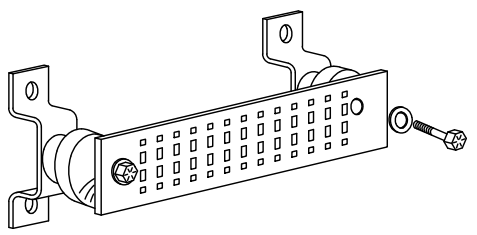
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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



GROUND BAR - DETAIL (AS REQUIRED)

SCALE: N.T.S

HUDSON Design Group LLC
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GROUNDING DETAILS
5G NR 1SR CBAND, 4T4R RETROFIT, 5G NR SR

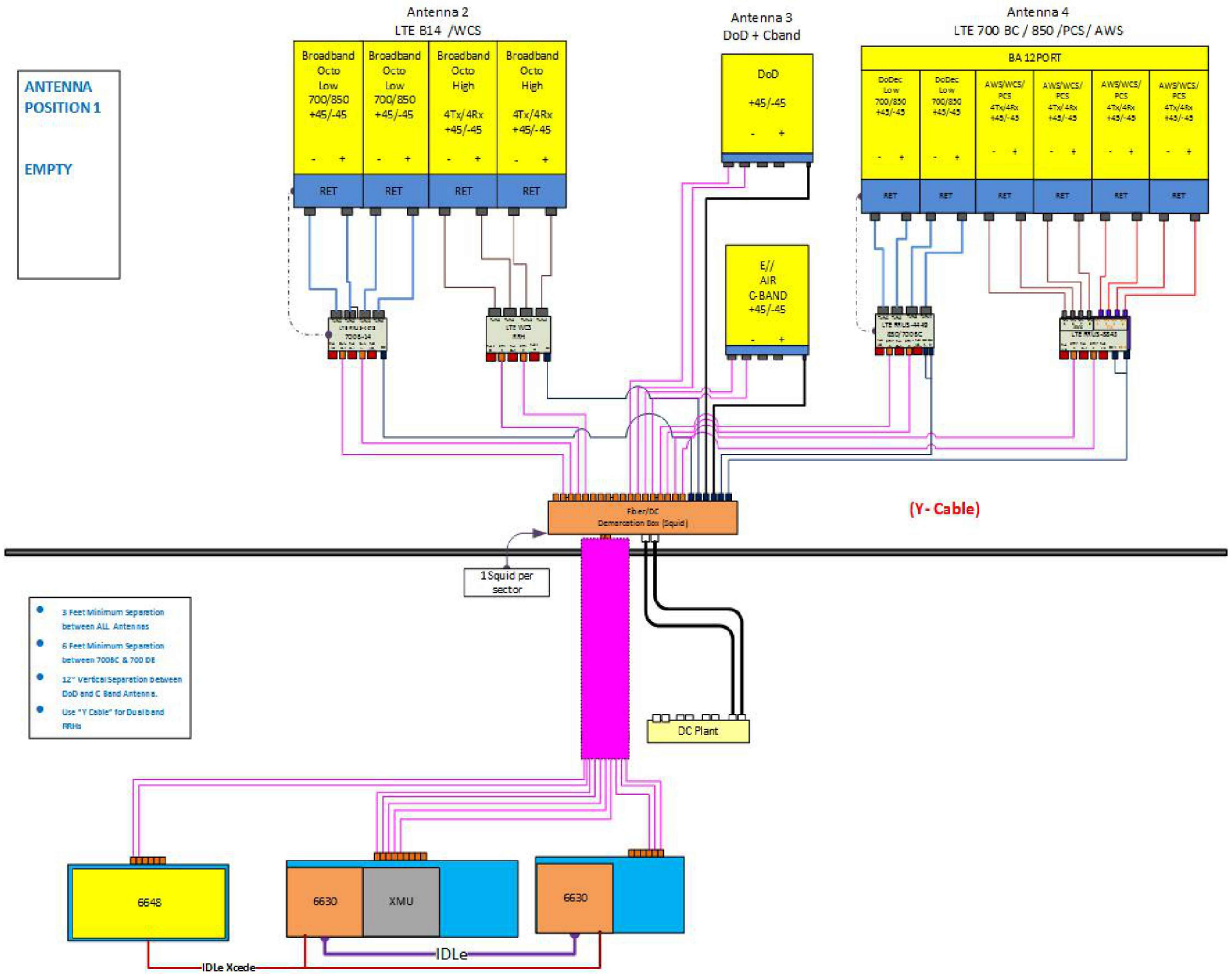
SITE NUMBER	DRAWING NUMBER	REV
CT1130	G-1	2

NOTE:

REV: 1
DATED: 12/16/2021
RFDS ID: 4541281

ANTENNA POSITION 1

EMPTY



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

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

NOTE:

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

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AT&T

RF PLUMBING DIAGRAM
5G NR 1SR CBAND, 4T4R RETROFIT, 5G NR SR

SITE NUMBER	DRAWING NUMBER	REV
CT1130	RF–1	2

Hazards by Location

Search Information

Address: 76 Westbury Park Rd, Watertown, CT 06795, USA

Coordinates: 41.6037641, -73.1117191

Elevation: 482 ft

Timestamp: 2022-06-03T19:20:02.757Z

Hazard Type: Wind

ASCE 7-16

MRI 10-Year	75 mph
MRI 25-Year	83 mph
MRI 50-Year	89 mph
MRI 100-Year	96 mph
Risk Category I	106 mph
Risk Category II	116 mph
Risk Category III	125 mph
Risk Category IV	⚠ 129 mph

You are in a wind-borne debris region if you are also within 1 mile of the coastal mean high water line.

ASCE 7-10

MRI 10-Year	76 mph
MRI 25-Year	85 mph
MRI 50-Year	91 mph
MRI 100-Year	97 mph
Risk Category I	108 mph
Risk Category II	119 mph
Risk Category III-IV	127 mph

ASCE 7-05

ASCE 7-05 Wind Speed	98 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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Spreadsheet calculates wind pressures on sections of the chimny using Code ASCE 7-16 Wind Criteria

Height of chimney, h	140	ft	
Define risk category	II		Table 1.5-1
Define exposure factor	B		Section 26.7.3
Basic wind speed, V	116	mph	Attached Sheet, ASCE 7-16 wind properties
Gust factor, G	0.85		Section 26.11.1
Topographic factor, K_{zt}	1.0		Section 26.8.2
Directionality factor, K_d	1.0		Round chimney, Table 26.6-1
Ground elevation factor, K_e	1.0		Section 26.9
Wind pressure, q	29.28	psf	$q = 0.00256K_{zt}K_dK_eGV^2$ (Eq. 26.10-1)

SECTION	ΔH (ft)	K_z	C_f	(factored) C_f	F_{des} (psf)	$0.6*F_{des}$ (psf)	Shape	
1	130-140	1.08	1.11	1.44	45.63	27.38	Round	Antenna
2	120-130	1.05	1.10	1.43	43.96	26.38	Round	Antenna
3	110-120	1.03	0.85	0.86	25.89	15.53	Round	
4	90-110	0.99	0.84	0.85	24.59	14.76	Round	
5	70-90	0.93	0.84	0.85	23.10	13.86	Round	
6	50-70	0.85	0.83	0.84	20.86	12.52	Round	
7	30-50	0.76	0.83	0.83	18.47	11.08	Round	
8	10-30	0.62	1.23	1.23	22.33	13.40	Octagon	
9	0-10	0.57	1.23	1.23	20.53	12.32	Octagon	

$F_{des} = q*K_z*C_f$

F_{des} < 16 psf, then use 16 psf for minimum wind pressure 27.1.5 and 28.3.4

$0.6*F_{des}$ based on ASD Load Combination 2

Calculate K_z as mid-height elevation of section for exposure category using Table 26.10-1

Calculate C_f from Figure 29.4-1

Rough for standard brick, very rough at locations of equipment & antenna

30% increase in C_f at regions with antennas

Input Stack Profile Data:

Starting from top of stack and working downward, enter data for each stack section to be analyzed:

$$TopOD := \begin{pmatrix} 100 \\ 104.76 \\ 109.68 \\ 114.58 \\ 124.08 \\ 133.68 \\ 143.4 \\ 169 \\ 169 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} in \qquad BtmOD := \begin{pmatrix} 104.76 \\ 109.68 \\ 114.48 \\ 124.08 \\ 133.68 \\ 143.4 \\ 153 \\ 169 \\ 169 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} in \qquad WallThk := \begin{pmatrix} 8 \\ 10 \\ 10 \\ 12 \\ 14 \\ 16 \\ 18 \\ 24 \\ 26 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} in \qquad SectHgt := \begin{pmatrix} 120 \\ 120 \\ 120 \\ 240 \\ 240 \\ 240 \\ 240 \\ 240 \\ 120 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} in$$

Input Wind Load and Unit Weight Data:

Starting from top of stack and working downward, enter data for each stack section to be analyzed:

$$DesignWindLoad := \begin{pmatrix} 27.38 \\ 26.38 \\ 15.38 \\ 14.61 \\ 13.72 \\ 12.39 \\ 11.08 \\ 13.40 \\ 12.32 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} \frac{lb}{ft^2} \quad WindCoefficient := \begin{pmatrix} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} \quad UnitWeight := \begin{pmatrix} 122 \\ 122 \\ 120 \\ 120 \\ 120 \\ 120 \\ 120 \\ 125 \\ 125 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} \frac{lb}{ft^3}$$

Calculate Total Number of Stack Sections:

NoSections = Total number of stack sections being analyzed

$$\begin{aligned}&\text{NoSections} := \left|\begin{array}{l} Mp \leftarrow 0 \\ \text{for } r \in 1..35 \\ \quad Mp_r \leftarrow 1 \text{ if } SectHgt_r > 0 \\ \quad Mp_r \leftarrow 0 \text{ if } SectHgt_r \le 0 \\ Mp \end{array}\right.\end{aligned}$$

$$\sum \text{NoSections} = 9$$

$$N := \sum \text{NoSections}$$

$N = 9$ (**N** is used in calculations below)

Calculate Dead Loads at Bottom of Each Stack Section:

DeadLoad = Total dead load at bottom of each *individual* stack section *all by itself*

$$\begin{aligned}&\text{DeadLoad} := \left|\begin{array}{l} DL_1 \leftarrow SectWgt_1 \\ \text{for } r \in 2..N \\ \quad Mp \leftarrow DL_{r-1} + SectWgt_r \\ \quad DL_r \leftarrow Mp \\ DL \end{array}\right.\end{aligned}$$

$$\text{DeadLoad} = \begin{pmatrix} 20.096 \\ 45.973 \\ 72.697 \\ 140.135 \\ 224.346 \\ 327.005 \\ 449.716 \\ 639.52 \\ 740.913 \end{pmatrix} \text{lb} \cdot 1000$$

Calculate Stress:

Fa = Axial load at bottom of each stack section. This includes all dead load above the bottom of the stack section, including the stack section itself plus all other stack sections above it.

$$Fa := \left| \begin{array}{l} \text{for } r \in 1..N \\ \quad Fa_r \leftarrow \dfrac{DeadLoad_r}{Area_r} \\ Fa \end{array} \right.$$

Fb = Bending stress due to wind at bottom of each stack section. This includes all wind load on the stack section itself plus the wind load on all stack sections above it.

$$Fb := \left| \begin{array}{l} \text{for } r \in 1..N \\ \quad Fb_r \leftarrow \dfrac{TotalSectionMoment_r}{SectionMod_r} \\ Fb \end{array} \right.$$

$$Fa = \begin{pmatrix} 8.264 \\ 14.681 \\ 22.148 \\ 33.165 \\ 42.621 \\ 51.064 \\ 58.909 \\ 58.496 \\ 63.432 \end{pmatrix} \cdot \frac{lb}{in^2} \qquad Fb = \begin{pmatrix} 2.562 \\ 7.844 \\ 15.34 \\ 28.021 \\ 38.852 \\ 47.659 \\ 54.728 \\ 49.621 \\ 54.797 \end{pmatrix} \cdot \frac{lb}{in^2}$$

The weight of the antennas is negligible to the self weight of the chimney, therefore it is essentially no change to the seismic response of the structure due to this equipment.

Allowable stresses on the chimney using Code ACI 530-13/ASCE 5-13/TMS 402-13

Height of Chimney (h in feet) | 140 | f_m' (psi) | 1,000

Sect.	Wall Thk. (in)	OD (ft)	ID (ft)	r (ft)	h/r	F_a (psi)	F_{bc} (psi)	f_a (psi)	f_{bc} (psi)	$(f_a/F_a) + (f_{bc}/F_{bc})$	f_{bt} (psi)	F_{bt} (psi)	f_{bt} / F_{bt}
1	8	8.73	7.40	2.86	48.94	219	333	8.26	2.56	0.045	-2.40	25	-0.10
2	10	9.14	7.47	2.95	47.43	221	333	14.68	7.84	0.090	-0.96	25	-0.04
3	10	9.54	7.87	3.09	45.27	224	333	22.15	15.34	0.145	2.05	25	0.08
4	12	10.34	8.34	3.32	42.16	227	333	33.17	28.02	0.230	8.12	25	0.32
5	14	11.14	8.81	3.55	39.43	230	333	42.62	38.85	0.302	13.28	25	0.53
6	16	11.95	9.28	3.78	37.01	233	333	51.06	47.66	0.363	17.02	25	0.68
7	18	12.75	9.75	4.01	34.89	234	333	58.91	54.73	0.416	19.38	25	0.78

For h/r < 99: $F_a = (1/4)f_m'[1 - (h/140r)$

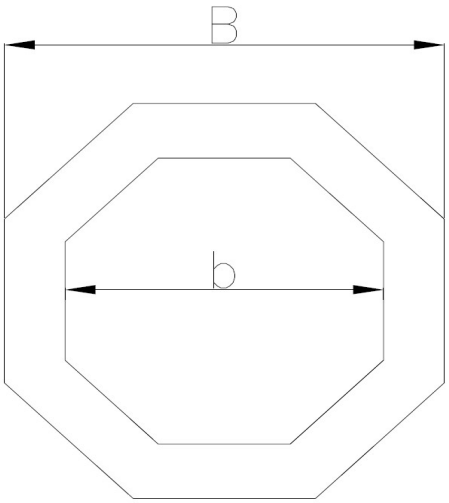
For h/r > 99: $F_a = (1/4)f_m'(70r/h)^2]$

$F_{bc} = (1/3)f_m'$

f_{bt} = (+) compressive, (-) tensile = $f_{bc} - 0.6*f_a$

Octagonal Stresses

Chimney section	8	
B	14.08	ft
b	10.08	ft
Unit Weight	125	pcf
Height	20	ft
Dead Load Above	449,716	lb
Moment	1,444,583	ft-lb



$A_{out} = 0.83*B^2$	164.54	ft^2
$A_{in} = 0.83*b^2$	84.33	ft^2
$A_{total} = A_{out} - A_{in}$ (ft^2)	80.21	ft^2

Moment of Inertia, $I = (A/12)*[B^2(1+2\cos^2(22.5)/4\cos^2(22.5)]$

I_{out}	2,156	ft^4
I_{in}	566	ft^4
$I_t = I_{out} - I_{in}$ (ft^4)	1,589	ft^4

Section Modulus, S = I/c where c = B / 2

S	226	ft^3

Weight of Pedestal	200,528	lbs	(Unit Weight * Height * Area)
Total Dead Load	650,244	lbs	(Weight of Pedestal + Dead Load Above)

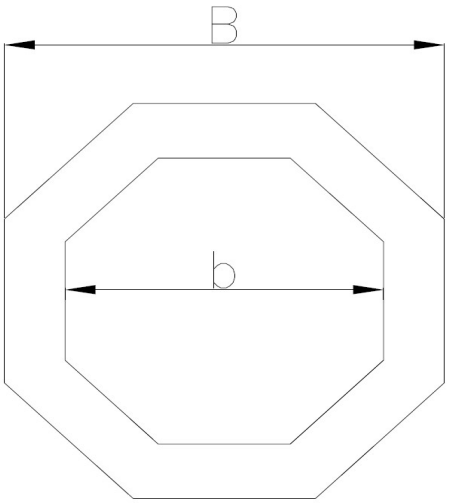
Axial, $f_a = DL / A$	56	psi	
Bending, $f_b = M / S$	44	psi	
$f_t = f_a - f_b$	11.860	psi	(+) tensile, (-) compression

Allowable tensile, F_a	40.0	psi	

Ratio: f_t / F_a	0.297	PASS	Must be < 1.0

Octagonal Stresses

Chimney section	9	
B	14.08	ft
b	9.75	ft
Unit Weight	125	pcf
Height	10	ft
Dead Load Above	639,520	lb
Moment	1,666,801	ft-lb



$A_{out} = 0.83*B^2$	164.54	ft^2
$A_{in} = 0.83*b^2$	78.90	ft^2
$A_{total} = A_{out} - A_{in}$ (ft^2)	85.64	ft^2

Moment of Inertia, $I = (A/12)*[B^2(1+2\cos^2(22.5)/4\cos^2(22.5)]$

I_{out}	2,156	ft^4
I_{in}	496	ft^4
$I_t = I_{out} - I_{in}$ (ft^4)	1,660	ft^4

Section Modulus, S = I/c where c = B / 2

S	236	ft^3

Weight of Pedestal	107,053	lbs	(Unit Weight * Height * Area)
Total Dead Load	746,573	lbs	(Weight of Pedestal + Dead Load Above)

Axial, $f_a = DL / A$	61	psi	
Bending, $f_b = M / S$	49	psi	
$f_t = f_a - f_b$	11.445	psi	(+) tensile, (-) compression

Allowable tensile, F_a	40.0	psi	

Ratio: f_t / F_a	0.286	PASS	Must be < 1.0