CENTERLINE COMMUNICATIONS

426 Kinds Park Dr. EXT Apt D
Liverpool, NY 13090
ahebel@clinellc.com
215.588.7035

October 22, 2020

EM-CING-117-201123

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

Re: Notice of Exempt Modifications – AT&T Site CT2546
AT&T Telecommunications Facility @ 28 Great Oak Lane, Redding, CT 06896

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains a wireless telecommunications facility on an existing +/- 180' monopole tower at the above referenced address, latitude 41.3068333, longitude -73.3863056. Said monopole tower is owned by Octagon Towers, LLC and managed by SRR Towers, LLC (an Octagon Towers subsidiary).

AT&T desires to modify its existing telecommunications facility by replacing (6) antennas, replacing (6) TMAs and adding (6) additional TMAs, adding (12) coax cables on the tower, replacing (3) RRUs, adding (3) RRUs, adding (2) surge arrestors within the equipment lease space as more particularly detailed and described on the enclosed Construction Drawings prepared by Hudson Design Engineering last revised on October 19, 2020. The centerline height of the existing antennas is and will remain at 165 and 175 feet.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2). In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: Julia Pemberton First Selectman of the Town of Redding, and as property owner: Toby S. Welles Planning Commission Chairman of Town of Redding: James Burgess Project Manager on behalf of SRR Towers LLC.

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

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require an extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission's safety standard. *Please see the RF emissions calculation for AT&T's modified facility enclosed herewith.*
5. The proposed modifications will not cause an ineligible change or alternation in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis dated October 13, 2020 and prepared BlueSky Tower Partners LLC enclosed herewith.

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

Best Regards,

Allison Hebel
Site Acquisition Consultant – Agent for AT&T
Centerline Communications LLC
750 West Center St. Ste 301
West Bridgewater, MA 02379
215-588-7035
ahebel@clinellc.com

Enclosures:
Exhibit 1 – Construction Drawings
Exhibit 2 – Property Card and GIS
Exhibit 3 – Structural Analysis
Exhibit 4 – RF Emissions Analysis Report Evaluation
Exhibit 5 – Available Town of Redding Original Tower Approval Records
Exhibit 6 – Notice Deliver Confirmations

Cc:
Julia Pemberton First Selectman of the Town of Redding, and as property owner
Toby S. Welles Planning Commission Chairman of Town of Redding
James Burgess Project Manager on behalf of SRR Towers LLC, tower owner

EXHIBIT 1

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING FLAGPOLE:
- NEW AT&T ANTENNAS: 840370966 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- NEW AT&T TMAS: TMABPD7823VG12A (TYP. OF 4 PER SECTOR, TOTAL OF 12)

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- NEW AT&T RRUS: B5/B12 4449 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: B2/B66A 8843 (PCS/AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T TRIPLEXERS: TPX-070821 (TYP. OF 8 PER SECTOR, TOTAL OF 24)
- NEW AT&T SURGE ARRESTORS: TSXDC-4310FM (TYP. OF 12 PER SECTOR, TOTAL OF 36).
- ADD (1) IDLe.
- ADD (1) 6630.
- ADD (12) 1-5/8" COAX.

ITEMS TO BE REMOVED:
- EXISTING AT&T ANTENNAS: SBNH-1D6565C (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T RRUS: RRUS-11 B12 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: RRUS-11 B2 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: RRUS-11 B5 (TYP. OF 1 PER SECTOR, TOTAL OF 3).

ITEMS TO REMAIN:
- (12) 1-5/8" COAX CABLES

PTN:	2051A0V4QH, 2051A0V49D, 2051A0V4D2, 2051A0V52J
SITE ADDRESS:	28 GREAT OAK LANE REDDING, CT 06896
LATITUDE:	41.306833° N, 41° 18' 24.59" N
LONGITUDE:	73.386305° W, 73° 23' 10.70" W
TYPE OF SITE:	FLAGPOLE / INDOOR
STRUCTURE HEIGHT:	180'-0"±
RAD CENTER:	175'-0"± & 165'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

at&t

SITE NUMBER: CT2546

SITE NAME: REDDING GREAT OAK LANE

FA CODE: 10050764

PACE ID: MRCTB046960, MRCTB046944, MRCTB046797, MRCTB046655

PROJECT: LTE 2C_3C_5G NR_RETRO 2021 UPGRADE

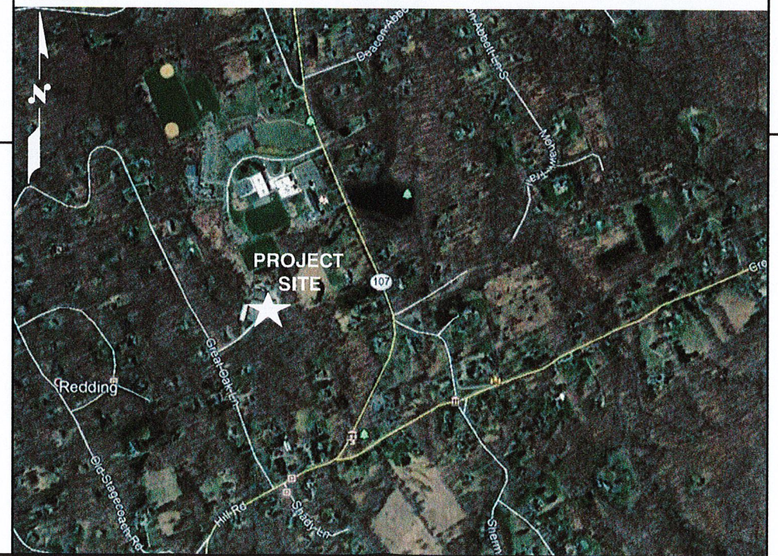
ISSUED FOR PERMITTING

DRAWING INDEX

VICINITY MAP

DIRECTIONS TO SITE:

TURN LEFT ONTO CAPITAL BLVD (.2 MI)TURN LEFT ONTO STATE HWY 411 THEN LEFT TO MERGE ONTO I-91 S (8.8 MI). TAKE EXIT 18 FOR I-691 W TOWARD MERIDEN/WATERBURY (.3 MI). CONTINUE ONTO I-691 W (7.7 MI). TAKE EXIT 1 FOR I-84 W (1.0 MI) MERGE ONTO I-84 (23.3 MI). TAKE EXIT 11 TOWARD CT-34/DERBY-NEW HAVEN (.9 MI). TURN LEFT ONTO WASSERMAN WAY (1.0 MI), CONTINUE ONTO MILE HILL RD (.5 MI), TURN RIGHT ONTO CT-25 N/S MAIN ST (.7 MI). TURN LEFT ONTO CT-302 W/SUGAR ST (2.5 MI). TURN LEFT ONTO KEY ROCK RD (.9 MI), CONTINUE ONTO POVERTY HOLLOW RD (3.7 MI), SLIGHT RIGHT ONTO CHURCH HILL RD (.6 MI), CONTINUE ONTO CROSS WAY (1.9 MI), SLIGHT LEFT ONTO CT-107 A (.1 MI) TURN RIGHT ONTO GRAT OAK LN, DESTINATION ON THE RIGHT.



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

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

SITE NUMBER: CT2546
SITE NAME: REDDING GREAT OAK LANE

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

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

AT&T

TITLE SHEET
LTE 2C_3C_5G NR_RETRO 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2546	T-1	B

GROUNDING NOTES

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

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

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

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

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

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

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

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

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

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

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

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ABBREVIATIONS

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

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

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

SITE NUMBER: CT2546
SITE NAME: REDDING GREAT OAK LANE

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FAIRFIELD COUNTY

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

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

Daniel P. Hamm

AT&T

GENERAL NOTES
LTE 2C_3C_5G NR_RETRO 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
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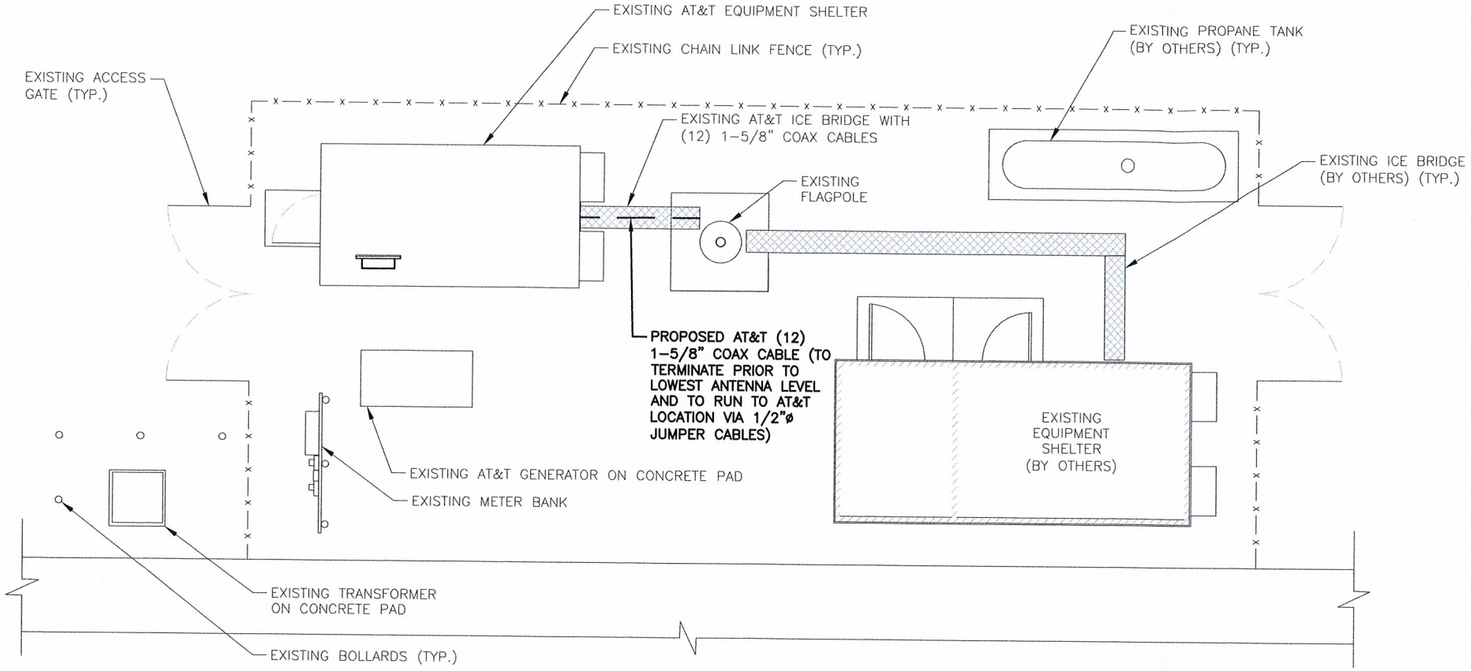
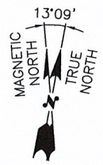
NOTE:

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

NOTE:

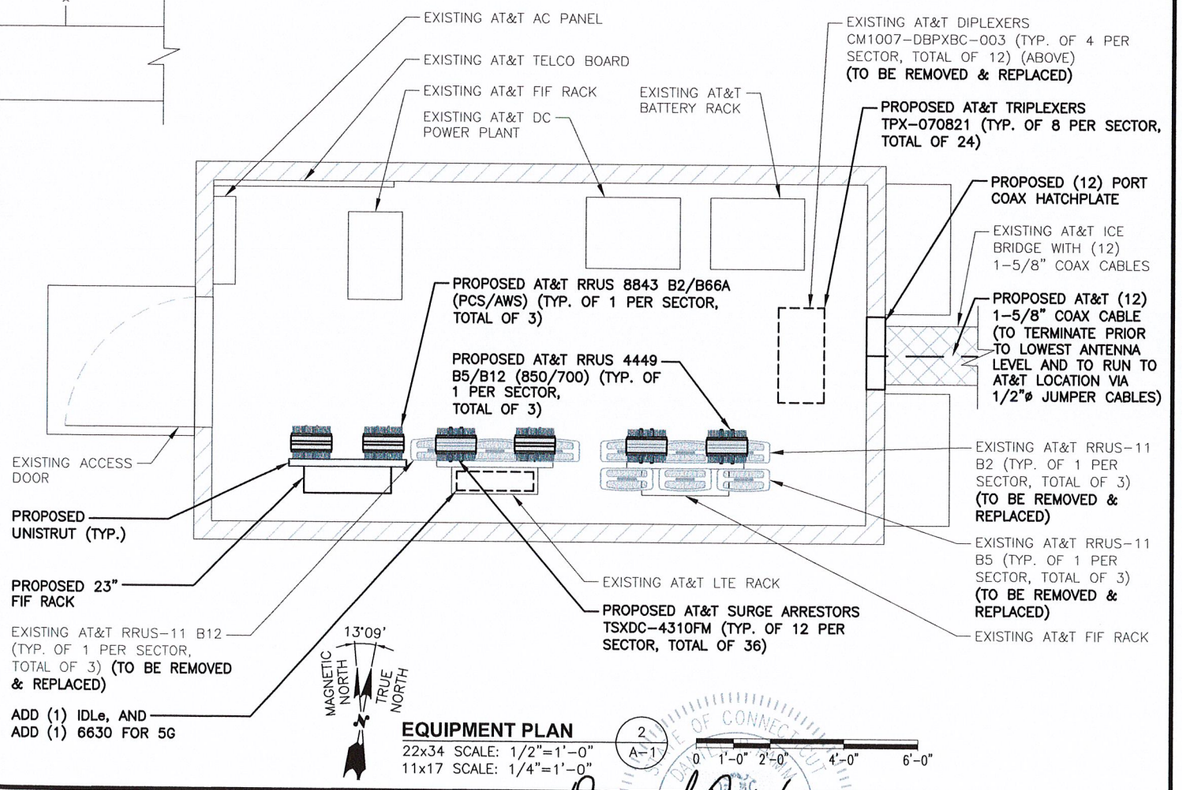
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

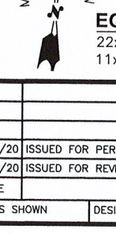




COMPOUND PLAN (1 / A-1)
22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"

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





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

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

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STATE OF CONNECTICUT

AT&T

COMPOUND & EQUIPMENT PLAN
LTE 2C_3C_5G NR_RETRO 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
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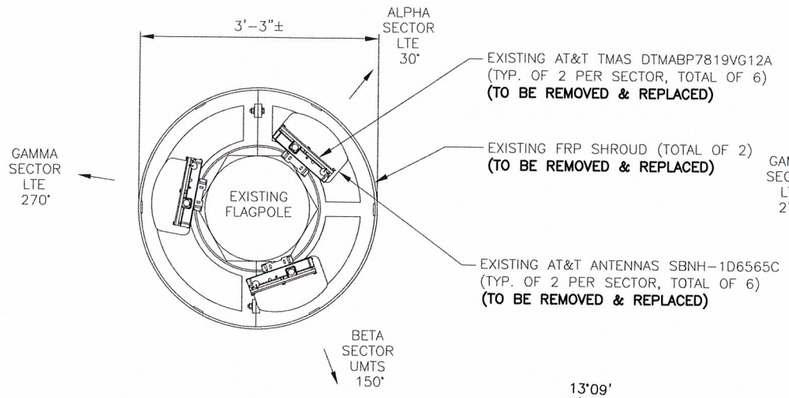
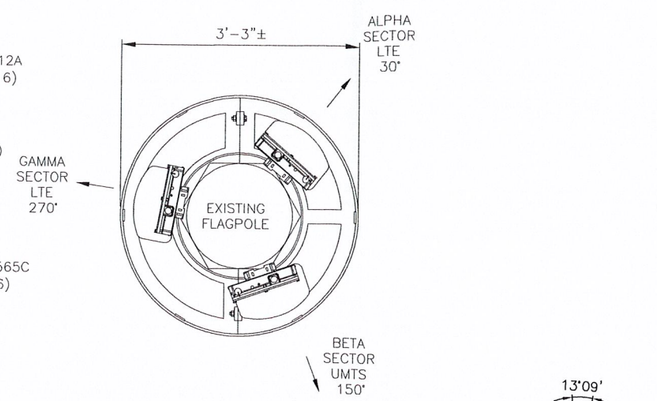


EXISTING ANTENNA LAYOUT @ 165' RAD (1 / A-2)

22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

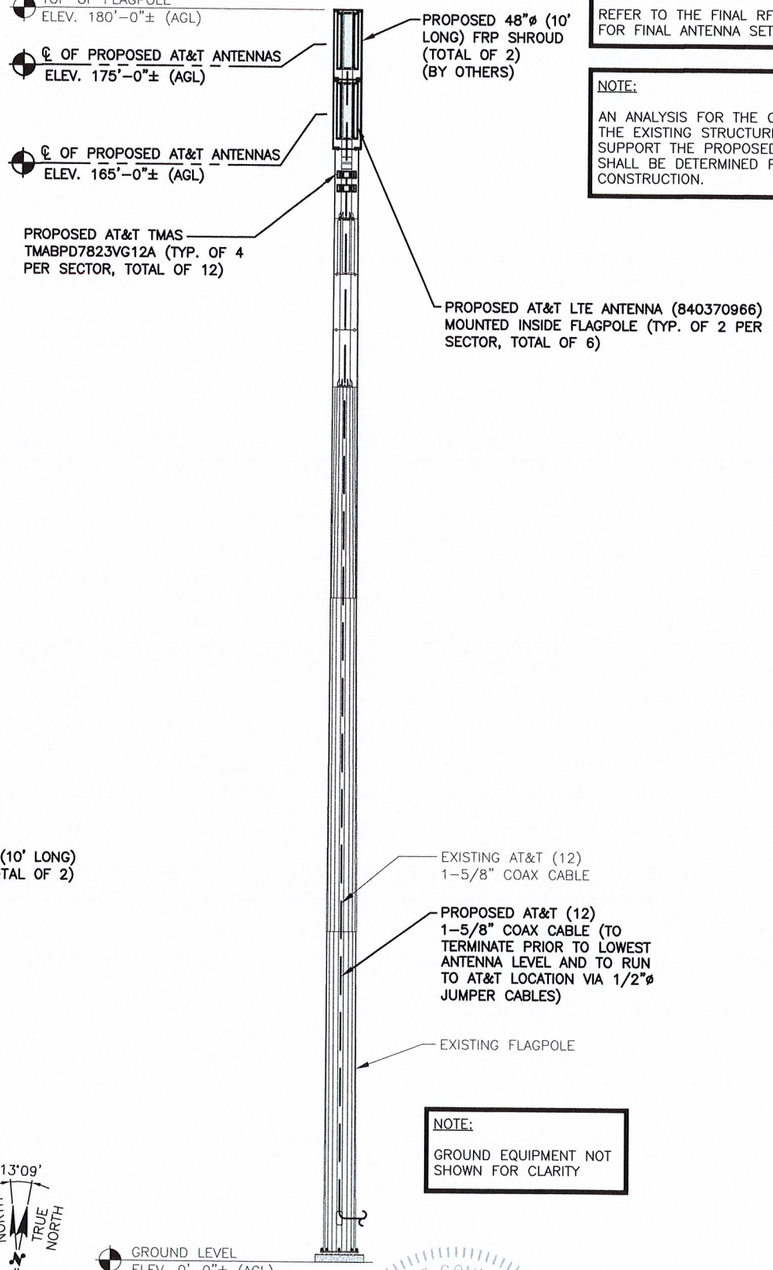
0 0'-6" 1'-0" 2'-0" 3'-0"



EXISTING ANTENNA LAYOUT @ 175' RAD (2 / A-2)

22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

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



NOTE:

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

NOTE:

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

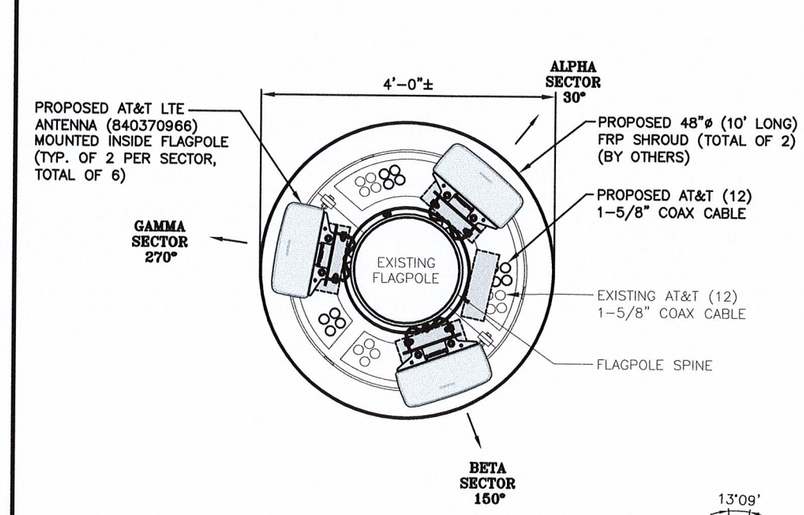
NOTE:

GROUND EQUIPMENT NOT SHOWN FOR CLARITY

ELEVATION (5 / A-2)

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

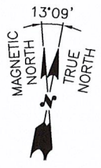
0 5'-4" 10'-8" 21'-4" 32'-0"

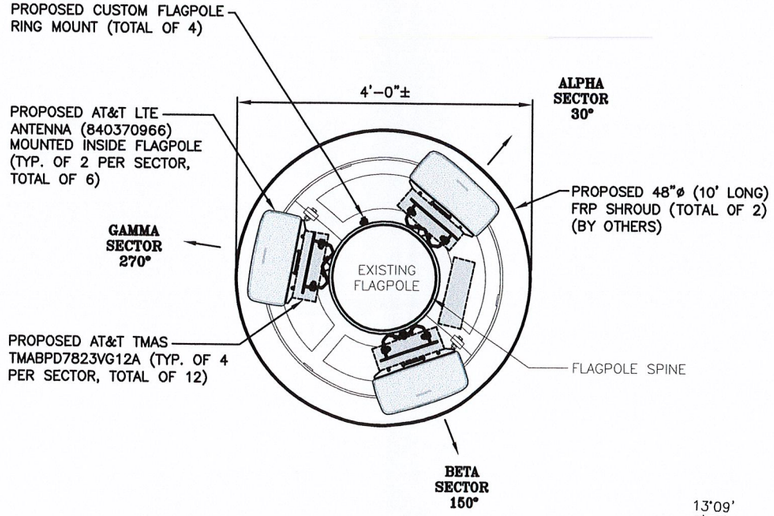


PROPOSED ANTENNA LAYOUT @ 165'-0" RAD (3 / A-2)

22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

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





PROPOSED ANTENNA LAYOUT @ 175'-0" RAD (4 / A-2)

22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

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

HUDSON Design Group LLC
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CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT2546
SITE NAME: REDDING GREAT OAK LANE

28 GREAT OAK LANE
REDDING, CT 06896
FAIRFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	10/19/20	ISSUED FOR PERMITTING	SG	AT	DPH
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

Daniel P. Hamm
No. 21178
LICENSED PROFESSIONAL ENGINEER
STATE OF CONNECTICUT

AT&T

ANTENNA LAYOUTS & ELEVATION
LTE 2C_3C_5G NR_RETRO 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2546	A-2	B

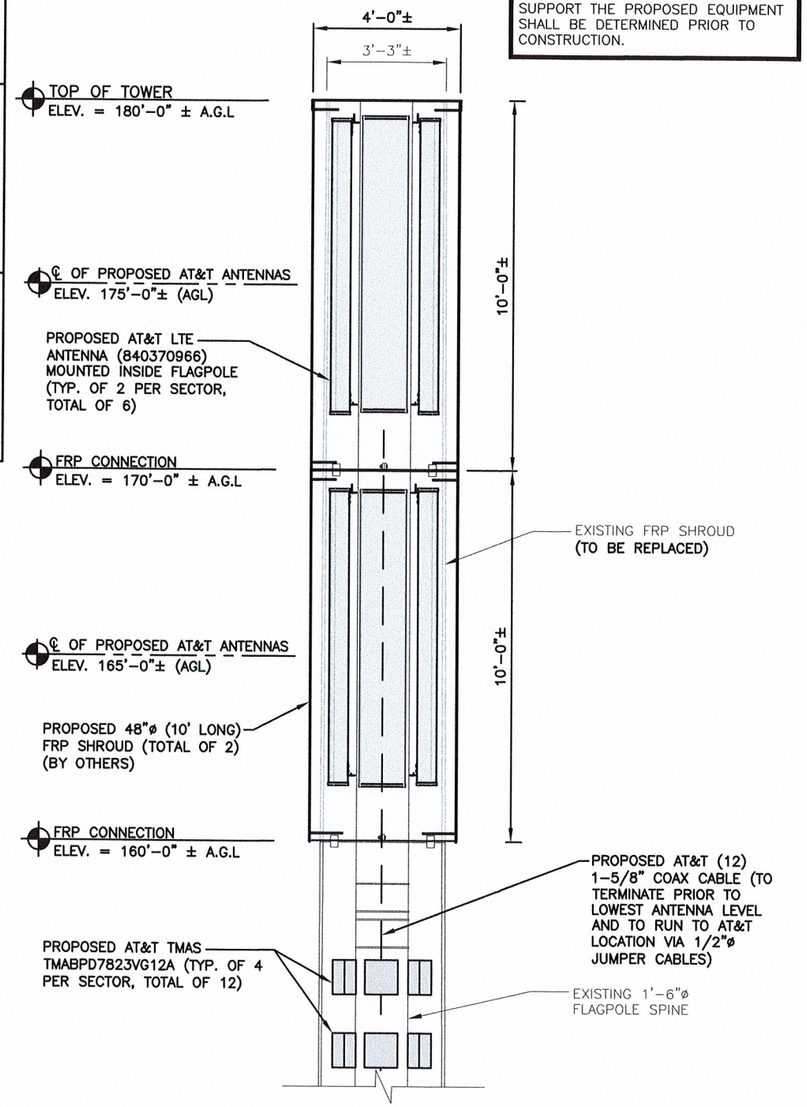
ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	PROPOSED	UMTS 850/LTE AWS	840370966	96X14.9X6.5	175'-0"±	30°	(2)(P) TMABPD7823VG12A (4)(G)(P) TPX-070821	–	–	(4)(E) 1-5/8 COAX	(12)(P) TSXDC-4310FM
A2	PROPOSED	LTE 700 (BC)/850/PCS	840370966	96X14.9X6.5	165'-0"±	30°	(2)(P) TMABPD7823VG12A (4)(G)(P) TPX-070821	(1)(G)(P) 4449 B5/B12 (850/700) (1)(G)(P) 8843 B2/B66A (PCS/AWS)	–	(4)(P) 1-5/8 COAX	
A3	–	–	–	–	–	–	–	–	–	–	
A4	–	–	–	–	–	–	–	–	–	–	
B1	PROPOSED	UMTS 850/LTE AWS	840370966	96X14.9X6.5	175'-0"±	150°	(2)(P) TMABPD7823VG12A (4)(G)(P) TPX-070821	–	–	(4)(E) 1-5/8 COAX	(12)(P) TSXDC-4310FM
B2	PROPOSED	LTE 700 (BC)/850/PCS	840370966	96X14.9X6.5	165'-0"±	150°	(2)(P) TMABPD7823VG12A (4)(G)(P) TPX-070821	(1)(G)(P) 4449 B5/B12 (850/700) (1)(G)(P) 8843 B2/B66A (PCS/AWS)	–	(4)(P) 1-5/8 COAX	
B3	–	–	–	–	–	–	–	–	–	–	
B4	–	–	–	–	–	–	–	–	–	–	
C1	PROPOSED	UMTS 850/LTE AWS	840370966	96X14.9X6.5	175'-0"±	270°	(2)(P) TMABPD7823VG12A (4)(G)(P) TPX-070821	–	–	(4)(E) 1-5/8 COAX	(12)(P) TSXDC-4310FM
C2	PROPOSED	LTE 700 (BC)/850/PCS	840370966	96X14.9X6.5	165'-0"±	270°	(2)(P) TMABPD7823VG12A (4)(G)(P) TPX-070821	(1)(G)(P) 4449 B5/B12 (850/700) (1)(G)(P) 8843 B2/B66A (PCS/AWS)	–	(4)(P) 1-5/8 COAX	
C3	–	–	–	–	–	–	–	–	–	–	
C4	–	–	–	–	–	–	–	–	–	–	

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 STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



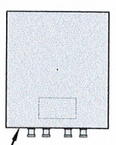
PROPOSED LTE ANTENNA MOUNTING DETAIL (4 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

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

RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
3(P)	4449 (850/700)	17.9"x13.2"x10.4"
3(P)	8843 (PCS/AWS)	14.9"x13.2"x10.9"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

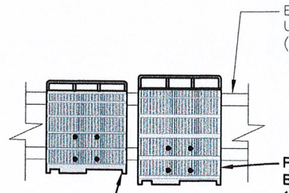


NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

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



PROPOSED RRUS MOUNTING DETAIL (3 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

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28 GREAT OAK LANE
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at&t
500 ENTERPRISE DRIVE, SUITE 3A
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

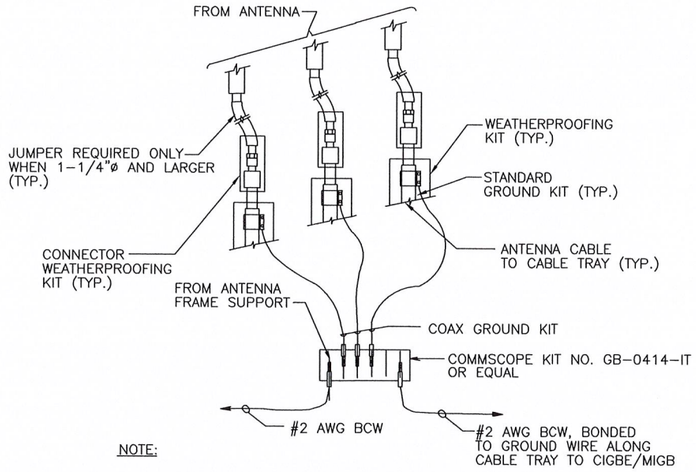
Daniel P. Hamm
No. 24178
LICENSED PROFESSIONAL ENGINEER
STATE OF CONNECTICUT

AT&T

DETAILS

LTE 2C_3C_5G NR_RETRO 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2546	A-3	B

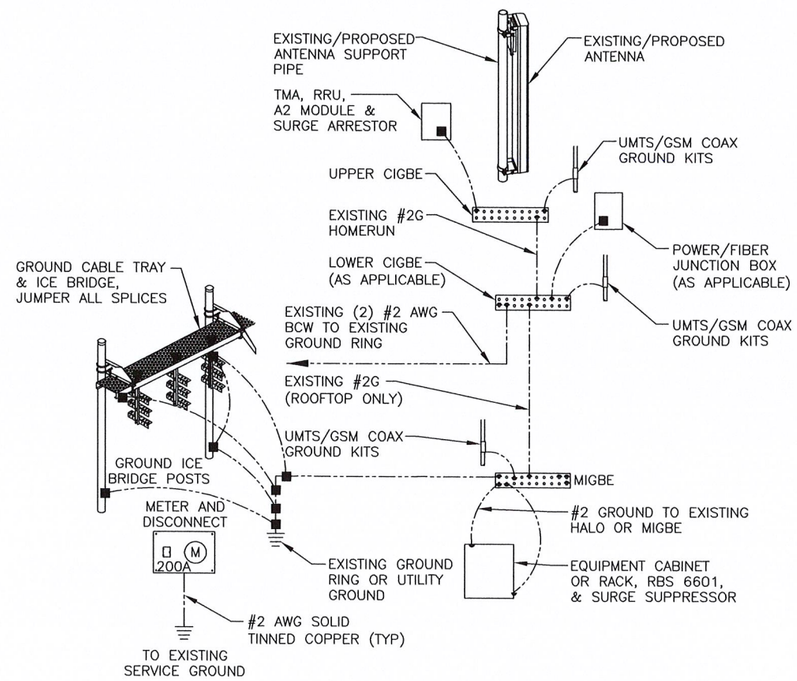


NOTE:

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

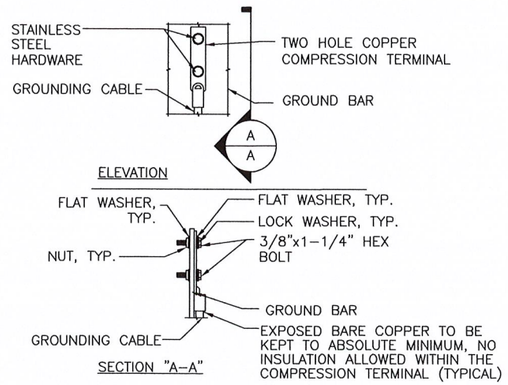
GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

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

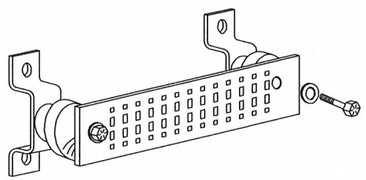
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

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) (4 / G-1)

SCALE: N.T.S

HUDSON Design Group LLC
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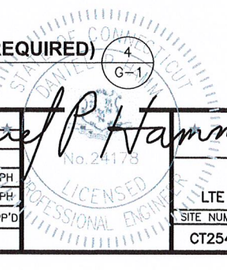
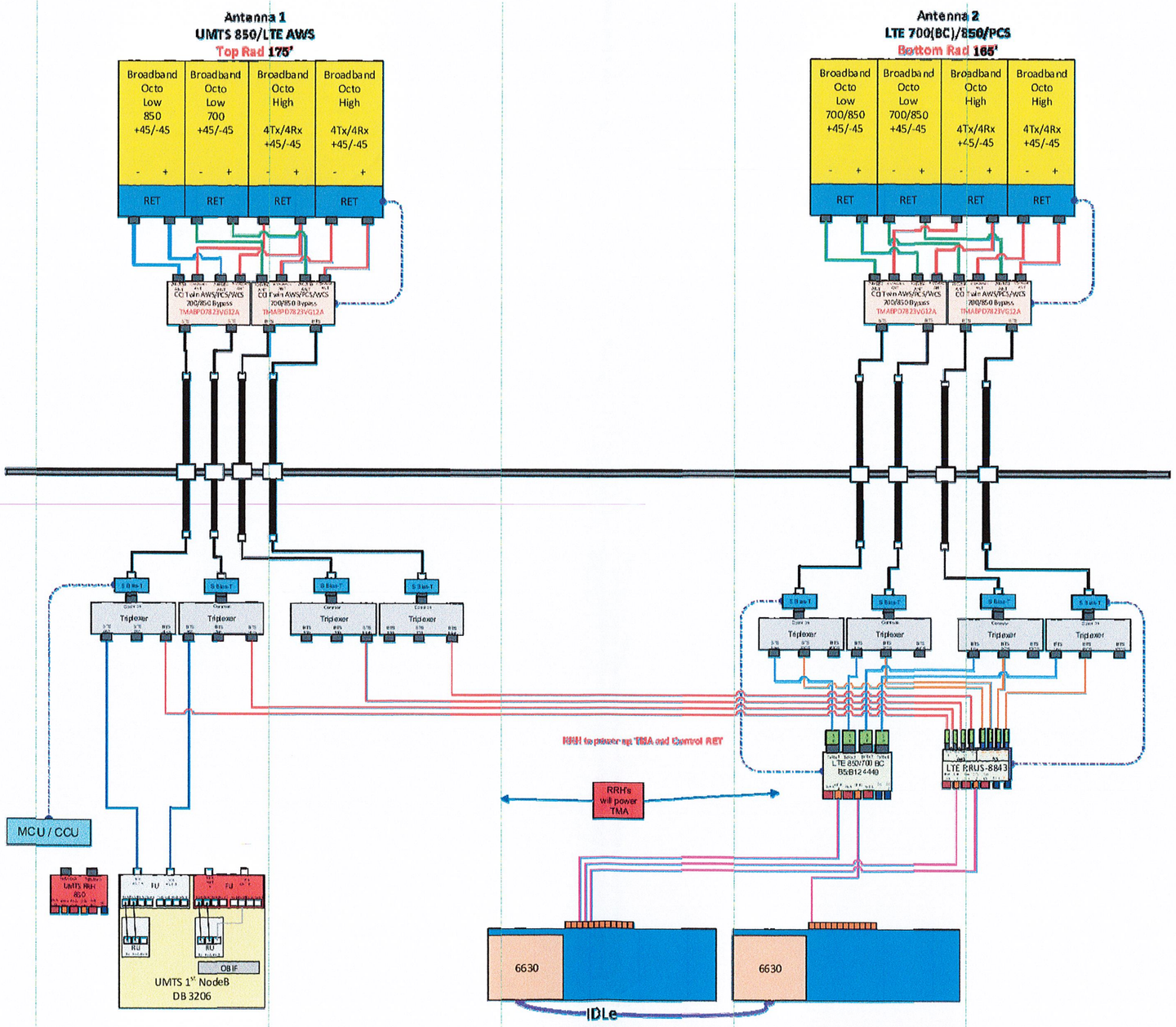
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR



AT&T

GROUNDING DETAILS
LTE 2C_3C_5G NR_RETRO 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2546	G-1	B



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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A	08/10/20	ISSUED FOR REVIEW	TR	AT	DPH

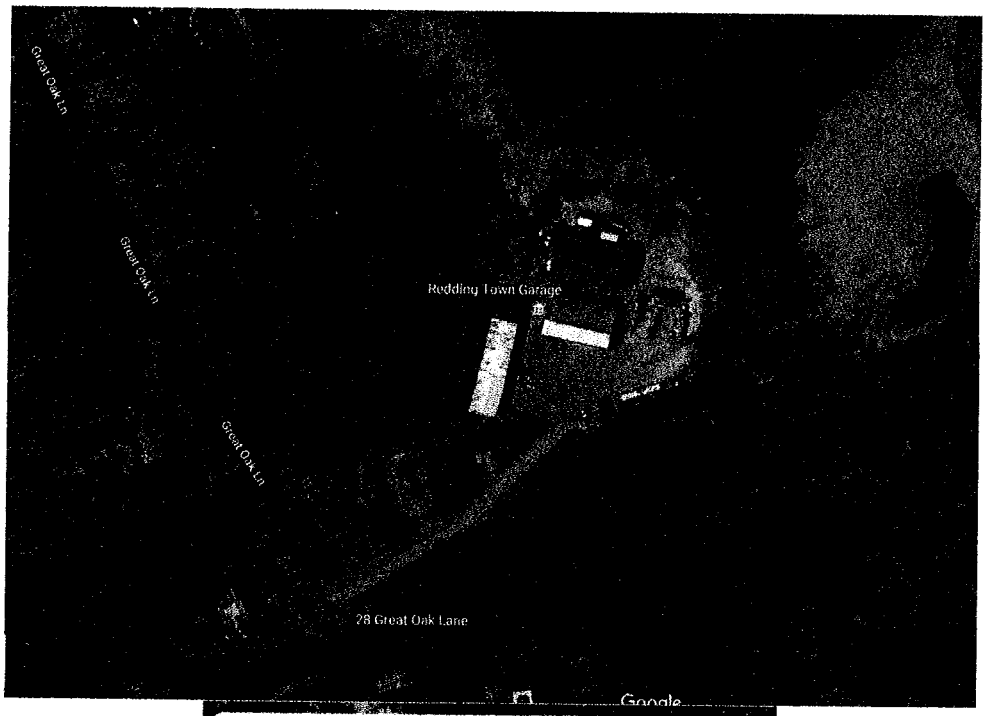
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

AT&T

RF PLUMBING DIAGRAM
LTE 2C_3C_5G NR_RETRO 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2546	RF–1	B

EXHIBIT 2



28 Great Oak Lane, Redding, CT

28 Great Oak Ln

Redding, CT 06896

Directions Save Nearby Send to your phone Share

8J46+3W Redding, Connecticut

Suggest an edit on 28 Great Oak Ln

28 GREAT OAK LN

Location	28 GREAT OAK LN	**Mblu**	21/ / 108/ /
Acct#	00140200	**Owner**	REDDING TOWN OF
Assessment	$1,437,100	**Appraisal**	$2,052,700
PID	1393	**Building Count**	2

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$602,200	$1,450,500	$2,052,700
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$421,700	$1,015,400	$1,437,100

Owner of Record

Owner	REDDING TOWN OF
Co-Owner	TOWN GARAGE
Address	PO BOX 1028 REDDING, CT 06875-

Sale Price	$0
Certificate	1
Book & Page	0065/0343
Sale Date	05/17/1963
Instrument	XX

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
REDDING TOWN OF	$0	1	0065/0343	XX	05/17/1963

Building Information

Building 1 : Section 1

Year Built:	1964
Living Area:	7,488
Replacement Cost:	$445,425
Building Percent Good:	69
Replacement Cost Less Depreciation:	$307,300

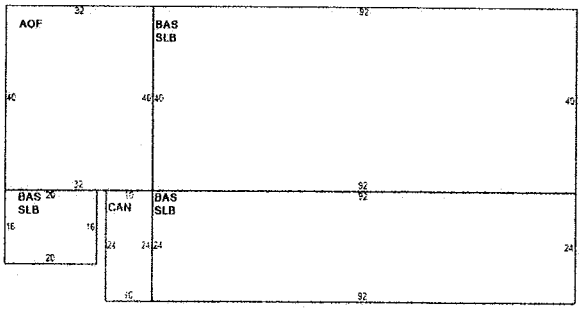
Building Attributes

Field	Description
STYLE	Comm Garage
MODEL	Comm/Ind
Grade	C
Stories	1
Occupancy	1.00
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt Shingl
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Linoleum
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air
AC Type	None
Struct Class	
Bldg Use	Mun Bldg Com
Usrfld 215	
Bedrooms	
Full Bths	
Half Bths	
Usrfld 219	
1st Floor Use:	
Heat/AC	None
Frame Type	Masonry
Baths/Plumbing	Average
Ceiling/Walls	Ceil and Min W
Rooms/Prtns	Average
Wall Height	14.00
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/ReddingCTPhotos//\00\01\16\62.jpg)

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	6,208	6,208
AOF	Office Area	1,280	1,280
CAN	Canopy	240	0
SLB	Slab	6,208	0
		13,936	7,488

Building 2 : Section 1

Year Built: 1964
Living Area: 5,640
Replacement Cost: $329,560
Building Percent Good: 69
Replacement Cost Less Depreciation: $227,400

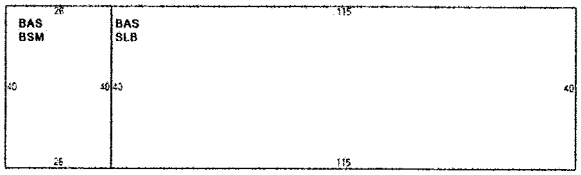
Building Attributes : Bldg 2 of 2	
Field	Description

STYLE	Comm Garage
MODEL	Comm/Ind
Grade	C
Stories	1
Occupancy	1.00
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Metal/Tin
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Minimum/Plywd
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air
AC Type	None
Struct Class	
Bldg Use	Mun Bldg Com
Usrfld 215	
Bedrooms	
Full Bths	
Half Bths	
Usrfld 219	
1st Floor Use:	
Heat/AC	None
Frame Type	Steel
Baths/Plumbing	Average
Ceiling/Walls	Ceil & Wall
Rooms/Prtns	Average
Wall Height	16.00
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/ReddingCTPhotos//default.jpg)

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	5,640	5,640
BSM	Basement Area	1,040	0
SLB	Slab	4,600	0
		11,280	5,640

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
LFT2	Lift Heavy	1.00 Units	$2,800	2
MEZ1	Mezzanine Unf.	180.00 S.F.	$2,500	2

Land

Land Use **Land Line Valuation**

Use Code	922	**Size (Acres)**	6.50
Description	Mun Bldg Com	**Frontage**	
Zone	R-2	**Depth**	
Neighborhood	1400	**Assessed Value**	$1,015,400
Alt Land Appr	No	**Appraised Value**	$1,450,500
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	Paving Asph.			29060.00 S.F.	$47,100	1
SHD2	Salt Shed			6300.00 S.F.	$15,100	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$602,200	$1,450,500	$2,052,700
2017	$602,200	$1,450,500	$2,052,700
2016	$525,200	$1,450,500	$1,975,700

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$421,700	$1,015,400	$1,437,100
2017	$421,700	$1,015,400	$1,437,100
2016	$367,800	$1,015,400	$1,383,200

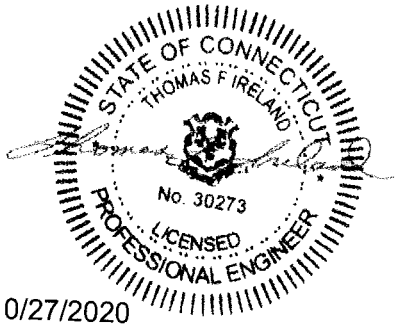
EXHIBIT 3

BlueSky Tower Partners LLC

Structural Analysis Report

Structure	: 180ft Stealth Pole
BlueSky Site Name	: S. Yale Ave
BlueSky Site #	: CT-1420
Proposed Carrier	: AT&T
Carrier Site Name	: Redding Great Oak Lane
Carrier Site Number	: 10050764 / CT2546
Site Location	: 28 Great Oak Lane Redding, CT 06896 (Fairfield County) 41.3068333, -73.3863056
Date	: October 27, 2020
Max Member Stress Level	: 47.2% (Tower) Unknown (Slimline Steel Pipe) – more info required 104.0% (Baseplate) 87.6% (Caisson Foundation) 64.4% (Mat and Pier Foundation)
Result	: **ACCEPTABLE**

Prepared by:
Bennett & Pless, Inc.
B&P Job No.: 20.03.017.006



10/27/2020

bennett&pless
Experience Structural Expertise

Table of Contents

Introduction

We have completed our structural analysis of the proposed equipment installation on the foregoing tower to determine its ability to support the new loads proposed by AT&T. The objective of the analysis was to determine if the tower meets the current structural codes and standards with the proposed equipment installation.

Existing Structural Information

The following documents for the existing structure were made available for our structural analysis.

Tower Information	Sabre tower drawings Job No.: 41261 dated March 2, 2011.
Foundation Information	Sabre tower drawings Job No.: 41261 dated March 2, 2011.
Geotechnical Information	Sabre tower drawings Job No.: 41261 dated March 2, 2011.
Existing Equipment Information	BlueSky Collocation Application dated October 16, 2020.
Tower Reinforcement Information	Tower has not been previously reinforced.

Final Proposed Equipment Loading for AT&T

The following proposed loading was obtained from the BlueSky Collocation Application:

Antenna/Equipment					Coax	
Mount	RAD	Qty.	Antenna	Type	Qty.	Size/Type
175.0	175.0	**3**	**Kathrein 840370966**	Panel	**12**	**1 5/8" Coax**
		6	**CCI TMABPD7823VG12A**	TMA		
165.0	165.0	**3**	**Kathrein 840370966**	Panel	12	1 5/8" Coax
		6	**CCI TMABPD7823VG12A**	TMA		

Note: Proposed equipment shown in bold.
Note: Other existing loading can be found on the tower profile attached.

Design Criteria

The tower was analyzed using tnxTower (Version 8.0.7.4) tower analysis software using the following design criteria.

State/County	Connecticut/Fairfield County
State Building Code	Connecticut State Building Code 2018 (IBC 2015)
TIA/EIA Standard Code	TIA-222-G
Basic Wind Speed	118 MPH (Vult) / 92 MPH (Vasd)
Basic Wind Speed w/ Ice	50 MPH/ 0.75" Ice
Steel Grade	See attached tower profile and output for steel grade

Analysis Results

Based on the foregoing information, our structural analysis determined that **the existing main tower from 0'-0" to 126'-0" AGL is structurally capable of supporting the proposed equipment loads without modification.** The existing foundations and baseplate have also been evaluated and are **structurally capable of supporting the proposed equipment loads.**

Note: The top 20'-0" of the canister from 160'-0" AGL to 180'-0" AGL is being replaced from 36" diameter to a new shroud that is 48" diameter. No information was provided for the slimline steel pipe section from 126'-0" AGL to 160'-0" AGL and the base plate connecting to the top portion of the main steel pole. We recommend obtaining information on these structural elements before installation.

Assumptions

1. The existing tower has been maintained to manufacturer's specifications and is in good condition.
2. Foundations are considered to have been properly designed for the original design loads.
3. All member connections are considered to have been designed to meet the load carrying capacity of the connected member.
4. Antenna mount loads have been estimated based on generally accepted industry standards.
5. The mounts for the proposed antennas have been analyzed and designed by others.
6. See additional assumptions contained in the report attached.

Conclusions

The existing main tower described above **has sufficient capacity** to support the proposed loading based on the governing Building Code. The foundation is also acceptable. As noted in the Analysis Results section of this report more information is needed to determine the capacity of the slimline steel pipe section.

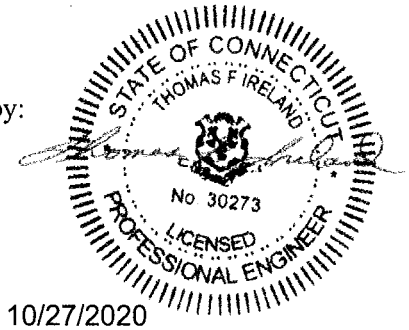
We appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance, please call us anytime at 678-990-8700.

Sincerely,

Analysis by:

Michael Hlinka, E.I, M.S.
Design Engineer

Reviewed by:



10/27/2020

Thomas F. Ireland, PE
Principal

bennett&pless

Standard Conditions

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

- Information supplied by the client regarding the structure itself, the antenna and transmission line loading on the structure and its components, or relevant information.

- Information from drawings in possession of Bennett & Pless or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to Bennett & Pless and used in the performance of our engineering services is correct and complete. In the absence of information contrary, we consider that all structures were constructed in accordance with the drawings and specifications and are in a un- corroded condition and have not deteriorated; and we, therefore consider that their capacity has not significantly changed from the original design condition.

All services will be performed to the codes and standards specified by the client, and we do not imply to meet any other code and standard requirements unless explicitly agreed to in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes and standards, the client shall specify the exact requirements. In the absence of information to the contrary, all work will be performed in accordance with the revision of ANSI/TIA/EIA-222 requested.

All services are performed, results obtained, and recommendations made in accordance with the generally accepted engineering principles and practices. Bennett & Pless is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

Disclaimer of Warranties

Bennett & Pless Inc. makes no warranties, expressed or implied, in connection with this report, and disclaims any liability arising from the ability of the existing structure to support the design loads for which it was originally designed. Bennett & Pless Inc. will not be responsible whatsoever for or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of Bennett & Pless pursuant to this report will be limited to the total fee received for preparation of this report.

EXHIBIT 4

CENTERLINE COMMUNICATIONS

Radio Frequency Emissions Analysis Report

AT&T

Site Name: **REDDING GREAT OAK LANE**

28 Great Oaks Lane
Redding, CT 06896
October 22, 2020

Site Compliance Summary	
Compliance Status:	**Compliant**
Site total MPE% of FCC general population allowable limit:	**0.127702%**

750 West Center St. Suite 301 | West Bridgewater, MA 02379

CENTERLINE
COMMUNICATIONS

October 22, 2020
AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 01701

Emissions Analysis for Site: **REDDING GREAT OAK LANE**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility to be located on **Utility Pole #10050764** near **28 Great Oaks Lane, Redding CT 06896** for the purpose of determining whether the emissions from the proposed facility are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 1900 MHz (PCS) and 5 GHz (B46) bands is 1000 $\mu W/cm^2$.

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

Additional details can be found in FCC OET 65.

CALCULATION FORMULAS

MODELING

RoofMasterTM employs several power density prediction models based on the computational approaches set forth in the Federal Communications Commission's Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, OET Bulletin 65. This guideline utilizes several antenna and operational parameters in calculating the power density contributions from each emitter at specified points throughout the study space. RoofMasterTM enables antennas to be fully defined in site-specific aspects as well as through the use of a library of manufacturer data. The parameters include:

- Antenna model
- Radiation patterns
- Aperture length
- Gain
- Beam width
- Antenna radiation center
- Azimuth
- Mechanical downtilt
- Location Frequency
- Power into antenna

THE CYLINDRICAL MODEL IMPLEMENTATION (Sula9)

In OET-65, the Cylindrical Model is presented as an approach 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, RoofMasterTM utilizes the antenna manufacturer horizontal pattern data. Additionally, RoofMasterTM incorporates factors that reduce the power density by the inverse square of horizontal and vertical distance beyond the near field region.

Power density is calculated as follows:

$$S = \left(\left(\frac{360}{Beamwidth} \right) \frac{P_{in} G_H H_r V_r}{2\pi Rh} \right) \frac{\mu W}{cm^2}$$

- S is the spatially averaged power density value
- R is the horizontal distance meters to the study point
- h is the aperture length in meters
- Pin is power into the antenna input port in Watts
- RoofMasterTM Implementation:
    - GH is gain offset to study point as specified in manufacturer horizontal pattern
    - Pin is adjusted by the portion of the antenna aperture in the 0-6 ft vertical study zone
    - Hr accounts for 1/R2 Far Field roll off which starts at 2xh
    - Vr accounts for 1/ (vertical distance)2 roll off from antenna bottom to the top of the 0- 6ft study zone (or antenna top to bottom of 0-6ft study zone)

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

RRH #	Technology	Frequency Band	Channel Count	Transmit Power Per Channel (W)
1	UMTS	850	4	40
1	LTE	2100	4	40
2	LTE	700	4	40
2	LTE	850	4	40
2	LTE	1900	4	40
3	UMTS	850	4	40
3	LTE	2100	4	40
4	LTE	700	4	40
4	LTE	850	4	40
4	LTE	1900	4	40
5	UMTS	850	4	40
5	LTE	2100	4	40
6	LTE	700	4	40
6	LTE	850	4	40
6	LTE	1900	4	40

Table 1: Channel Data Table

Sector	Antenna Number	Frequency	Antenna Make / Model	Antenna Centerline (ft)
A	1	850	KATHREIN 840370966	175
A	1	2100	KATHREIN 840370966	175
A	2	700	KATHREIN 840370966	165
A	2	850	KATHREIN 840370966	165
A	2	1900	KATHREIN 840370966	165
B	3	850	KATHREIN 840370966	175
B	3	2100	KATHREIN 840370966	175
B	4	700	KATHREIN 840370966	165
B	4	850	KATHREIN 840370966	165
B	4	1900	KATHREIN 840370966	165
C	5	850	KATHREIN 840370966	175
C	5	2100	KATHREIN 840370966	175
C	6	700	KATHREIN 840370966	165
C	6	850	KATHREIN 840370966	165
C	6	1900	KATHREIN 840370966	165

Table 2: Antenna Data

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

RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power (W)	ERP (W)	MPE %
AT&T 1	KATHREIN 840370966	850	13.55	171.1	4	40	3623.4	0.009595957
AT&T 1	KATHREIN 840370966	2100	16.54	171.1	4	40	7213.0	0.004777873
AT&T 2	KATHREIN 840370966	700	11.93	161.1	4	40	2495.2	0.012338200
AT&T 2	KATHREIN 840370966	850	13.55	161.1	4	40	3623.4	0.010849707
AT&T 2	KATHREIN 840370966	1900	15.85	161.1	4	40	6153.4	0.005035206
AT&T 3	KATHREIN 840370966	850	13.55	171.1	4	40	3623.4	0.009595815
AT&T 3	KATHREIN 840370966	2100	16.54	171.1	4	40	7213.0	0.004777640
AT&T 4	KATHREIN 840370966	700	11.93	161.1	4	40	2495.2	0.012338004
AT&T 4	KATHREIN 840370966	850	13.55	161.1	4	40	3623.4	0.010849535
AT&T 4	KATHREIN 840370966	1900	15.85	161.1	4	40	6153.4	0.005034944
AT&T 5	KATHREIN 840370966	850	13.55	171.1	4	40	3623.4	0.009464302
AT&T 5	KATHREIN 840370966	2100	16.54	171.1	4	40	7213.0	0.004889075
AT&T 6	KATHREIN 840370966	700	11.93	161.1	4	40	2495.2	0.012338202
AT&T 6	KATHREIN 840370966	850	13.55	161.1	4	40	3623.4	0.010700845
AT&T 6	KATHREIN 840370966	1900	15.85	161.1	4	40	6153.4	0.005116920
	Site Total Composite MPE%							**0.127702 %**

Table 3: Antenna Inventory & Power Levels

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 4* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s).

Frequency Band	# of Channels	TPO W (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Technology	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
850	4	40	171.1	0.0543771	UMTS	567	0.00959596
2100	4	40	171.1	0.0477787	LTE	1000	0.00477787
700	4	40	161.1	0.0575783	LTE	467	0.01233820
850	4	40	161.1	0.0614817	LTE	567	0.01084971
1900	4	40	161.1	0.0503521	LTE	1000	0.00503521
850	4	40	171.1	0.0543763	UMTS	567	0.00959581
2100	4	40	171.1	0.0477764	LTE	1000	0.00477764
700	4	40	161.1	0.0575774	LTE	467	0.01233800
850	4	40	161.1	0.0614807	LTE	567	0.01084954
1900	4	40	161.1	0.0503494	LTE	1000	0.00503494
850	4	40	171.1	0.0536310	UMTS	567	0.00946430
2100	4	40	171.1	0.0488908	LTE	1000	0.00488908
700	4	40	161.1	0.0575783	LTE	467	0.01233820
850	4	40	161.1	0.0606381	LTE	567	0.01070085
1900	4	40	161.1	0.0511692	LTE	1000	0.00511692
						AT&T Total:	0.127702

Table 4: AT&T Maximum MPE Power Values

Summary

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

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

Carrier	MPE Contribution Value
AT&T:	**0.127702%**

Site Total:	**0.127702%**
Site Compliance Status:	**Compliant**

The anticipated composite MPE value for this site assuming all carriers present is **0.127702%** of the allowable FCC established general population limit sampled at the ground level.

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

Samuel Cosgrove
RF Compliance Consultant
Centerline Communications, LLC
750 West Center St. Suite 301
West Bridgewater, MA 02379

EXHIBIT 5

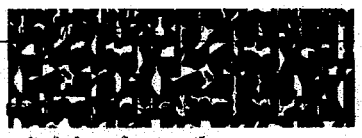
BUILDING OFFICE
REDDING, CONNECTICUT 06875
TEL. (203) 938-2558

CERTIFICATE OF OCCUPANCY

PERMIT NO. 14632
DATE CERTIFICATE ISSUED 11/2/13

AUTHORIZED BY: _____ DATE PERMIT ISSUED April 18, 2011
BUILDING OFFICIAL

1. PROPERTY OWNER TOWN OF REDDING (TOWN GARAGE) OWNERS ADDRESS 28 Great Oak Lane
2. PROJECT ADDRESS 28 Great Oak LAne
2A. OWNERS TEL. 203-938-2801 CONTRACTOR'S TEL. 860-877-3565
3. PERMIT FOR Cell Tower PROPOSED USE Cell Tower
4. ASSESSOR'S MAP# 39 BLOCK # 48 LOT# P-18 # STORIES _____ # DWELLING UNITS _____
5. APPLICANT SAI Communications/DavidVivian LIC# 0901834 PHONE 413-218-5042
6. ADDRESS 500 Enterprise Drive Rocky Hill CT 06067
(NO.) (STREET) (CITY) (STATE) (ZIP CODE)
7. BUILDING IS TO BE _____ FEET WIDE BY _____ FEET LONG AREA OR VOLUME _____
8. CONSTRUCTION TYPE IBC-2003 USE GROUP U
9. REMARKS COnstruct a 180' cell tower and equipment shelter (10' X 20') within fenced
10. (33' X 73') compound.
11. OWNER Town of Redding (Town Gagage)
12. ADDRESS 28 Great Oak Lane
Redding, CT 06896



BUILDING DEPARTMENT
TOWN OF REDDING
BUILDING OFFICIAL

DEPT. FILE COPY

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
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

January 24, 2011

Christopher B Fisher, Esq.
Daniel M. Laub, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

RE: **DOCKET NO. 404** - New Cingular Wireless PCS, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 28 Great Oak Lane, Redding, Connecticut.

Dear Attorney Fisher and Attorney Laub:

By its Decision and Order dated January 20, 2011, the Connecticut Siting Council (Council) granted a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance and operation of a telecommunications facility located at 28 Great Oak Lane, Redding, Connecticut.

Enclosed are the Council's Certificate, Findings of Fact, Opinion, and Decision and Order.

Very truly yours,

Linda Roberts

Linda Roberts
Executive Director

LR/RDM/laf

Enclosures (4)

c: Michele Briggs, AT&T

EXHIBIT 6

UPS CampusShip: View/Print Label

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

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

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

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

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7525 TIDEWATER DR
NORFOLK ,VA 23505

UPS Access Point™
THE UPS STORE
7870 TIDEWATER DR
NORFOLK ,VA 23505

UPS Access Point™
VANLK-LOCKR-CITGO ODU
3801 HAMPTON BLVD
NORFOLK ,VA 23508

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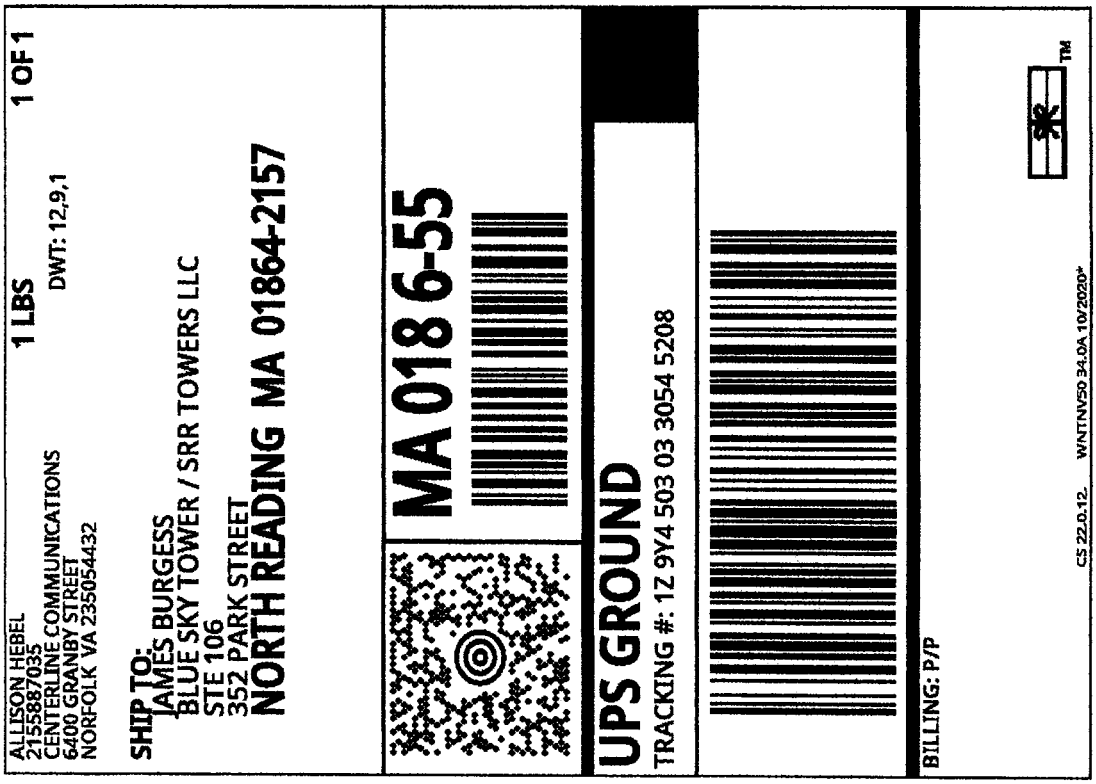

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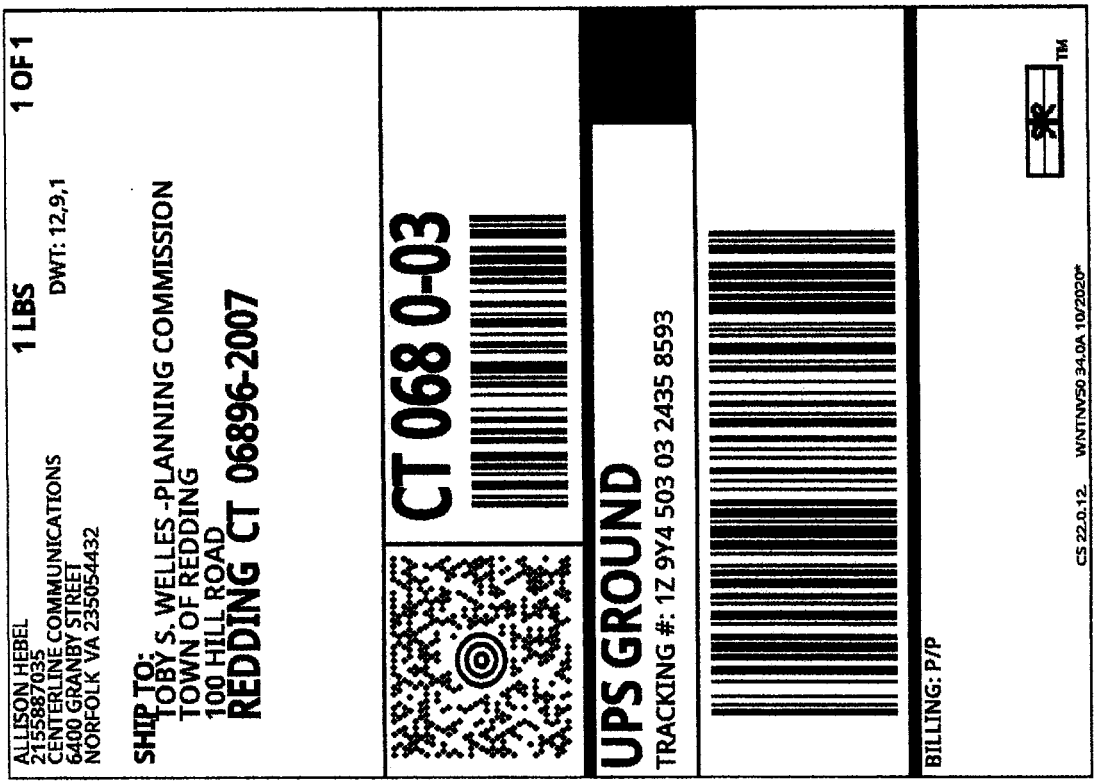

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