PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING SMOKE STACK:
- NEW AT&T ANTENNAS: AIR6449 B77D (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: AIR6419 B77G (TYP. OF 1 PER SECTOR, TOTAL OF 3) (STACKED).
- NEW AT&T ANTENNAS: DMP65R-BU6DA (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRU'S: RRUS-2012 B29 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRU'S: 4449 B5/B12 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRU'S: RRUS-32 B30 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE RELOCATED TO POS. 3).
- EXISTING AT&T RRU'S: 4415 B25 (PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE RELOCATED TO POS. 4).
- NEW AT&T SURGE ARRESTOR: DC9-48-60-24-8C-EV (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- INSTALL AT&T (3) Y-CABLES.
- INSTALL (3) 6 AWG DC TRUNKS AND (3) 24 PAIR FIBER.

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- INSTALL (1) OUTDOOR DC12-48-60-0-25E MOUNTED ON EXISTING RAILING
- INSTALL (1) 6648 WITH XCEDE CABLE.
- FINAL CONFIG: 5216-XMU/6630-IDLE/6648 WITH XCEDE CABLE
- INSTALL (4) -48V RECTIFIERS IN EXISTING POWER PLANT
- INSTALL (1) NEW BATTERY CABINET WITH (2) STRINGS OF 170AH BATTERIES

ITEMS TO BE REMOVED:
- EXISTING AT&T ANTENNAS: 80010121 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNAS: QS66512-2 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRU'S: 4478 B5 (850) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRU'S: RRUS-11 B12 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T SURGE ARRESTOR: DC6-48-60-18-8F (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T TMAS: LGP21401 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T DIPLEXERS: DBCT108F1V9202 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T (6) 1-5/8 COAX CABLES.
- EXISTING (3) 18 PAIR FIBER.

ITEMS TO REMAIN:
- (6) ANTENNAS, (12) RRU'S, (6) DC POWER.

SITE ADDRESS:	63 ELM STREET MANCHESTER, CT 06040
LATITUDE:	41.770556° N, 41° 46' 14" N
LONGITUDE:	72.527333° W, 72° 31' 38.4" W
TYPE OF SITE:	SMOKE STACK / INDOOR EQUIPMENT
STRUCTURE HEIGHT:	200'-0"±
RAD CENTER:	175'-0"± (POS. 1 & 4) & 165'-0" (POS. 2 & 3)
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	B
GN-1	GENERAL NOTES	B
A-1	COMPOUND & EQUIPMENT PLANS	B
A-2	EXISTING ANTENNA PLAN	B
A-3	PROPOSED ANTENNA PLAN	B
A-4	ELEVATION	B
A-5	DETAILS	B
A-6	DETAILS	B
SN-1	STRUCTURAL NOTES	B
G-1	GROUNDING DETAILS	B
RF-1	RF PLUMBING DIAGRAM	B

at&t

SITE NUMBER: CTL05322

SITE NAME: MANCHESTER SOUTH CENTRAL

FA CODE: 10071101

PACE ID: MRCTB062617,MRCTB054200,MRCTB057628,MRCTB057633, MRCTB052258,MRCTB051209,MRCTB051116,MRCTB050992

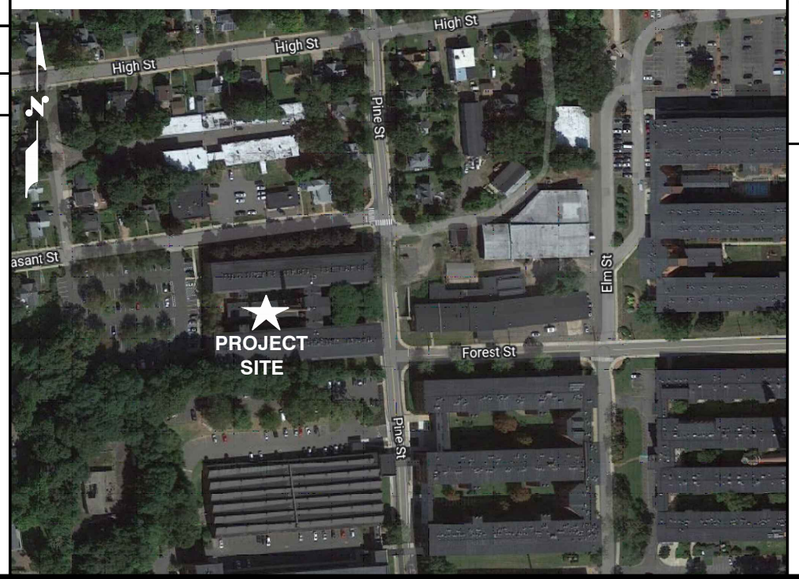
PROJECT: 5G NR 1SR CBAND, 5G NR RADIO, ANTENNA MODIFICATIONS, 4TXRX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE

ISSUED FOR PERMITTING

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING EAST ON ENTERPRISE DR TOWARD CAPITAL BLVD. TURN LEFT ONTO CAPITAL BLVD. TURN LEFT ONTO WEST ST. MERGE ONTO I-91 N VIA THE RAMP ON THE LEFT TOWARD HARTFORD. MERGE ONTO CT-15 N VIA EXIT 29 TOWARD BOSTON/E HARTFORD/I-84 E. CT-15 N BECOMES I-84 E/US-6 E. MERGE ONTO I-384 E VIA EXIT 59 TOWARD PROVIDENCE. TAKE EXIT 2 TOWARD KEENEY STREET. TURN LEFT ONTO WETHERELL ST. TAKE THE 1ST LEFT ONTO KEENEY ST. TURN RIGHT ONTO HARTFORD RD. OXFORD LIQUORS IS ON THE CORNER TURN LEFT ONTO ELM ST. ELM ST IS JUST PAST PINE ST. 63 ELM ST, MANCHESTER, CT 06040 IS 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

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TEL: (978) 557-5553

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

SITE NUMBER: CTL05322
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B	01/12/23	ISSUED FOR PERMITTING	KM	AT	DPH
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: MR

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

AT&T

TITLE SHEET

5G NR 1SR CBAND, 5G NR RADIO, ANTENNA MODIFICATIONS, 4TXRX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL05322	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 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 (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

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

SITE NUMBER: CTL05322
SITE NAME: MANCHESTER SOUTH CENTRAL

63 ELM STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	01/12/23	ISSUED FOR PERMITTING	KM	AT	DPH
A	03/31/22	ISSUED FOR REVIEW	MR	AT	DPH

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

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

AT&T

GENERAL NOTES

150.0000 MHz BAND, 35 NR RADIO, ANTENNA MODIFICATIONS, 4TXRX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL05322	GN-1	B

NOTE:

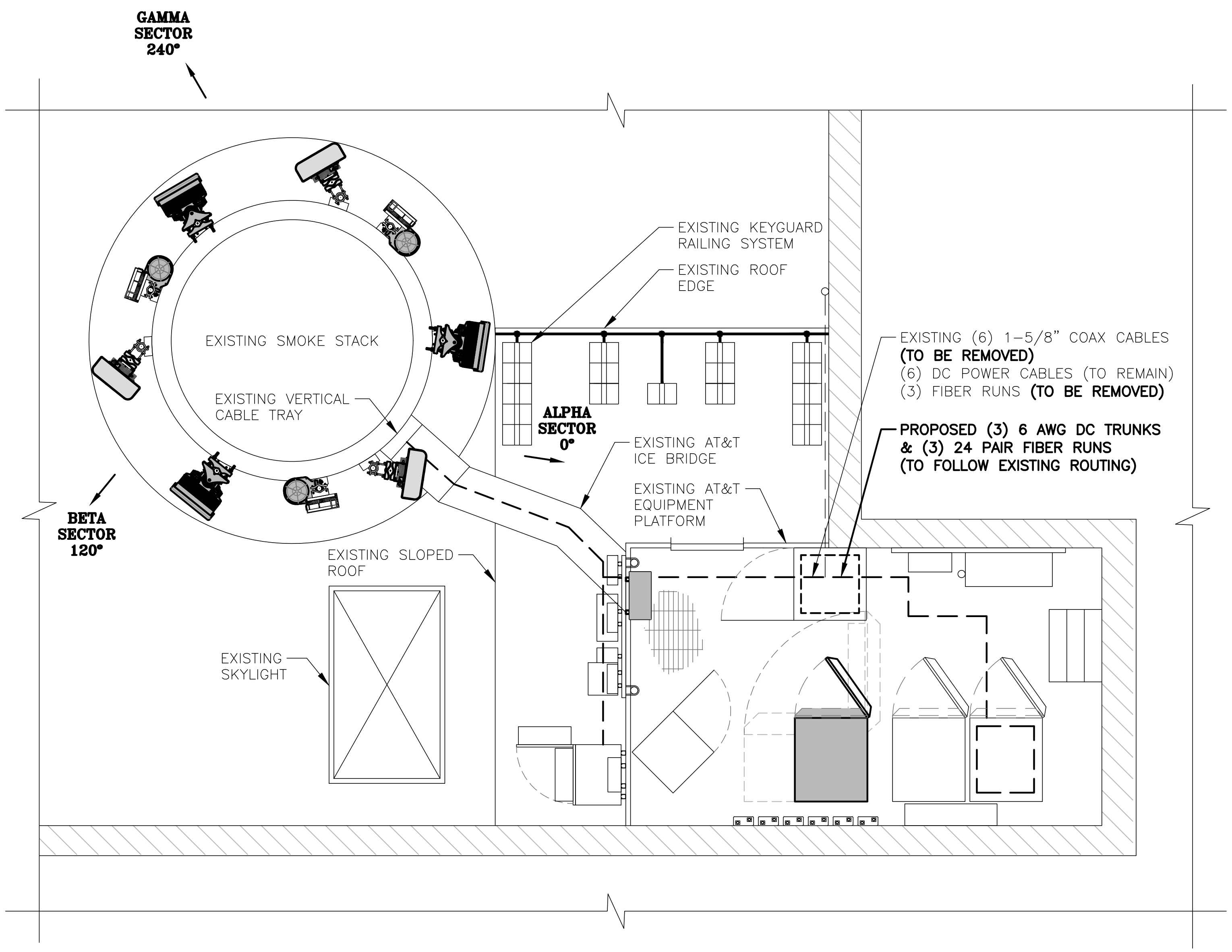
REFER TO STRUCTURAL ANALYSIS BY: ICC COMMONWEALTH, DATED: JANUARY 3, 2023 FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

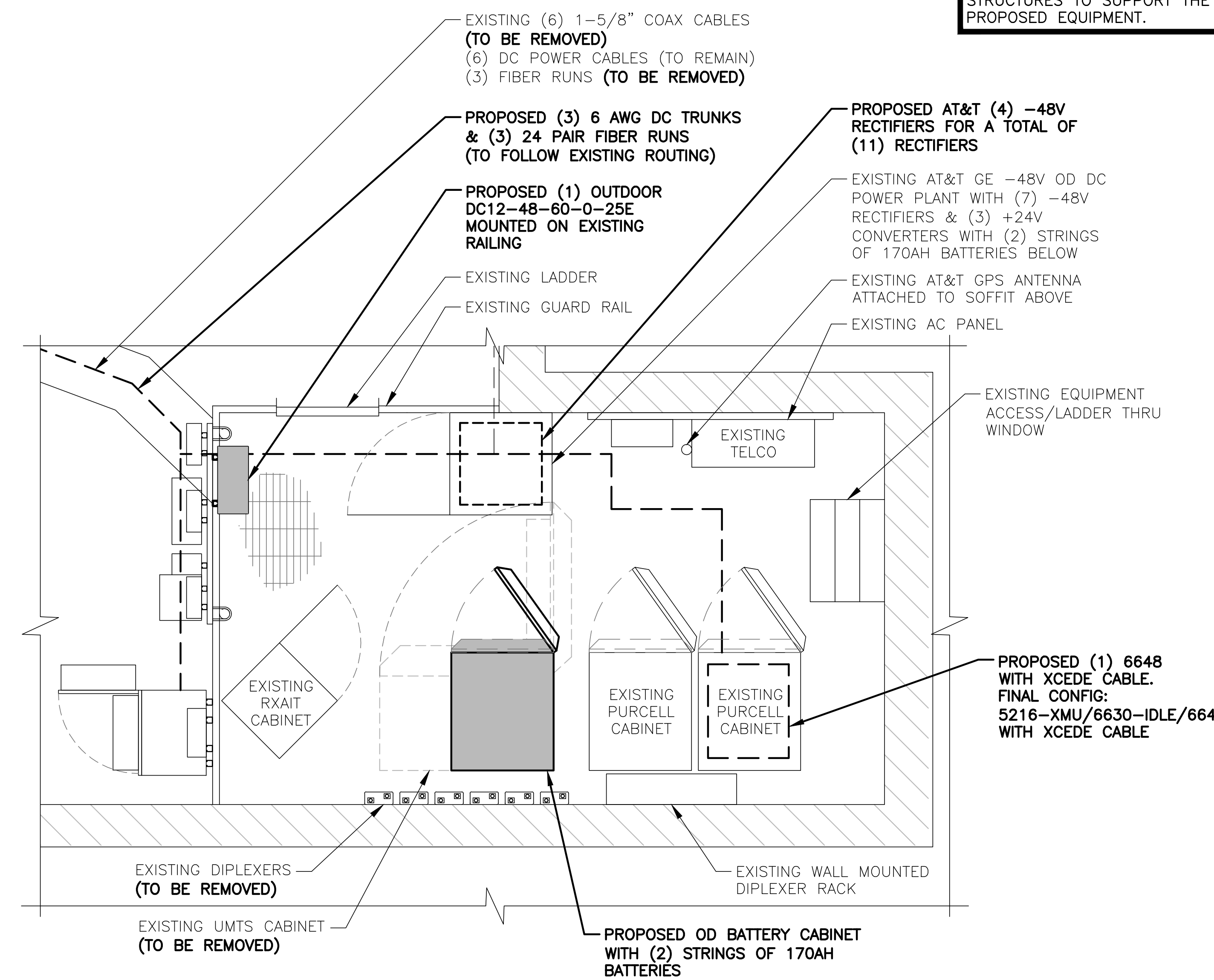
NOTE:

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

NOTE:

REFER TO MOUNT STRUCTURAL ANALYSIS, BY: TEP NE., DATED: DECEMBER 6, 2022 (REV. 1) FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.





MAGNETIC NORTH 13°32' TRUE NORTH

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"

MAGNETIC NORTH 13°32' TRUE NORTH

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

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

AT&T

COMPOUND & EQUIPMENT PLANS

5G NR 1SR CBAND, 5G NR RADIO, ANTENNA MODIFICATIONS, 4TXRX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL05322	A-1	B

NOTE:

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NOTE:

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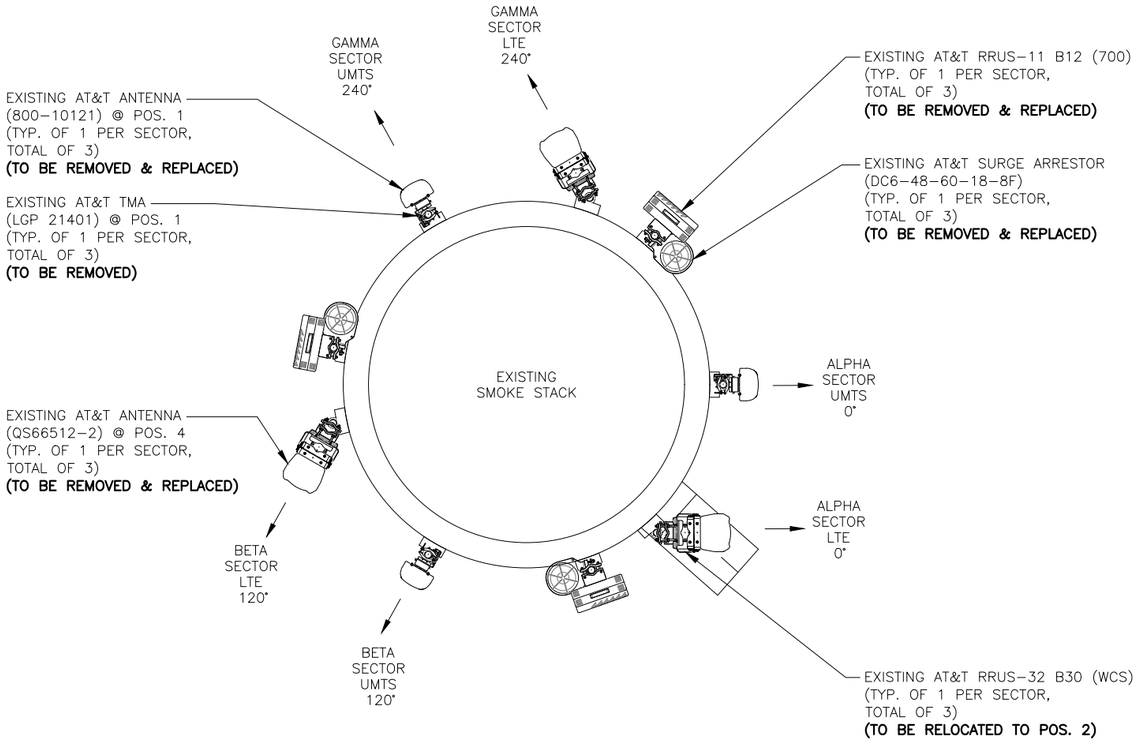
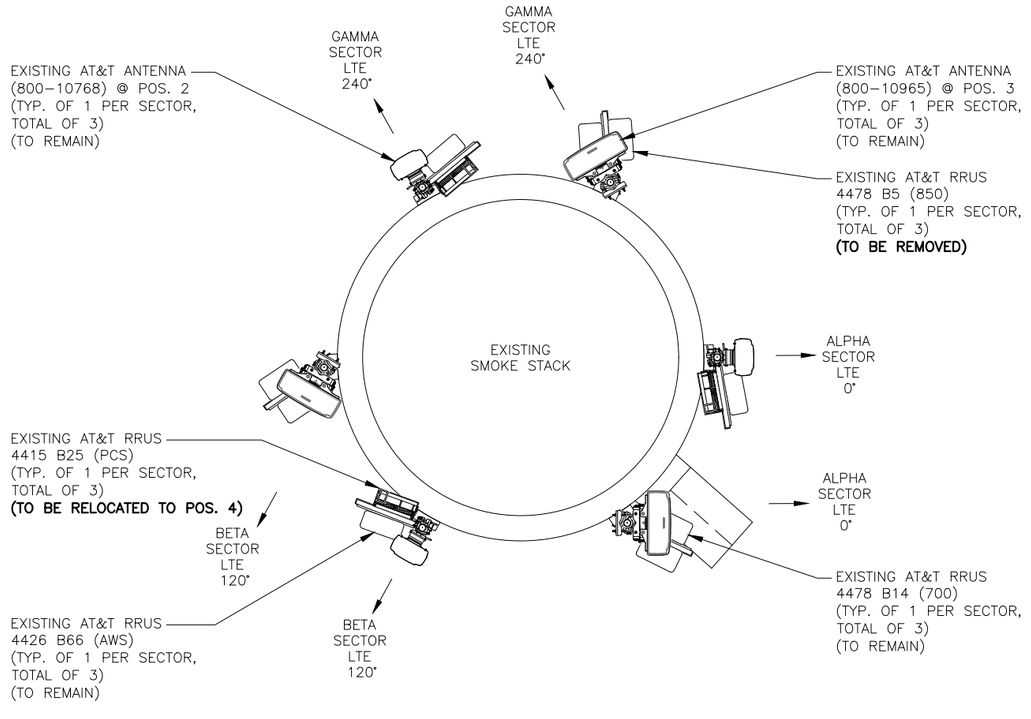


EXISTING ANTENNA PLAN
(@ RAD = 175'-0"±)
SCALE: N.T.S

1
A-2



EXISTING ANTENNA PLAN
(@ RAD = 165'-0"±)
SCALE: N.T.S

2
A-2

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STATE OF CONNECTICUT
DANIEL P. HAMM
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LICENSED PROFESSIONAL ENGINEER

AT&T

EXISTING ANTENNA PLAN

150 NR-SA-CBAND: 3G NR RADIO, ANTENNA MODIFICATIONS, 4TXRX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
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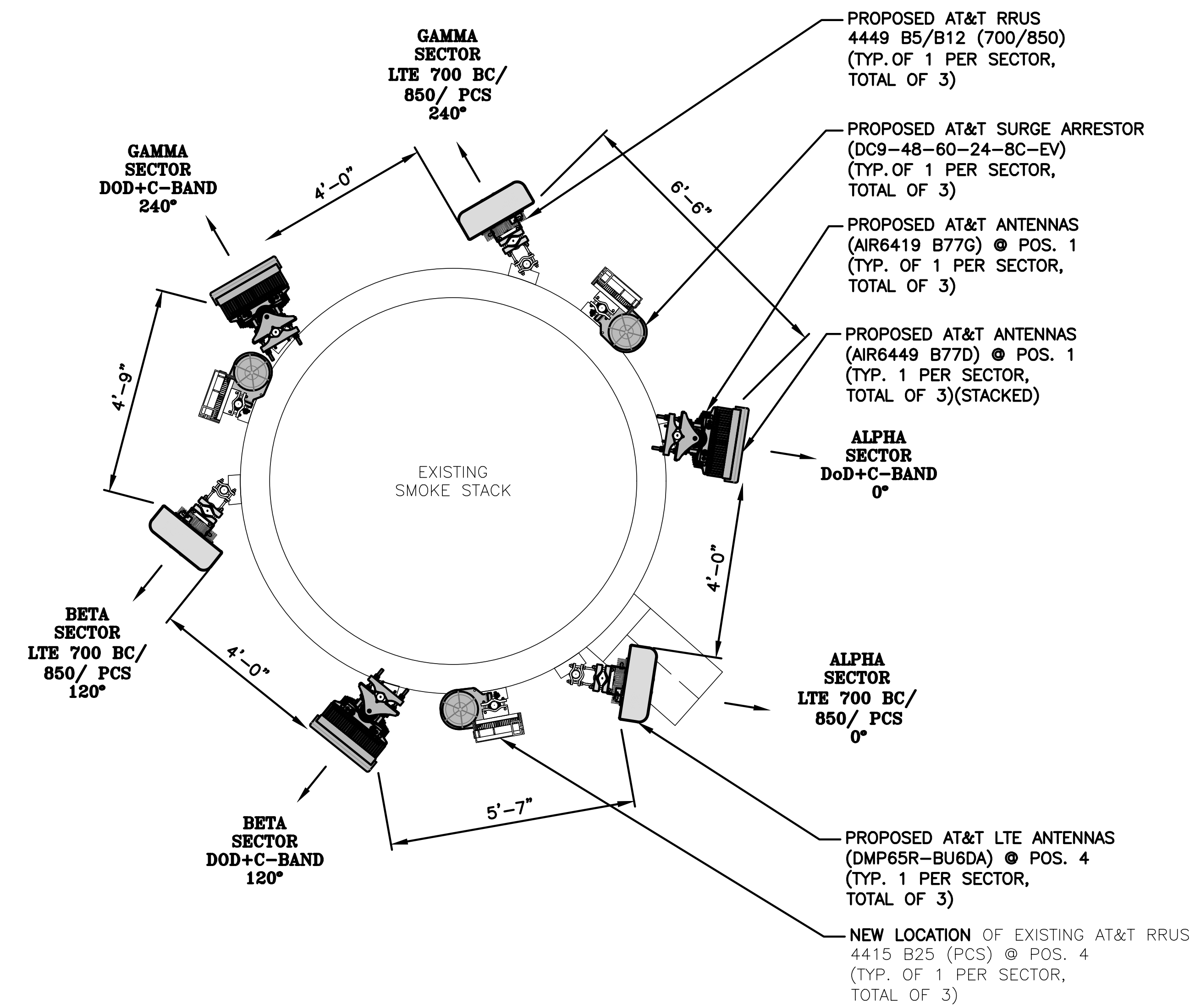
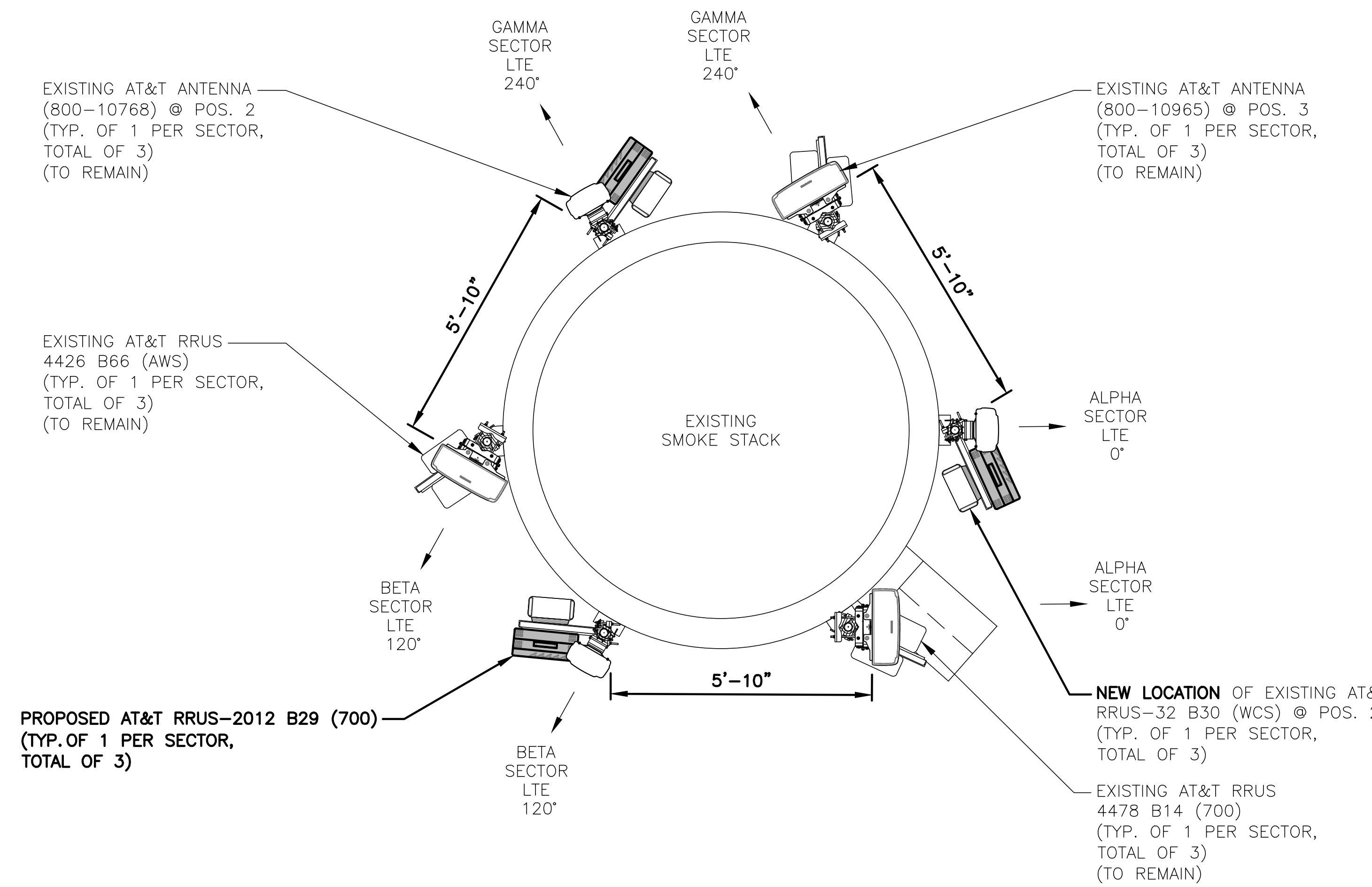


PROPOSED ANTENNA PLAN
(@ RAD = 175'-0"±)
SCALE: N.T.S
1
A-3



PROPOSED ANTENNA PLAN
(@ RAD = 165'-0"±)
SCALE: N.T.S
2
A-3

TEP NORTHEAST
TEP OPCO, LLC
45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553

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

SITE NUMBER: CTL05322
SITE NAME: MANCHESTER SOUTH CENTRAL

63 ELM STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	01/12/23	ISSUED FOR PERMITTING	KW	AT	DPH
A	03/31/22	ISSUED FOR REVIEW	MR	AT	DPH

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

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

AT&T

PROPOSED ANTENNA PLAN
5G NR 1SR CBAND, 5G NR RADIO, ANTENNA MODIFICATIONS, 4TXRX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL05322	A-3	B

NOTE:

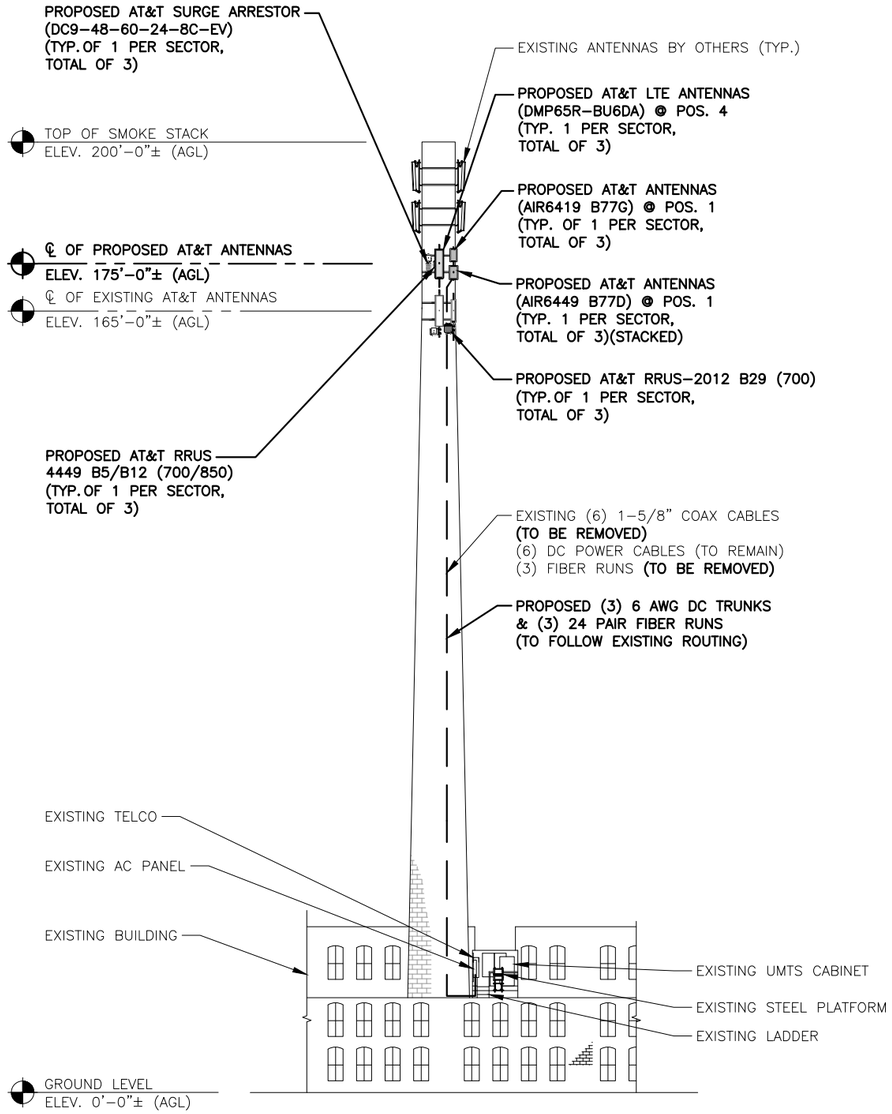
REFER TO STRUCTURAL ANALYSIS
BY: ICC COMMONWEALTH,
DATED: JANUARY 3, 2023
FOR THE CAPACITY OF THE EXISTING
STRUCTURES TO SUPPORT THE
PROPOSED EQUIPMENT.

NOTE:

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

NOTE:

REFER TO MOUNT STRUCTURAL
ANALYSIS, BY: TEP NE.,
DATED: DECEMBER 6, 2022 (REV. 1)
FOR THE CAPACITY OF THE EXISTING
STRUCTURES TO SUPPORT THE
PROPOSED EQUIPMENT.



ELEVATION 1 / A-4
22x34 SCALE: 1/16"=1'-0"
11x17 SCALE: 1/32"=1'-0"

0 8'-0" 16'-0" 32'-0" 48'-0"

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STATE OF CONNECTICUT
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AT&T

ELEVATION

~~150 KW GSM~~ 5G NR RADIO, ANTENNA MODIFICATIONS, 4TXRX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL05322	A-4	B

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ COMBINER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	PROPOSED	DOD+C-BAND	AIR 6419 B77G AIR 6449 B77D	31.1"X16.1X7.3" 30.4"X15.9"X8.1"	175'-0"±	0°	–	–	–	–	(P) (1) RAYCAP DC9-48-60-24-8C-EV
A2	EXISTING	LTE 700DE/WCS	800-10768	75.2"X14.8"X6.7"	165'-0"±	0°	–	(P)(1) RRUS-2012 B29 (700) (E)(1) RRUS-32 B30 (WCS)	20.4"x18.5"x7.5" –	(E)(1) 8 AWG DC CABLE	
A3	EXISTING	LTE 700 B14/AWS	800-10965	78.7"X20"X6.9"	165'-0"±	0°	–	(E)(1) 4478 B14 (700) (E)(1) 4426 B66 (AWS)	–	(E)(1) 8 AWG DC CABLE	
A4	PROPOSED	LTE 700 BC/850/PCS	DMP65R-BU6DA	71.2"X20.7"X7.7"	175'-0"±	0°	–	(P)(1) 4449 B5/B12 (850/700) (E)(1) 4415 B25 (PCS)	17.9"x13.2"x10.4" –	(P)(1) 6 AWG DC CABLES (P)(1) 24 PAIR FIBER (P)(1) Y-CABLE	
B1	PROPOSED	DOD+C-BAND	AIR 6419 B77G AIR 6449 B77D	31.1"X16.1X7.3" 30.4"X15.9"X8.1"	175'-0"±	120°	–	–	–	–	(P) (1) RAYCAP DC9-48-60-24-8C-EV
B2	EXISTING	LTE 700DE/WCS	800-10768	75.2"X14.8"X6.7"	165'-0"±	120°	–	(P)(1) RRUS-2012 B29 (700) (E)(1) RRUS-32 B30 (WCS)	20.4"x18.5"x7.5" –	(E)(1) 8 AWG DC CABLE	
B3	EXISTING	LTE 700 B14/AWS	800-10965	78.7"X20"X6.9"	165'-0"±	120°	–	(E)(1) 4478 B14 (700) (E)(1) 4426 B66 (AWS)	–	(E)(1) 8 AWG DC CABLE	
B4	PROPOSED	LTE 700 BC/850/PCS	DMP65R-BU6DA	71.2"X20.7"X7.7"	175'-0"±	120°	–	(P)(1) 4449 B5/B12 (850/700) (E)(1) 4415 B25 (PCS)	17.9"x13.2"x10.4" –	(P)(1) 6 AWG DC CABLES (P)(1) 24 PAIR FIBER (P)(1) Y-CABLE	
C1	PROPOSED	DOD+C-BAND	AIR 6419 B77G AIR 6449 B77D	31.1"X16.1X7.3" 30.4"X15.9"X8.1"	175'-0"±	240°	–	–	–	–	(P) (1) RAYCAP DC9-48-60-24-8C-EV
C2	EXISTING	LTE 700DE/WCS	800-10768	75.2"X14.8"X6.7"	165'-0"±	240°	–	(P)(1) RRUS-2012 B29 (700) (E)(1) RRUS-32 B30 (WCS)	20.4"x18.5"x7.5" –	(E)(1) 8 AWG DC CABLE	
C3	EXISTING	LTE 700 B14/AWS	800-10965	78.7"X20"X6.9"	165'-0"±	240°	–	(E)(1) 4478 B14 (700) (E)(1) 4426 B66 (AWS)	–	(E)(1) 8 AWG DC CABLE	
C4	PROPOSED	LTE 700 BC/850/PCS	DMP65R-BU6DA	71.2"X20.7"X7.7"	175'-0"±	240°	–	(P)(1) 4449 B5/B12 (850/700) (E)(1) 4415 B25 (PCS)	17.9"x13.2"x10.4" –	(P)(1) 6 AWG DC CABLES (P)(1) 24 PAIR FIBER (P)(1) Y-CABLE	

NOTE:

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

NOTE:

REFER TO MOUNT STRUCTURAL ANALYSIS, BY: TEP NE., DATED: DECEMBER 6, 2022 (REV. 1) FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

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RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
P(3)	RRUS-2012 B29 (700)	20.4"x18.5"x7.5"
P(3)	4449 B5/B12 (850/700)	17.9"x13.2"x10.4"
E(3)	RRUS-32 B30(WCS)	27.2"x12.1"x7.0"
E(3)	4478 B14 (700)	18.1"x13.4"x8.3"
E(3)	4426 B66 (AWS)	14.9"x13.2"x5.8"
E(3)	4415 B25 (PCS)	16.5"x13.4"x5.9"

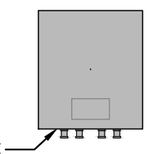
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

FINAL ANTENNA CONFIGURATION (1 / A-5)

SCALE: N.T.S

NOTE:

SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

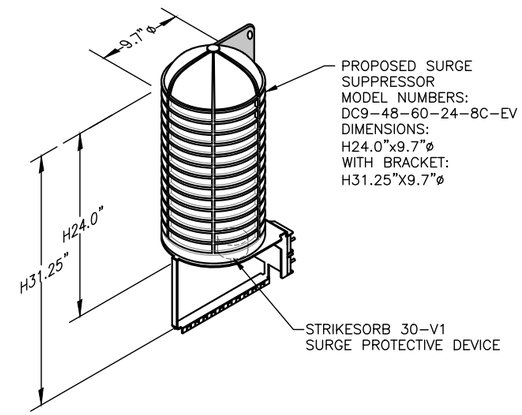


PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL (2 / A-5)

SCALE: N.T.S



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (3 / A-5)

SCALE: N.T.S

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

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

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DETAILS

~~150 NEW 5G NR-CBAND, 5G NR RADIO, ANTENNA MODIFICATIONS, 4TXRX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE~~

SITE NUMBER	DRAWING NUMBER	REV
CTL05322	A-5	B

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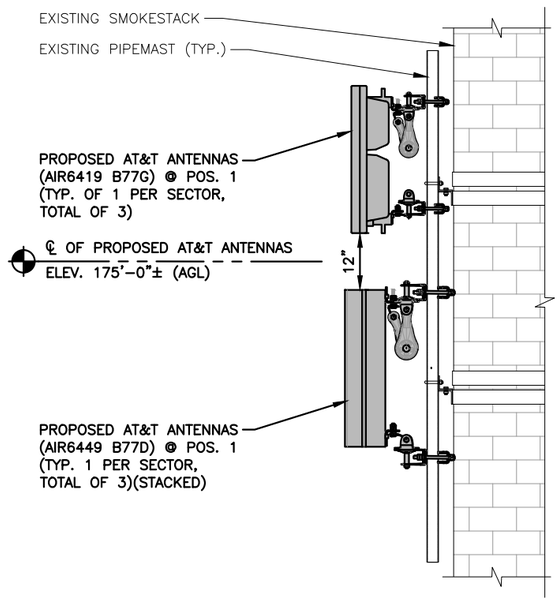
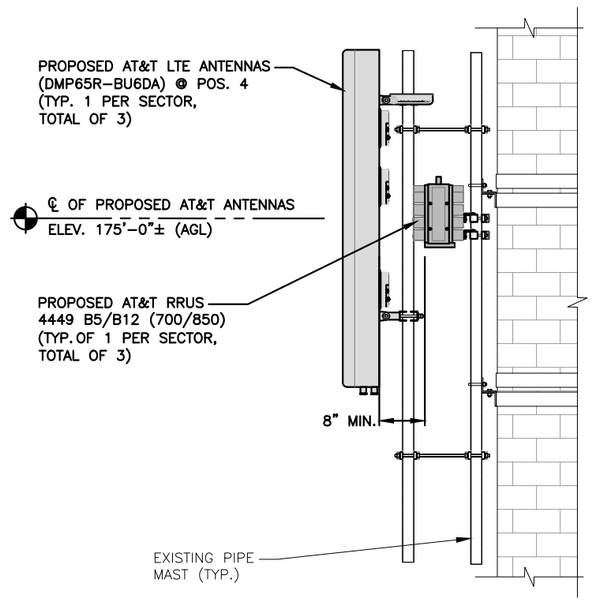
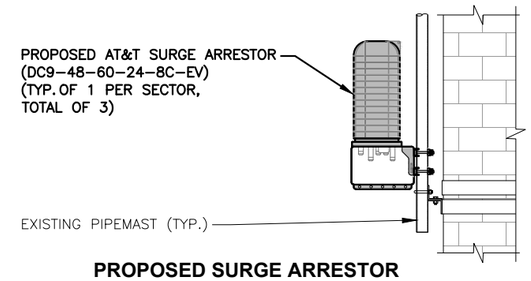


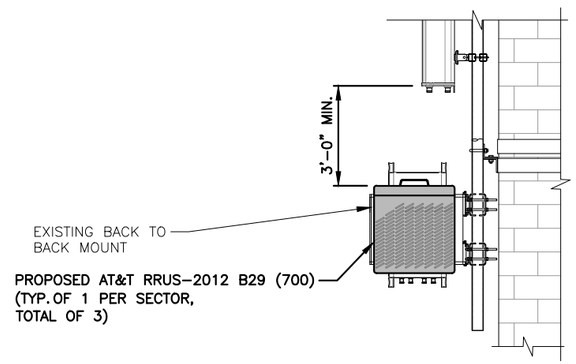
PROPOSED DoD + C-Band
ANTENNA MOUNTING DETAIL (1 / A-6)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0" 0 8" 1'-4" 2'-8" 4'-0"



PROPOSED ANTENNA MOUNTING DETAIL (2 / A-6)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0" 0 8" 1'-4" 2'-8" 4'-0"



PROPOSED SURGE ARRESTOR
MOUNTING DETAIL (3 / A-6)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0" 0 8" 1'-4" 2'-8" 4'-0"



PROPOSED RRUS MOUNTING DETAIL (4 / A-6)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0" 0 8" 1'-4" 2'-8" 4'-0"

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

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

AT&T

DETAILS

~~150 NEXT-GRAND, 3C NR RADIO, ANTENNA MODIFICATIONS, 4TXRX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE~~

SITE NUMBER	DRAWING NUMBER	REV
CTL05322	A-6	B

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 D1.1. 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.

NOTES:

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

NOTES:

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

SPECIAL INSPECTION CHECKLIST

BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
REQUIRED	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	STEEL INSPECTIONS
REQUIRED	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:	

TEP NORTHEAST
TEP OPCO, LLC.
45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553

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

SITE NUMBER: CTL05322
SITE NAME: MANCHESTER SOUTH CENTRAL

63 ELM STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	01/12/23	ISSUED FOR PERMITTING	KM	AT	DPH
A	03/31/22	ISSUED FOR REVIEW	MR	AT	DPH

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

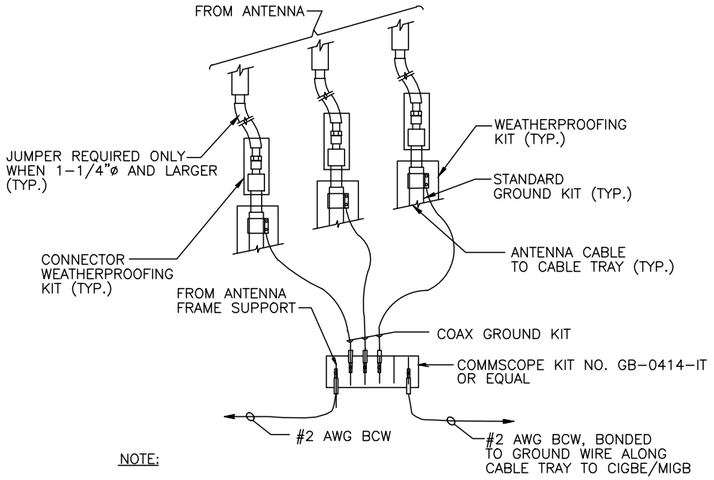
STATE OF CONNECTICUT · DANIEL P. HAMM · NO. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

STRUCTURAL NOTES

150 JACKSON GRAND; 35' NR RADIO, ANTENNA MODIFICATIONS, 4T4RX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL05322	SN-1	B



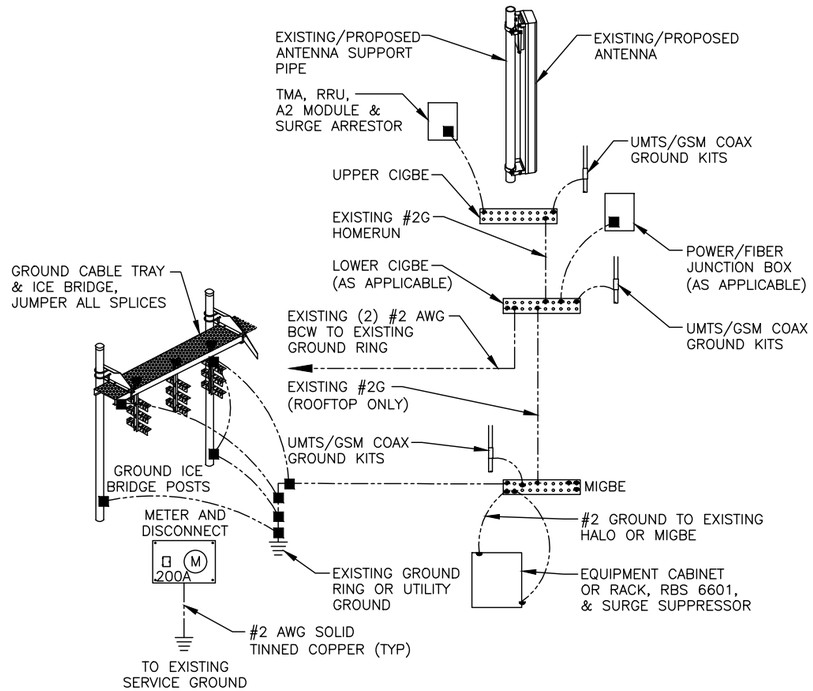
NOTE:

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

SCALE: N.T.S

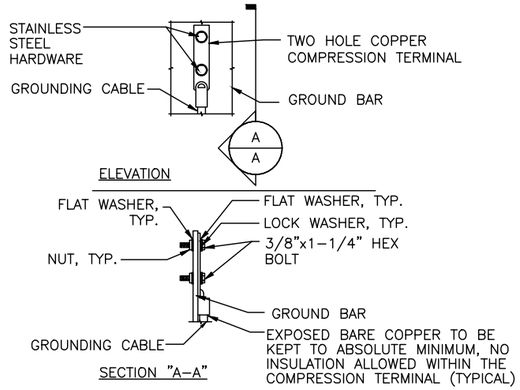
1 / G-1



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2 / G-1



NOTES:

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

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3 / G-1

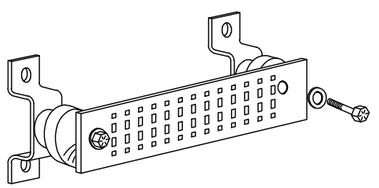
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

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

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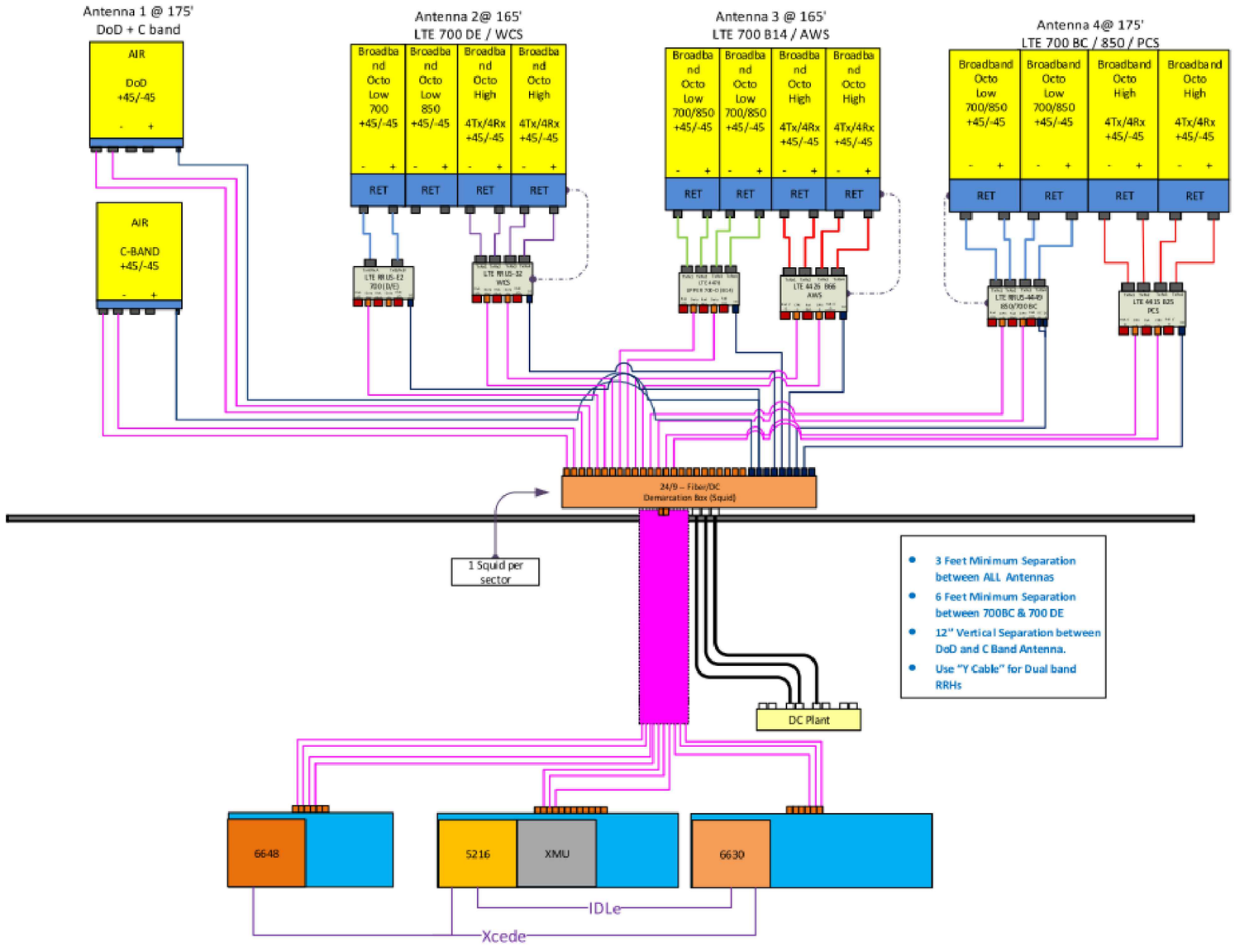
GROUNDING DETAILS

850 MHz 5G-CBAND, 3G NR RADIO, ANTENNA MODIFICATIONS, 4TXRX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL05322	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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B	01/12/23	ISSUED FOR PERMITTING	KW	AT	DPH
A	03/31/22	ISSUED FOR REVIEW	MR	AT	DPH

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

AT&T

RF PLUMBING DIAGRAM
5G NR 1SR CBAND, 5G NR RADIO, ANTENNA MODIFICATIONS, 4T4RX SOFTWARE RETROFIT, 4T4R ANTENNA RETROFIT, BBU RECONFIGURATION, LTE 7C ADD, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL05322	RF–1	B