



April 18, 2018

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

Regarding: Notice of Exempt Modification –Replace 3 Panel Antennas, Add 6 Remote Radios (RRUs).

Property Address: 281 Wood House Road, Fairfield, CT 06430 (the “Property”)

Applicant: AT&T Mobility (“AT&T”, Site # CT2105)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 171-foot monopole at the above-referenced address, latitude 41.19594444, longitude -73.28152500. Said monopole is owned and operated by Crown Atlantic Company LLC and the ground space is owned by J FERNANDES PROPERTIES LLC.

AT&T currently maintains nine (9) antennas at the 148-foot level of the existing 171-foot tower. AT&T desires to modify its existing telecommunications facility by replacing (3) existing antennas and adding (6) remote radios (RRUs). The centerline height of the equipment will remain at 148 feet.

Please accept this application 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 Town of Fairfield’s First Selectman; the Building Official, and the Planning Director. A copy of this letter is also being sent to the ground owner, FERNANDES PROPERTIES LLC and to Crown Castle USA Inc owner and operator of the tower on which AT&T is located.

The planned modifications to AT&T’s facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The planned modifications will not result in an increase in the height of the existing structure. AT&T’s antennas and associated lines will be installed at the existing mount height of 148’ on the Monopole tower.
2. The proposed modifications will not involve any changes to ground-space footprint and, therefore will not require an extension of the site boundary.



April 18, 2018

Page 2 of 2

3. The proposed modification will not increase the noise level at the facility by six decibel or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. An RF emissions calculation is attached.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (Please see attached Structural analysis completed by Crown Castle on January 29, 2018).

For the foregoing reasons AT&T respectfully requests that the proposed swap of antennas, addition of radios and addition of squids be allowed within the exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kristen White

Kristen White

Site Acquisition Specialist Empire

Telecom

kwhite@empiretelecomm.com

978.284.0701

Enclosures: Exhibit 1 – Construction Drawings
 Exhibit 2 – Structural Analysis
 Exhibit 3 – RF Emissions Analysis Report Evaluation
 Exhibit 4 – Property Card and GIS Map

CC: Michael C. Tetreau, Town of Fairfield First Selectman
 Thomas Conley, Building Official
 James Wendt, Planning Director
 Paul Pedicone, Project Manager; tower owner
 J FERNANDES PROPERTIES LLC, Ground Owner

Exhibit 1



WIRELESS COMMUNICATIONS FACILITY

CT2105 - LTE 4C

FAIRFIELD-MURRAY

281 WOOD HOUSE ROAD

FAIRFIELD, CT 06824

GENERAL NOTES

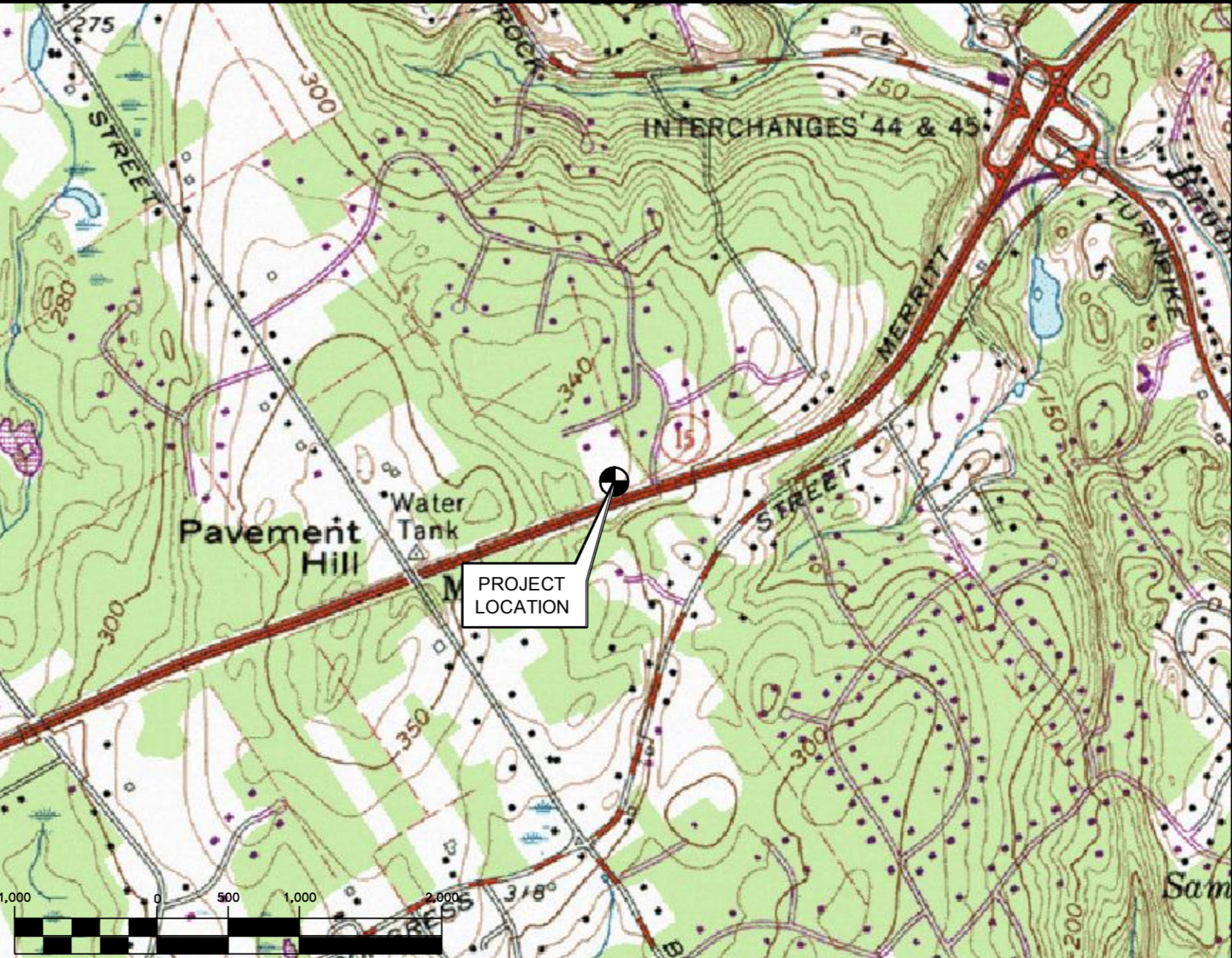
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE, INCLUDING THE TIA-222 REVISION "G" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2016 CONNECTICUT FIRE SAFETY CODE AND, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMARCATION POINT ARE PROVIDED BY SITE OWNER. AS BUILT FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE CONFIRMED BY THE CONTRACTOR. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
7. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
13. ANY AND ALL ERRORS, DISCREPANCIES, AND 'MISSED' ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE AT&T CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
15. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
16. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
17. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
19. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
21. CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

FROM:	TO:
500 ENTERPRISE DRIVE ROCKY HILL, CONNECTICUT	281 WOOD HOUSE ROAD FAIRFIELD, CONNECTICUT
1. TURN LEFT ONTO CAPITAL BLVD	0.36 MI
2. TURN LEFT ONTO WEST ST	0.27 MI
3. MERGE ONTO I-91 S VIA THE RAMP ON THE LEFT TOWARD NEW HAVEN	0.30 MI
4. MERGE ONTO CT-15 S VIA EXIT 17 TOWARD E MAIN ST	9.59 MI
5. TAKE EXIT 44 TOWARD CT-58/FAIRFIELD/REDDING	37.72 MI
6. TURN LEFT ONTO CONGRESS ST	0.09 MI
7. TAKE THE 1ST RIGHT ONTO BLACK ROCK TURNPIKE/CT-58	0.06 MI
8. TURN LEFT ONTO TANGLEWOOD RD	0.63 MI
9. TURN LEFT ONTO TOWNE HOUSE RD	0.23 MI
10. TURN RIGHT ONTO WOOD HOUSE RD	0.45 MI
11. 281 WOOD HOUSE RD, FAIRFIELD, CT 06824-1823, 281 WOOD HOUSE RD IS ON THE LEFT	0.15 MI

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

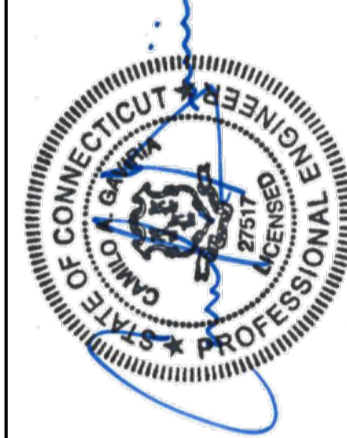
1. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
 - A. AT ANTENNA SECTORS:
 - REMOVE POWERWAVE ANTENNA AT POS. 1. (TOTAL OF 3)
 - INSTALL CCI ANTENNA AT POS. 1. (TOTAL OF 3)
 - INSTALL RRUS-32 B66 AT POS. 1. (TOTAL OF 3)
 - B. AT THE EQUIPMENT ROOM
 - IN LTE RACK, ADD 2ND XMU.

PROJECT INFORMATION

AT&T SITE NUMBER:	CT2105
AT&T SITE NAME:	FAIRFIELD-MURRAY
SITE ADDRESS:	281 WOOD HOUSE ROAD FAIRFIELD, CT 06824
LESSEE/APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
AT&T PACE ID NUMBER:	PACE JOB 1 - MRCTB026571
AT&T FA LOCATION CODE:	10035026
ENGINEER:	CEN TEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405
PROJECT COORDINATES:	LATITUDE: 41°-11'-45.58" N LONGITUDE: 73°-16'-53.16" W GROUND ELEVATION: ±339' AMSL SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
N-1	NOTES, SPECIFICATIONS AND ANTENNA SCHEDULE	0
C-1	PLANS AND ELEVATION	0
C-2	ANTENNA CONFIGURATION DETAILS	0
C-3	DETAILS	0
E-1	SCHEMATIC DIAGRAM AND NOTES	0
E-2	WIRING DIAGRAM	0
E-3	TYPICAL ELECTRICAL DETAILS	0



CEN TEK engineering
Centered on Solutions
203) 488-0360
203) 488-8387 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
FAIRFIELD-MURRAY
CT2105 - LTE 4C
281 WOOD HOUSE ROAD
FAIRFIELD, CT 06824

DATE: 03/01/18
SCALE: AS NOTED
JOB NO. 18000.05

TITLE SHEET

T-1
Sheet No. 1 of 8

REV.	DATE	BY	CHK'D	DESCRIPTION
0	03/05/18	TJR	DMD	PRELIMINARY CDs - ISSUED FOR REVIEW

NOTES AND SPECIFICATIONS

DESIGN BASIS:

- GOVERNING CODE: 2012 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2016 CT STATE BUILDING CODE AND AMENDMENTS.
- DESIGN CRITERIA:
 - WIND LOAD: PER TIA 222 G (ANTENNA MOUNTS): 90-110 MPH (3 SECOND GUST)
 - RISK CATEGORY: II (BASED ON IBC TABLE 1604.5)
 - NOMINAL DESIGN SPEED (OTHER STRUCTURE): 93 MPH (V_{asd}) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-10) PER 2012 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE.
 - SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
- DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
- BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
- DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
- ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
- AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE SHORING, BRACING, AND BARRICADES AS MAY BE REQUIRED FOR THE PROTECTION OF EXISTING PROPERTY, CONSTRUCTION WORKERS, AND FOR PUBLIC SAFETY.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING SITE OPERATIONS, COORDINATE WORK WITH NORTHEAST UTILITIES
- THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER FOUNDATION REMEDIATION WORK IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, TEMPORARY BRACING, GUYS OR TIEDOWNS, WHICH MIGHT BE NECESSARY.
- ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
- SHOP DRAWINGS, CONCRETE MIX DESIGNS, TEST REPORTS, AND OTHER SUBMITTALS PERTAINING TO STRUCTURAL WORK SHALL BE FORWARDED TO THE OWNER FOR REVIEW BEFORE FABRICATION AND/OR INSTALLATION IS MADE. SHOP DRAWINGS SHALL INCLUDE ERECTION DRAWINGS AND COMPLETE DETAILS OF CONNECTIONS AS WELL AS MANUFACTURER'S SPECIFICATION DATA WHERE APPROPRIATE. SHOP DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR AND BEAR THE CHECKER'S INITIALS BEFORE BEING SUBMITTED FOR REVIEW.
- NO DRILLING WELDING OR TAPING ON EVERSOURCE OWNED EQUIPMENT.
- REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

STRUCTURAL STEEL

- ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)
 - STRUCTURAL STEEL (W SHAPES)---ASTM A992 (FY = 50 KSI)
 - STRUCTURAL STEEL (OTHER SHAPES)---ASTM A36 (FY = 36 KSI)
 - STRUCTURAL HSS (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
 - STRUCTURAL HSS (ROUND SHAPES)---ASTM A500 GRADE B, (FY = 42 KSI)
 - PIPE---ASTM A53 (FY = 35 KSI)
 - CONNECTION BOLTS---ASTM A325-N
 - U-BOLTS---ASTM A36
 - ANCHOR RODS---ASTM F 1554
 - WELDING ELECTRODE---ASTM E 70XX
- CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING: SECTION PROFILES, SIZES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES. INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
- PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
- FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
- INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
- AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON-GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
- ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".
- THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.
- CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
- STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE A MINIMUM OF TWO BOLTS, UNLESS OTHERWISE ON THE DRAWINGS.
- LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
- SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
- MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
- FABRICATE BEAMS WITH MILL CAMBER UP.
- LEVEL AND PLUMB INDIVIDUAL MEMBERS OF THE STRUCTURE TO AN ACCURACY OF 1:500, BUT NOT TO EXCEED 1/4" IN THE FULL HEIGHT OF THE COLUMN.
- COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
- INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
- FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

PAINT NOTES

PAINTING SCHEDULE:

- ANTENNA PANELS:
 - SHERWIN WILLIAMS POLANE-B
 - COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.
 - COAXIAL CABLES:
 - ONE COAT OF DTM BONDING PRIMER (2-5 MILS. DRY FINISH)
 - TWO COATS OF DTM ACRYLIC PRIMER/FINISH (2.5-5 MILS. DRY FINISH)
 - COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.
- EXAMINATION AND PREPARATION:**
- DO NOT APPLY PAINT IN SNOW, RAIN, FOG OR MIST OR WHEN RELATIVE HUMIDITY EXCEEDS 85%. DO NOT APPLY PAINT TO DAMP OR WET SURFACES.
 - VERIFY THAT SUBSTRATE CONDITIONS ARE READY TO RECEIVE WORK. EXAMINE SURFACE SCHEDULED TO BE FINISHED PRIOR TO COMMENCEMENT OF WORK. REPORT ANY CONDITION THAT MAY POTENTIALLY AFFECT PROPER APPLICATION.
 - TEST SHOP APPLIED PRIMER FOR COMPATIBILITY WITH SUBSEQUENT COVER MATERIALS.
 - PERFORM PREPARATION AND CLEANING PROCEDURE IN STRICT ACCORDANCE WITH COATING MANUFACTURER'S INSTRUCTIONS FOR EACH SUBSTRATE CONDITION.
 - CORRECT DEFECTS AND CLEAN SURFACES WHICH AFFECT WORK OF THIS SECTION. REMOVE EXISTING COATINGS THAT EXHIBIT LOOSE SURFACE DEFECTS.
 - IMPERVIOUS SURFACE: REMOVE MILDEW BY SCRUBBING WITH SOLUTION OF TRI-SODIUM PHOSPHATE AND BLEACH. RINSE WITH CLEAN WATER AND ALLOW SURFACE TO DRY.
 - ALUMINUM SURFACE SCHEDULED FOR PAINT FINISH: REMOVE SURFACE CONTAMINATION BY STEAM OR HIGH-PRESSURE WATER. REMOVE OXIDATION WITH AICD ETCH AND SOLVENT WASHING. APPLY ETCHING PRIMER IMMEDIATELY FOLLOWING CLEANING.
 - FERROUS METALS: CLEAN UNGALVANIZED FERROUS METAL SURFACES THAT HAVE NOT BEEN SHOP COATED; REMOVE OIL, GREASE, DIRT, LOOSE MILL SCALE, AND OTHER FOREIGN SUBSTANCES. USE SOLVENT OR MECHANICAL CLEANING METHODS THAT COMPLY WITH THE STEEL STRUCTURES PAINTING COUNCIL'S (SSPC) RECOMMENDATIONS. TOUCH UP BARE AREAS AND SHOP APPLIED PRIME COATS THAT HAVE BEEN DAMAGED. WIRE BRUSH, CLEAN WITH SOLVENTS RECOMMENDED BY PAINT MANUFACTURER, AND TOUCH UP WITH THE SAME PRIMER AS THE SHOP COAT.
 - GALVANIZED SURFACES: CLEAN GALVANIZED SURFACES WITH NON-PETROLEUM-BASED SOLVENTS SO SURFACE IS FREE OF OIL AND SURFACE CONTAMINANTS. REMOVE PRETREATMENT FROM GALVANIZED SHEET METAL FABRICATED FROM COIL STOCK BY MECHANICAL METHODS.
 - ANTENNA PANELS: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION. PANELS MUST BE WIPED WITH METHYL ETHYL KETONE (MEK).
 - COAXIAL CABLES: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION.

CLEANING:

- COLLECT WASTE MATERIAL, WHICH MAY CONSTITUTE A FIRE HAZARD, PLACE IN CLOSED METAL CONTAINERS AND REMOVE DAILY FROM SITE.
- APPLICATION:**
- APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY.
 - APPLY EACH COAT TO UNIFORM FINISH.
 - APPLY EACH COAT OF PAINT SLIGHTLY DARKER THAN PRECEDING COAT UNLESS OTHERWISE APPROVED.
 - SAND METAL LIGHTLY BETWEEN COATS TO ACHIEVE REQUIRED FINISH.
 - VACUUM CLEAN SURFACES FREE OF LOOSE PARTICLES. USE TACK CLOTH JUST PRIOR TO APPLYING NEXT COAT.
 - ALLOW APPLIED COAT TO DRY BEFORE NEXT COAT IS APPLIED.

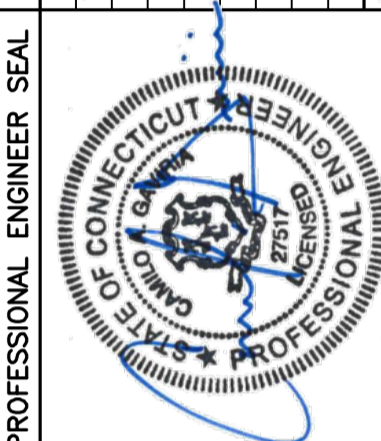
COMPLETED WORK:

- SAMPLES: PREPARE 24" X 24" SAMPLE AREA FOR REVIEW.
- MATCH APPROVED SAMPLES FOR COLOR, TEXTURE AND COVERAGE. REMOVE REFINISH OR REPAINT WORK NOT IN COMPLIANCE WITH SPECIFIED REQUIREMENTS.

PROPOSED ANTENNA AND APPURTENANCE SCHEDULE

ANTENNAS								APPURTENANCES				
SECTOR	POSITION	AZIMUTH	DOWNTILT (M)	MAKE & MODEL	RAD CENTER (AGL)	TECHNOLOGY	STATUS	TMA (QTY)	DIPLEXERS (QTY)	RRU (QTY)	FEDDER TYPE	
ALPHA	POS. 1	100'	0'	CCI (HPA-65R-BUU-H6)	148'	LTE 700/AWS	NEW			RRUS-11 (1), RRUS-32 B66 (1)	FIBER AND DC POWER	
ALPHA	POS. 3	100'	0'	QUINTEL (QS66512-2)	148'	LTE WCS/1900	REMAIN		PWAV: LGP21901 (2)	RRUS-32 (1), RRUS-32 B2 (1)	FIBER AND DC POWER	
ALPHA	POS. 4	145'	0'	POWERWAVE (7770)	148'	UMTS DB	REMAIN	PWAV: LGP21401 SINGLE 1900 W/ 850BP (2)	PWAV: LGP21901 (2)		1# COAX (2)	
BETA	POS. 1	220'	0'	CCI (HPA-65R-BUU-H6)	148'	LTE 700/AWS	NEW			RRUS-11 (1), RRUS-32 B66 (1)	FIBER AND DC POWER	
BETA	POS. 3	220'	0'	QUINTEL (QS66512-2)	148'	LTE WCS/1900	REMAIN		PWAV: LGP21901 (2)	RRUS-32 (1), RRUS-32 B2 (1)	FIBER AND DC POWER	
BETA	POS. 4	268'	0'	POWERWAVE (7770)	148'	UMTS DB	REMAIN	PWAV: LGP21401 SINGLE 1900 W/ 850BP (2)	PWAV: LGP21901 (2)		1# COAX (2)	
GAMMA	POS. 1	350'	0'	CCI (HPA-65R-BUU-H6)	148'	LTE 700/AWS	NEW			RRUS-11 (1), RRUS-32 B66 (1)	FIBER AND DC POWER	
GAMMA	POS. 3	350'	0'	QUINTEL (QS66512-2)	148'	LTE WCS/1900	REMAIN		PWAV: LGP21901 (2)	RRUS-32 (1), RRUS-32 B2 (1)	FIBER AND DC POWER	
GAMMA	POS. 4	23'	0'	POWERWAVE (7770)	148'	UMTS DB	REMAIN	PWAV: LGP21401 SINGLE 1900 W/ 850BP (2)	PWAV: LGP21901 (2)		1# COAX (2)	

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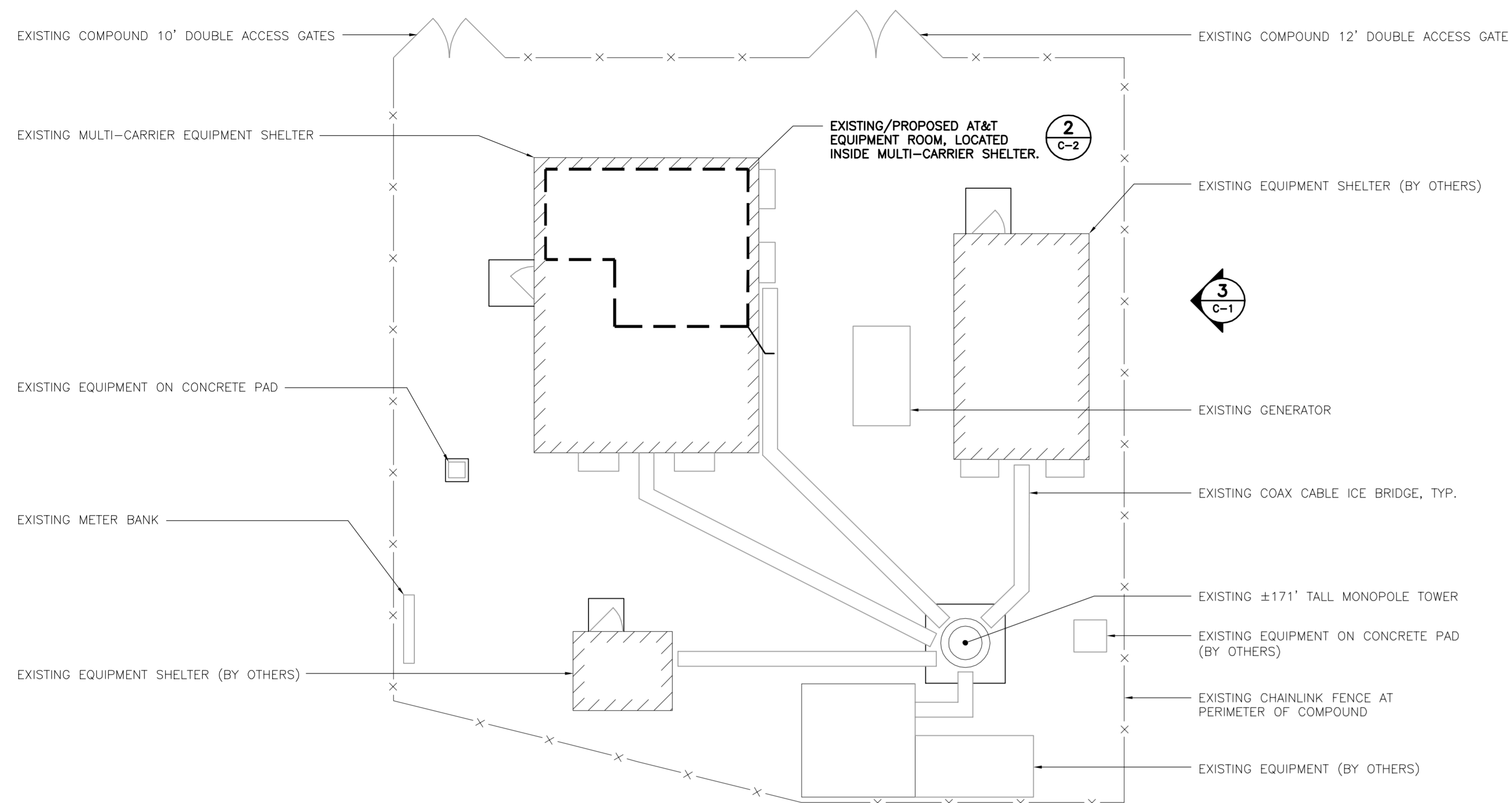
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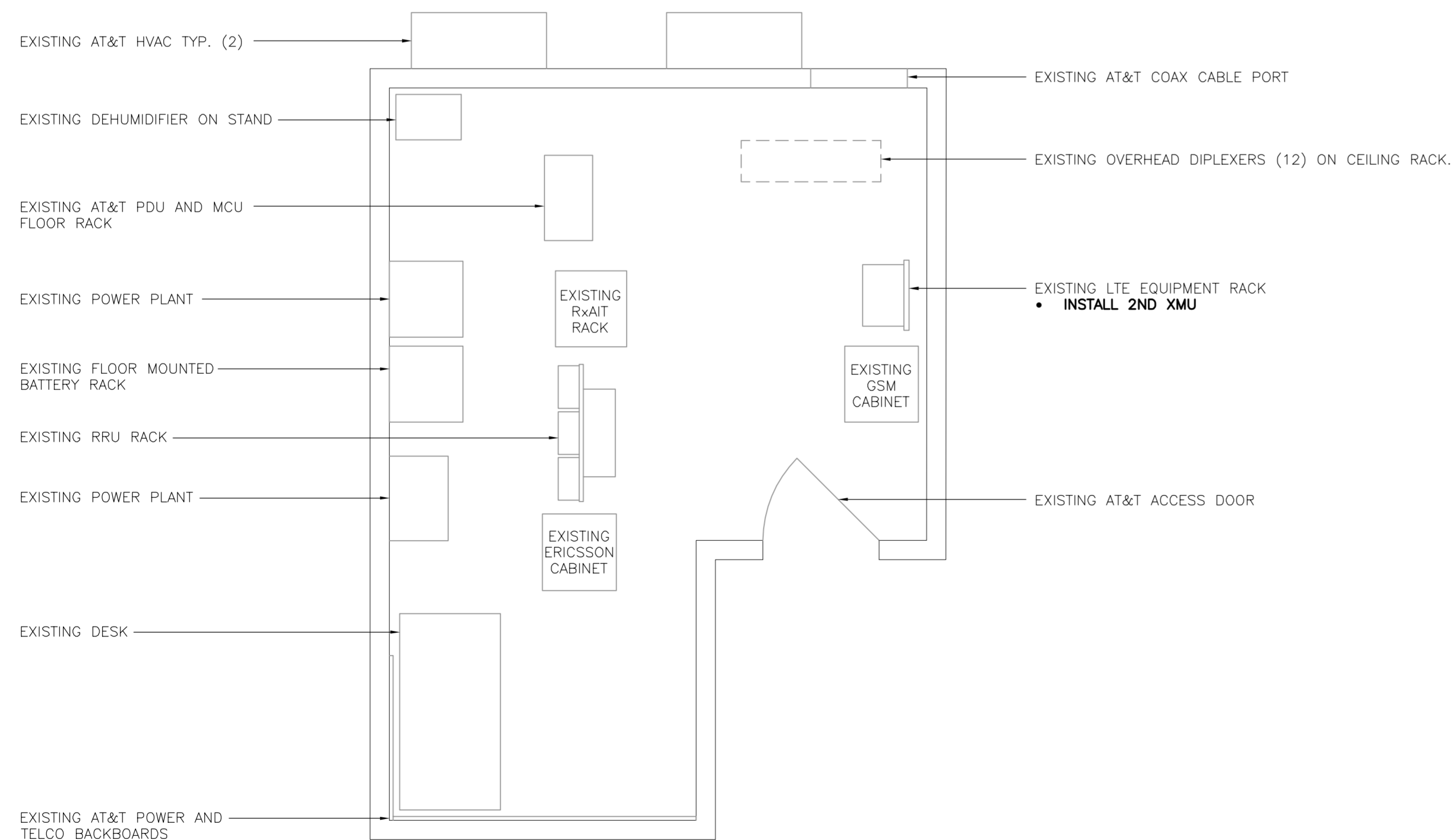
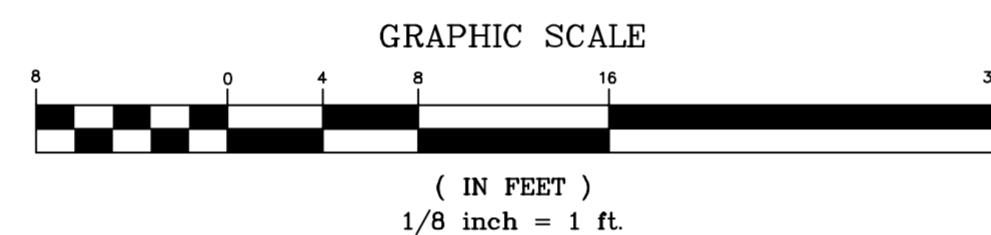
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NOTES,
 SPECIFICATIONS
 AND ANTENNA
 SCHEDULE

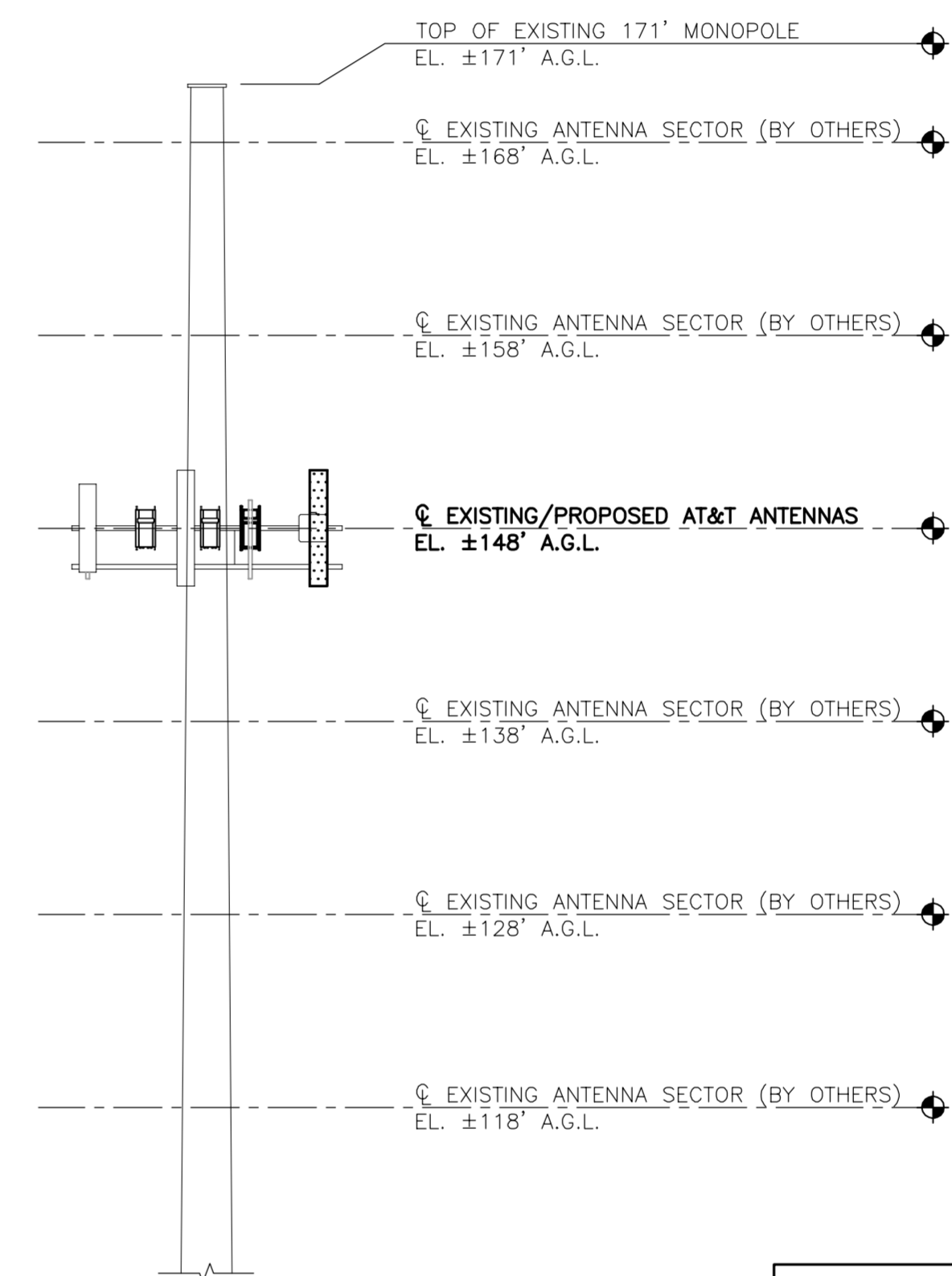
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 Sheet No. 2 of 8



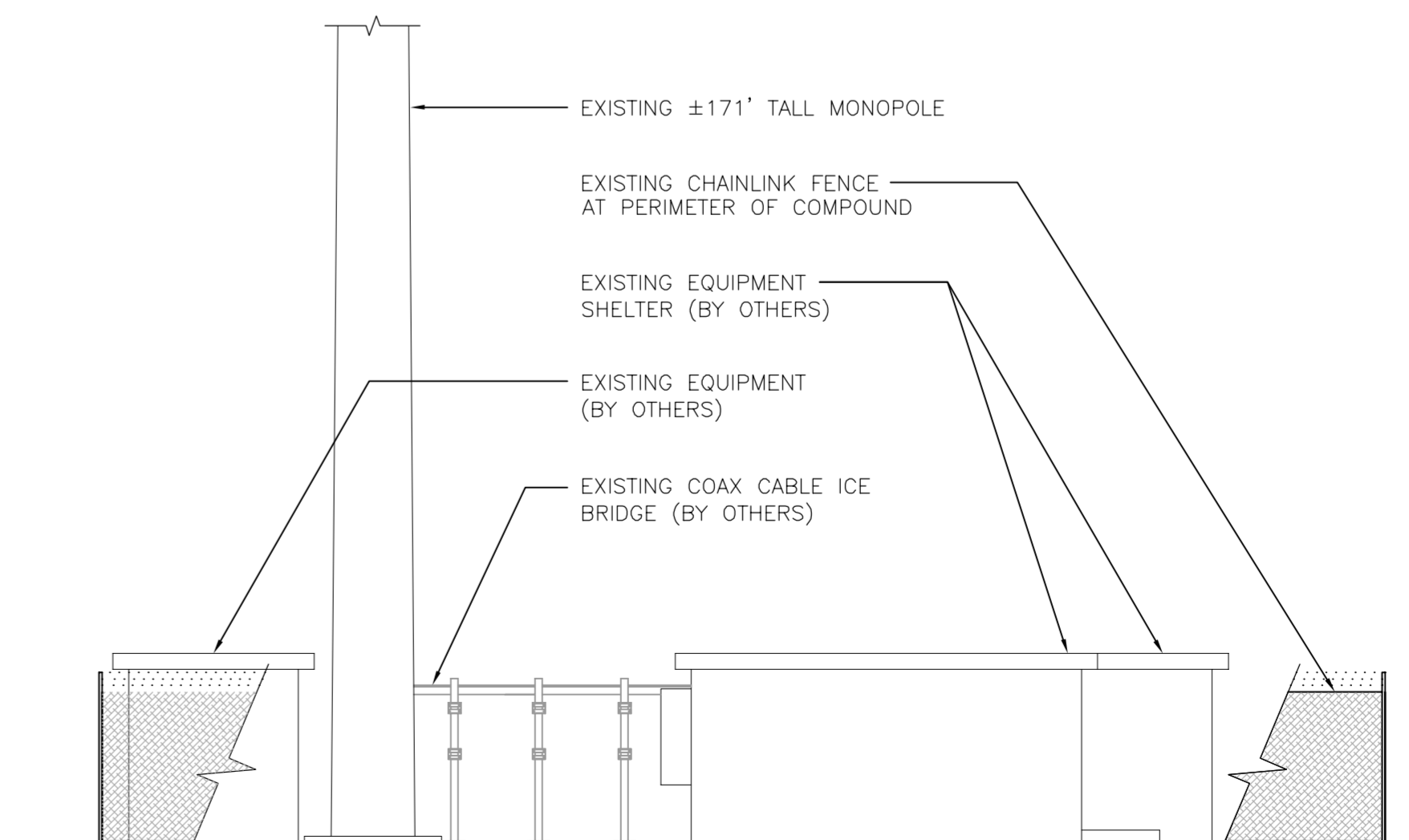
1 PARTIAL SITE PLAN
SCALE: 1/8" = 1'-0"



2 PROPOSED EQUIPMENT LAYOUT PLAN
SCALE: 3/8" = 1'-0"

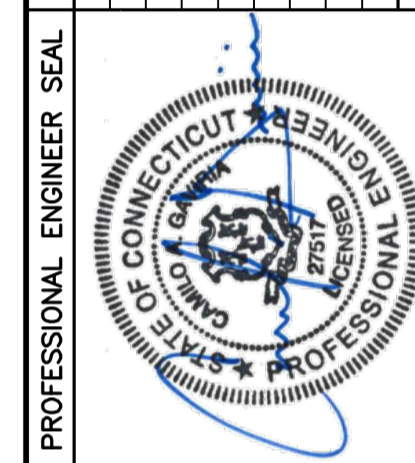


NOTE:
ANTENNA EQUIPMENT (BY OTHERS) NOT SHOWN FOR CLARITY.



3 EAST ELEVATION - PROPOSED
SCALE: 1/8" = 1'-0"

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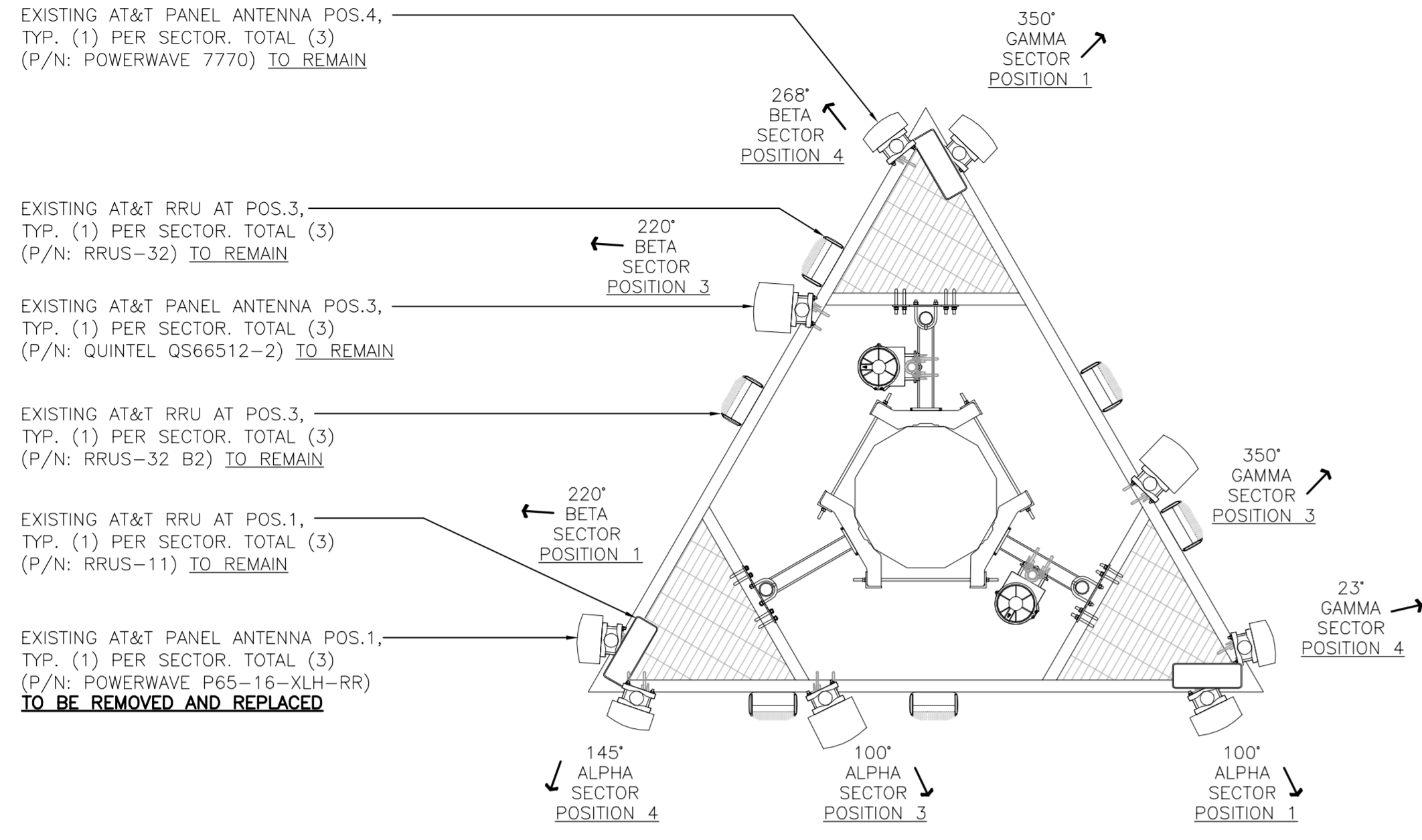
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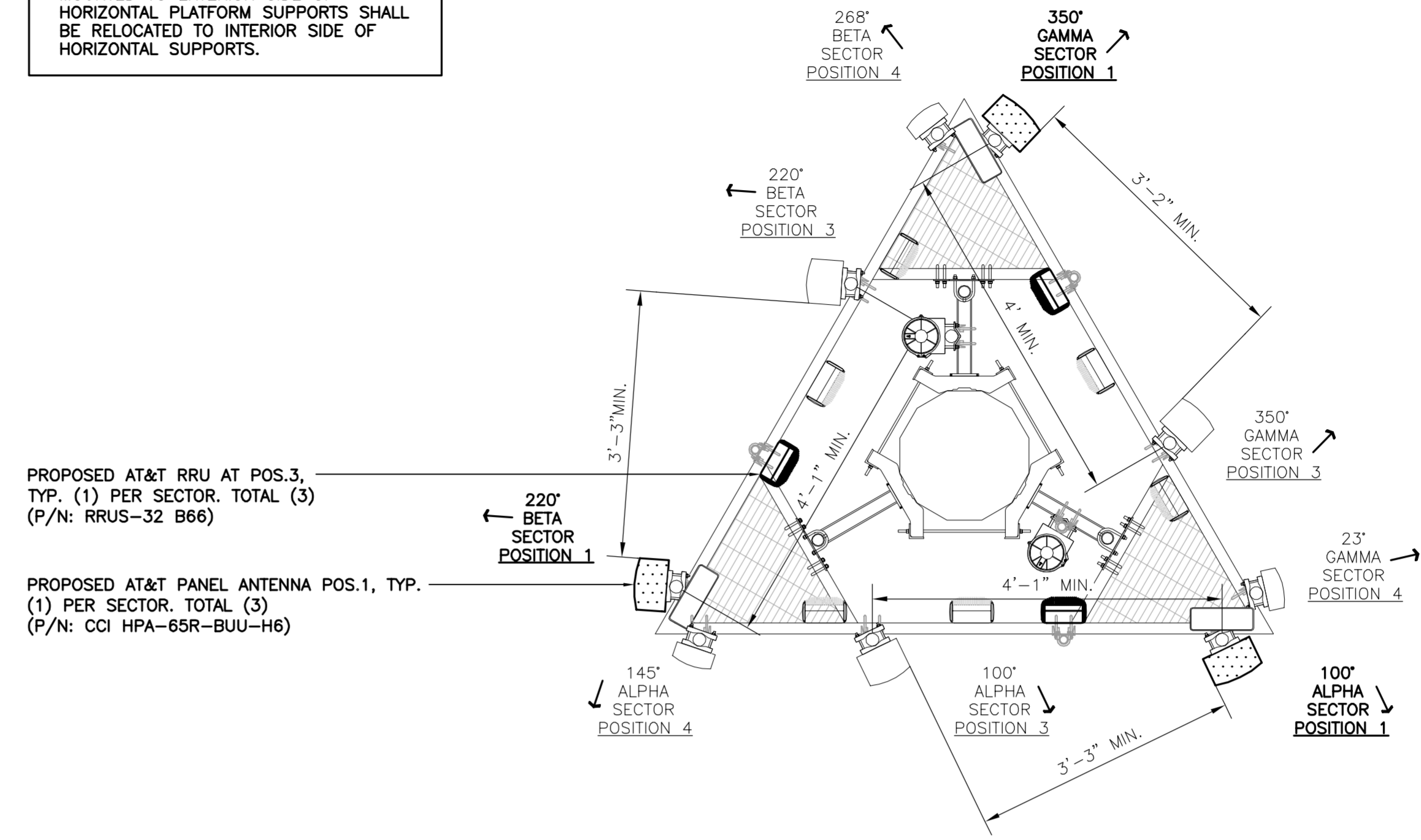
PLANS AND ELEVATION

C-1
Sheet No. 3 of 8

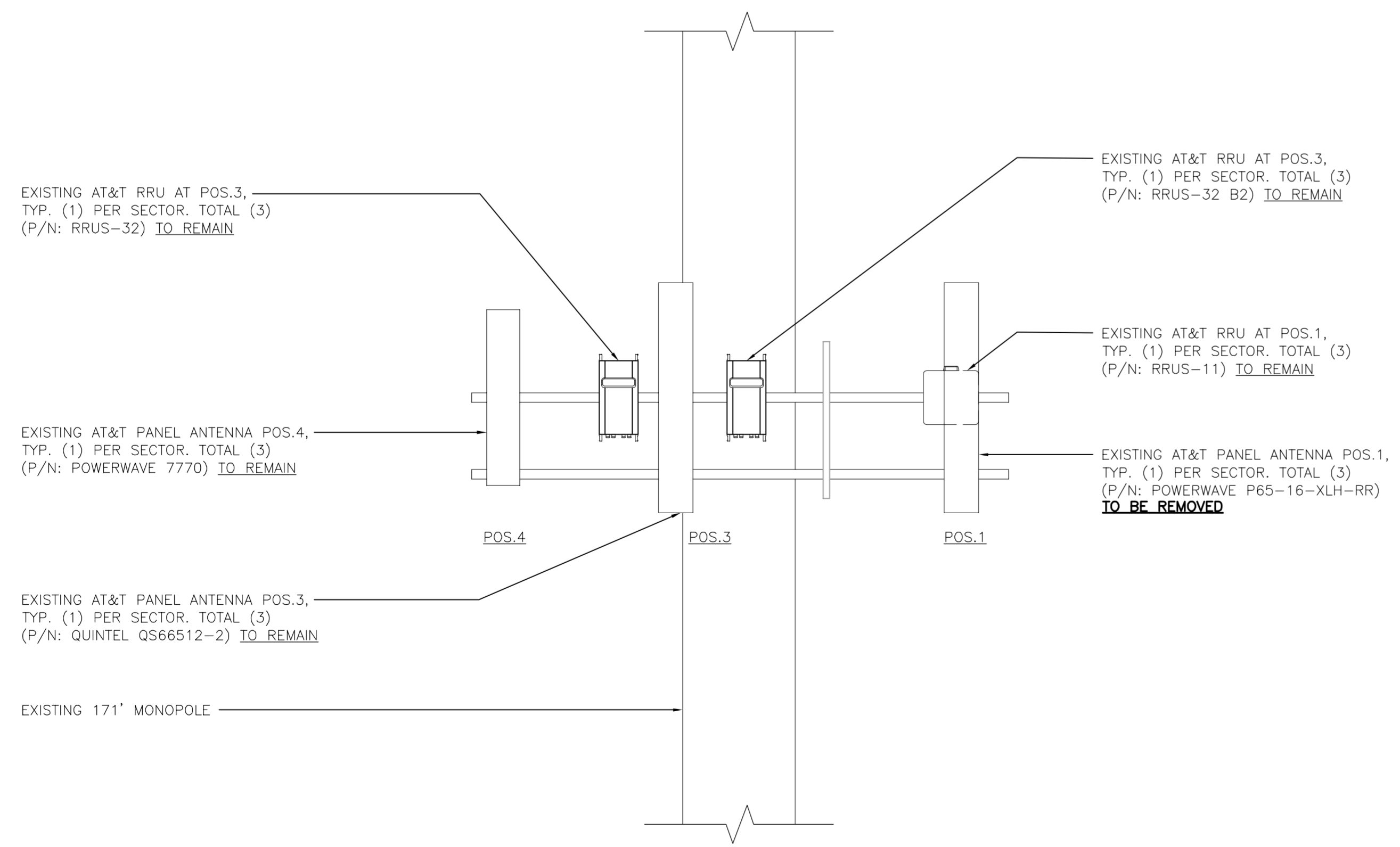


1 EXISTING ANTENNA PLAN
 C-2 SCALE: 3/8" = 1'-0" TRUE NORTH

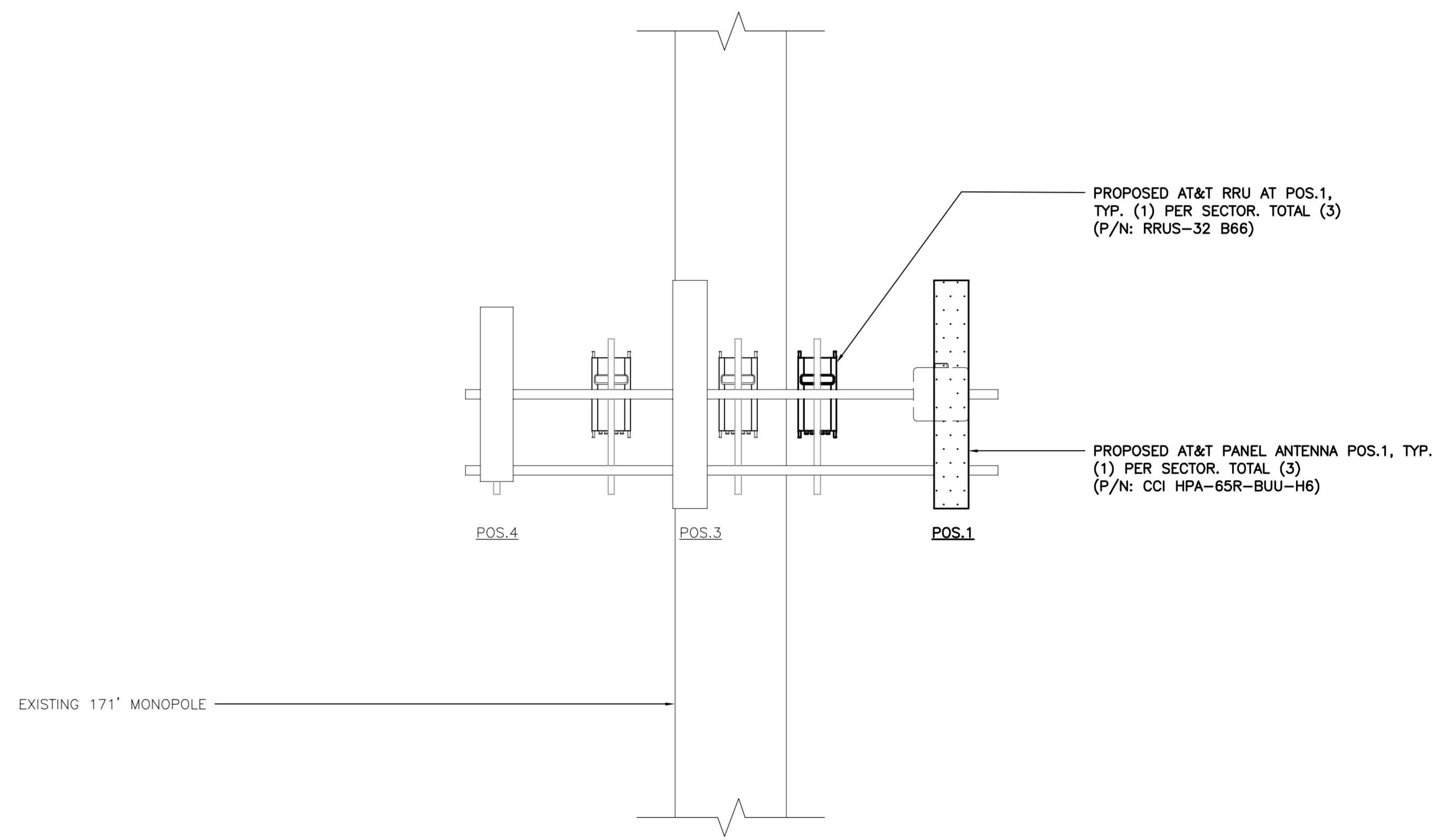
NOTE:
 ALL EXISTING AT&T RRUs PRESENTLY MOUNTED TO EXTERIOR SIDE OF HORIZONTAL PLATFORM SUPPORTS SHALL BE RELOCATED TO INTERIOR SIDE OF HORIZONTAL SUPPORTS.



2 PROPOSED ANTENNA PLAN
 C-2 SCALE: 3/8" = 1'-0" TRUE NORTH

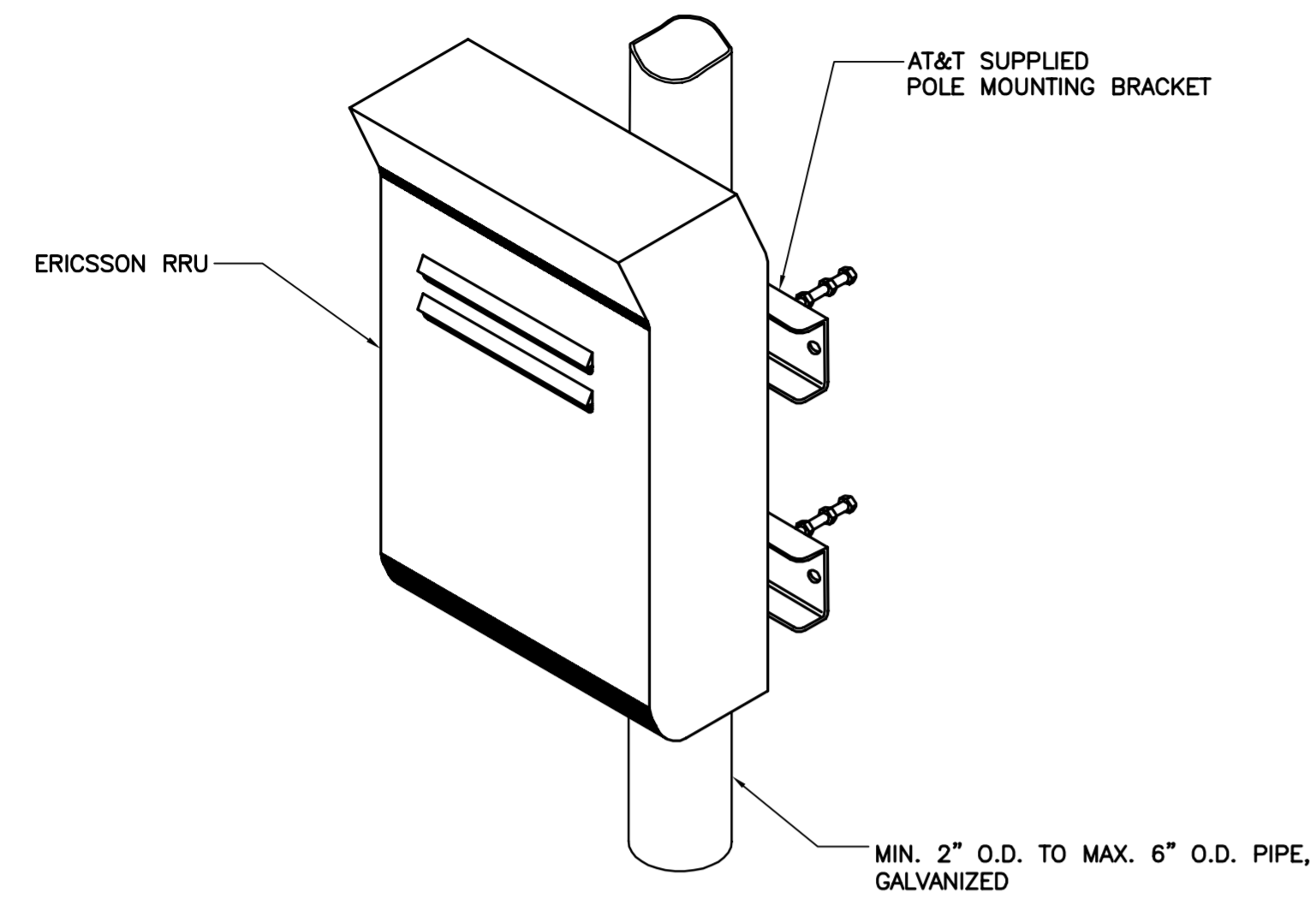


3 EXISTING ANTENNA ELEVATION (TYPICAL)
 C-2 SCALE: 3/8" = 1'-0"



4 PROPOSED ANTENNA ELEVATION (TYPICAL)
 C-2 SCALE: 3/8" = 1'-0"

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	ANTENNA CONFIGURATION DETAILS
	C-2
	Sheet No. 4 of 8

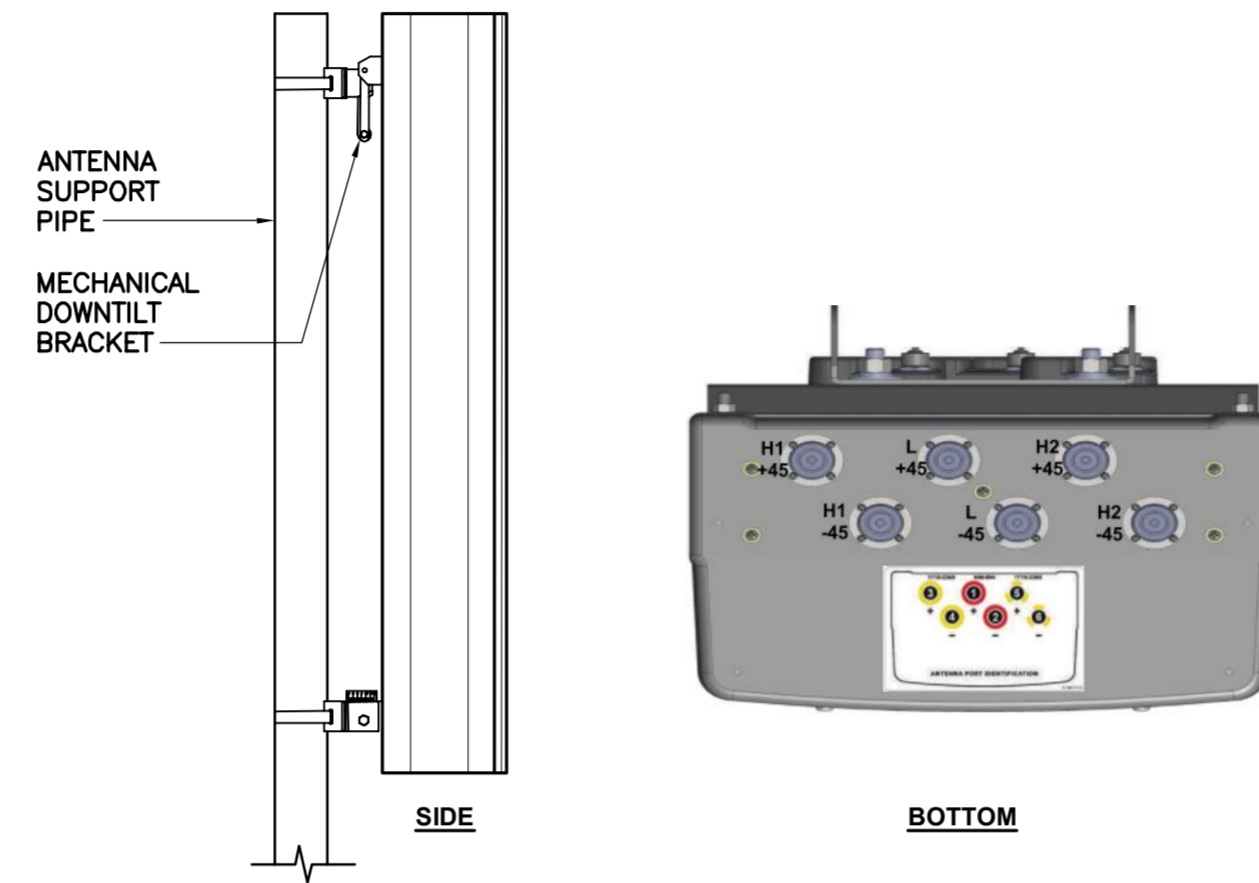


ISOMETRIC VIEW

NOTES:

1. AT&T SHALL SUPPLY RRU, AND RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL SUPPLY POLE/PIPE AND INSTALL ALL MOUNTING HARDWARE INCLUDING ERICSSON RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL INSTALLS RRU AND MAKES CABLE TERMINATIONS.
2. NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

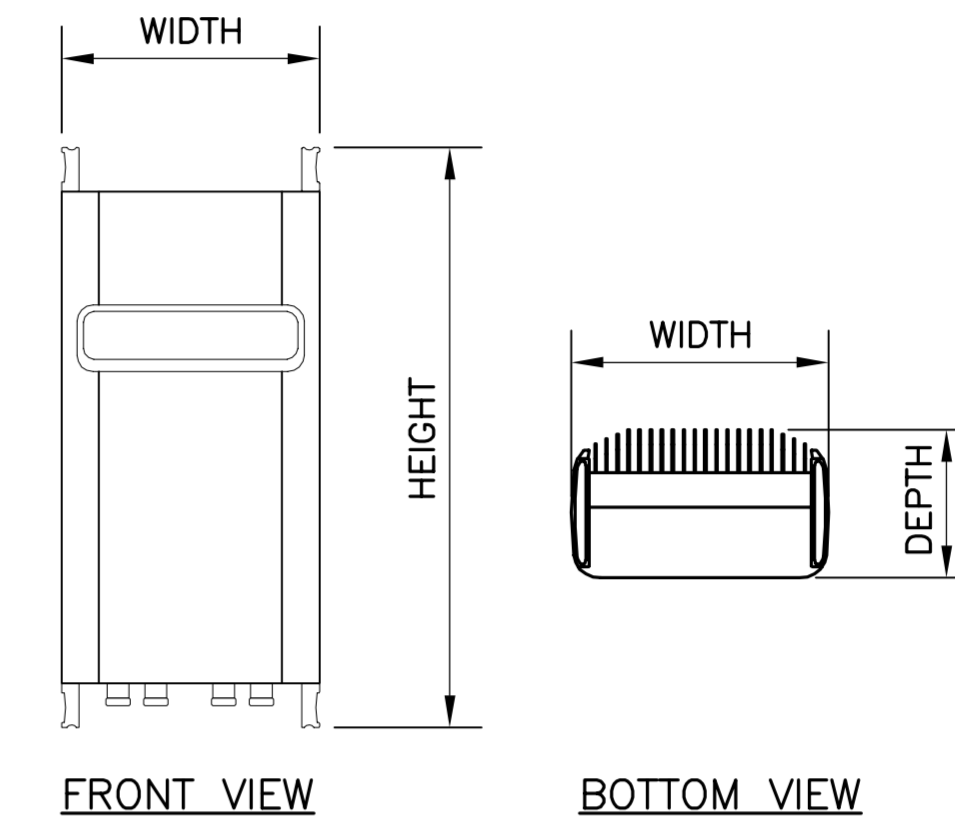
1 TYPICAL RRUS MOUNTING DETAILS
C-3 NOT TO SCALE



SIDE BOTTOM

ALPHA/BETA/GAMMA ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: CCI MODEL: HPA-65R-BUU-H6	72"L x 14"W x 8.9"D	51 LBS.

2 PROPOSED ANTENNA DETAIL
C-3 NOT TO SCALE

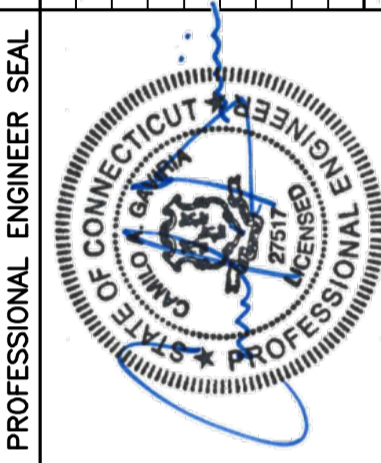


FRONT VIEW BOTTOM VIEW

RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRU 32 B66	27.17"L x 12.05"W x 7.01"D	52.91 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.
NOTES: 1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.			

3 ERICSSON RRU 32 B66 DETAIL
C-3 NOT TO SCALE

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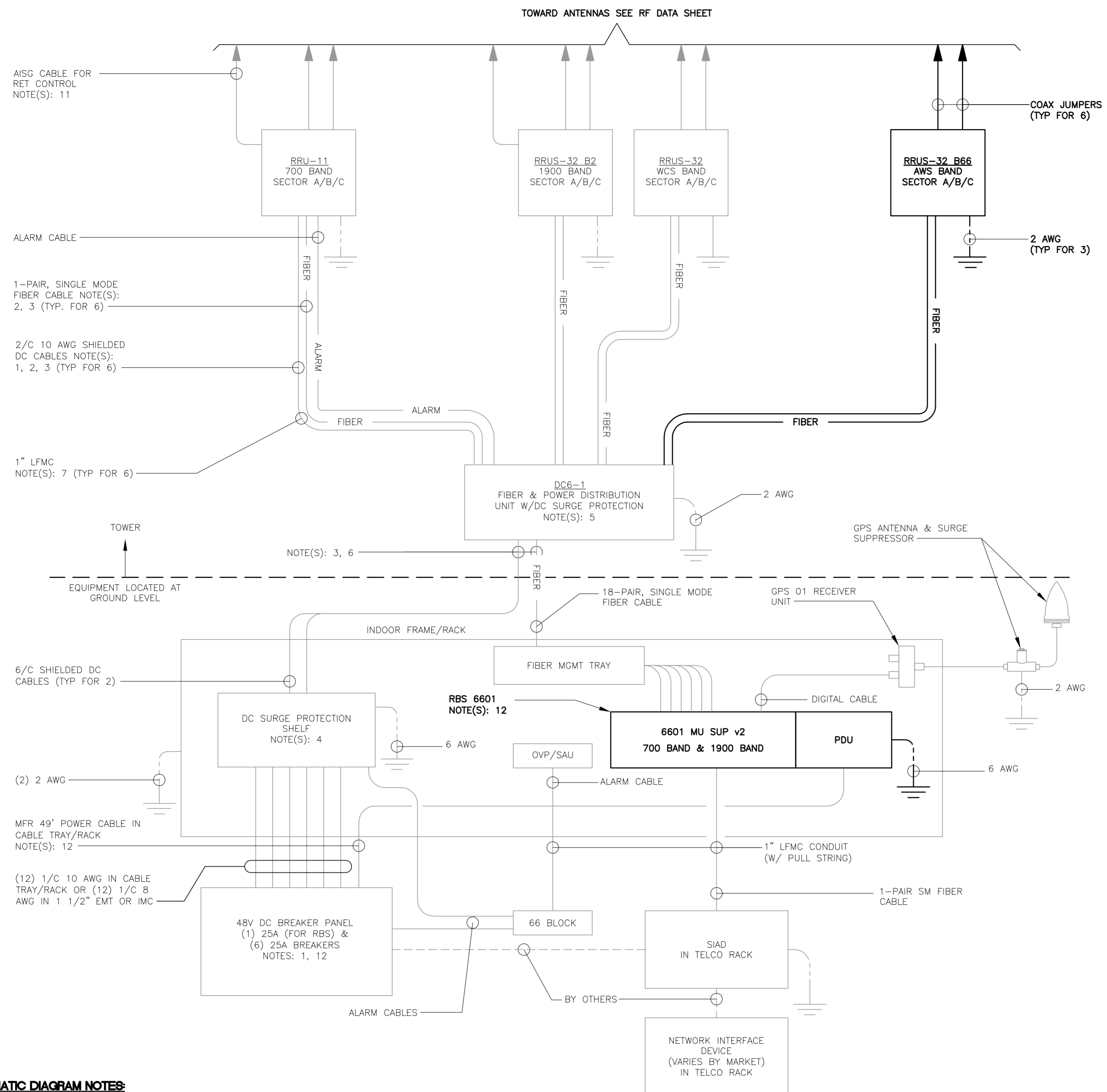
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DETAILS

C-3
Sheet No. 5 of 8



LTE SCHEMATIC DIAGRAM NOTES:

- BREAKERS TO BE TAGGED AND LOCKED OUT. A 20A (MIN.) OR 30A (MAX.) BREAKER FOR RRUs MAY BE SUBSTITUTED FOR THE RECOMMENDED 25A BREAKER. SIZE 12 CONDUCTORS MAY BE USED ONLY WITH 20A BREAKERS.
- LEAVE COILED AND PROTECTED UNTIL TERMINATED.
- DC AND FIBER CABLE SHALL BE ROUTED WITH THE EXISTING COAX CABLE.
- DC SURGE PROTECTION SHELF SHALL BE RAYCAP DCX-48-60-RM.
- FIBER & DC DISTRIBUTION BOX W/DC SURGE PROTECTION SHALL BE RAYCAP DC6-48-60-18-8F.
- SUPPORT FIBER & DC POWER CABLES WITH SNAP-IN HANGERS SPACED NO GREATER THAN 3 FEET APART ON TOWER. SUPPORT FIBER AND DC POWER CABLES INSIDE MONOPOLE WITH CABLE HOISTING GRIPS AT 250 FT MAXIMUM INTERVALS. DRESS CABLES TO PREVENT CONTACT WITH ENTRANCE AND EXIT OPENINGS.
- CONDUIT TO BE USED ON A TOWER IF THE RRU IS MORE THAN 10' FROM THE DISTRIBUTION UNITS. MAX CABLE LENGTH IS 16 FEET.
- SINGLE-CONDUCTOR DC POWER CABLES SHALL BE TELCOFLEX® OR KS24194™, COPPER, UL LISTED RHH NON-HALOGEN, LOW SMOKE WITH BRAIDED COVER, TYPE TC (1/0 AND LARGER), UNLESS OTHERWISE NOTED, STRANDING SHALL BE CLASS B (TYPE III) FOR CABLES SIZES 14, 12 & 10 AWG AND CLASS I (TYPE IV) FOR SIZES 8 AWG AND LARGER. CABLES SHALL BE COLOR CODED RED FOR +24V, BLUE FOR -48V AND GRAY FOR 24V AND 48V RETURN CONDUCTORS. MULTI-CONDUCTOR DC POWER CABLES SHALL BE COPPER, CLASS B STRANDING WITH FLAME RETARDANT PVC JACKET, TYPE TC, UL LISTED FOR 90°C DRY/75°C WET INSTALLATION.
- GROUNDING WIRES SHALL BE COPPER, GREEN THHN/THWN UL LISTED FOR 90°C DRY/75°C WET INSTALLATION. MINIMUM SIZE IS 6 AWG UNLESS NOTED OTHERWISE.
- FIBER OPTIC CABLES SHALL BE INSTALLED IN FLEXIBLE CONDUIT AS SCOPED BY MARKET.
- RET CONTROL FROM THE RRU IS AN OPTIONAL METHOD OF CONNECTION. REFER TO RF DATA SHEET FOR APPLICABILITY.
- RBS 6601 VARIANT 2 REQUIRES A 25A BREAKER AND 10 AWG (MIN.) CONDUCTORS. REPLACE EXISTING 15A OR 20A BREAKERS AND 12 AWG CONDUCTORS WHEN UPGRADING AN EXISTING RBS 6601 VARIANT 1.

1 LTE SCHEMATIC DIAGRAM
E-1 NOT TO SCALE

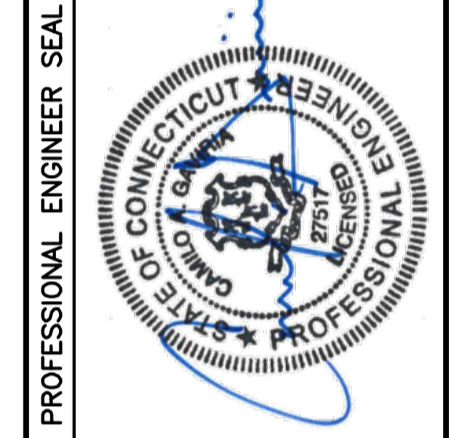
ELECTRICAL NOTES

- PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL CONSTRUCTION STANDARDS AND SPECIFICATIONS, AND ALL MANUFACTURER DOCUMENTATION FOR ALL EQUIPMENT TO BE INSTALLED.
- INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRIC CODE, OWNER AND MANUFACTURER'S SPECIFICATIONS.
- CONNECT ALL NEW EQUIPMENT TO EXISTING TELCO AS REQUIRED BY MANUFACTURER.
- MAINTAIN ALL CLEARANCES REQUIRED BY NEC AND EQUIPMENT MANUFACTURER.
- PRIOR TO INSTALLATION CONTRACTOR SHALL MEASURE EXISTING ELECTRICAL LOAD AND VERIFY EXISTING AVAILABLE CAPACITY FOR PROPOSED INSTALLATION. IF INADEQUATE CAPACITY IS AVAILABLE, CONTRACTOR SHALL COORDINATE WITH LOCAL ELECTRIC UTILITY COMPANY TO UPGRADE EXISTING ELECTRIC SERVICE.
- CONTRACTOR SHALL INSPECT EXISTING GROUNDING AND LIGHTNING PROTECTION SYSTEM AND ENSURE THAT IT IS IN COMPLIANCE WITH NEC, AND SITE OWNER'S SPECIFICATIONS. THE RESULTS OF THIS INSPECTION SHALL BE PRESENTED TO OWNERS REPRESENTATIVE, AND ANY DEFICIENCIES SHALL BE CORRECTED.
- ALL TRANSMISSION TOWER SITES CONTAIN AN EXTENSIVE BURIED GROUNDING SYSTEM. ALL GROUNDING WORK MUST BE COORDINATED WITH, AND APPROVED BY, THE TOWER OWNER'S SITE REPRESENTATIVE. ALL OF THE TOWER OWNER'S SPECIFICATIONS MUST BE STRICTLY FOLLOWED.
- PROVIDE AND INSTALL GROUND KITS FOR ALL NEW COAXIAL CABLES AND BOND TO EXISTING OWNERS GROUNDING SYSTEM PER OWNERS SPECIFICATIONS AND NEC.
- ALL CONDUCTORS SHALL BE TYPE THWN (INT. APPLICATION) AND XHHW (EXT. APPLICATION), 75 DEGREE C, 600 VOLT INSULATION, SOFT ANNEALED STRANDED COPPER. #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. #8 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLIT-BOLT TYPE CONNECTORS, #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION.
- MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.
- THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNER'S REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS AS MAY BE REQUIRED BY THE LOCAL AUTHORITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE SITE AND/OR BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
- THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
- DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
- ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
- GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
- EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122. (MIN. #12 AWG).
- CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 5 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 16960).

TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

- CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) AS SPECIFIED BY OWNER TO PERFORM:
 - TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
 - CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
 - GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.
- TESTING SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF OWNERS CONSTRUCTION REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND DATED BY THE CONSTRUCTION AND INCLUDED WITH THE WRITTEN REPORT/ANALYSIS.
- THE CONTRACTOR SHALL FORWARD SIX (6) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM REPORT/ANALYSIS TO ENGINEER A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB TURNOVER.
- CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

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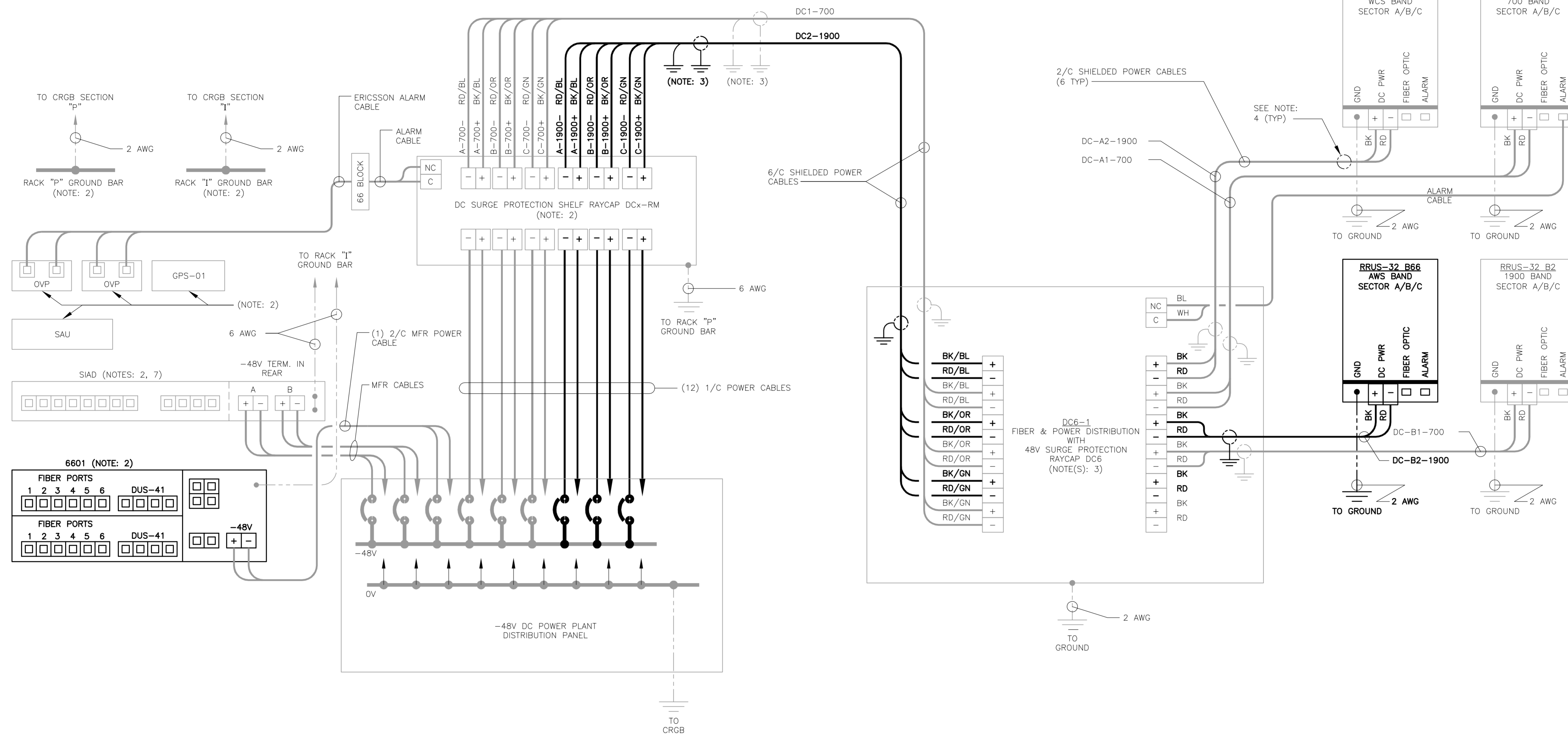


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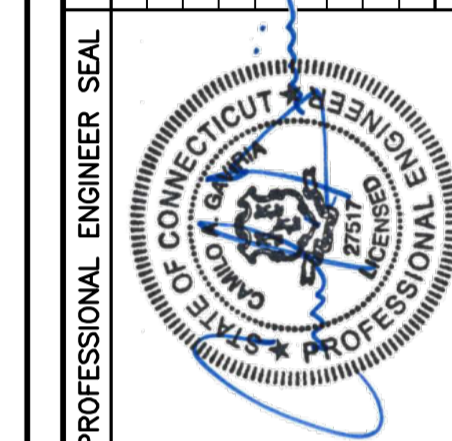
SCHEMATIC DIAGRAM AND NOTES



LTE WIRING DIAGRAM NOTES:

1. LABEL THE DC POWER CABLES AT BOTH ENDS OF EVERY WIRE AND IN ANY PULL BOX IF USED. LABEL SHALL BE DURABLE, SELF ADHESIVE, WRAPPED LONGITUDINALLY ALONG THE CABLE AND STATE THE SECTOR, FREQUENCY BAND AND POLARITY; I.E. "A-1900+". CABLE AND WIRE LABELS SHOWN ARE REPRESENTATIVE AND MAY BE MODIFIED AS DIRECTED BY AT&T.
2. INSTALL ON BASEBAND EQUIPMENT RACK.
3. THE BARE GROUND WIRE OF EACH MULTI-CONDUCTOR CABLE SHALL BE CONNECTED TO THE "P" GROUND BAR ON THE RACK. WHEN A SHIELDED CABLE IS USED, THE DRAIN WIRE ALSO SHALL BE CONNECTED TO THE "P" GROUND BAR.
4. CABLE GROUND WIRE AND SHIELD DRAIN WIRE TO BE LEFT UN-TERMINATED AT RRU AND DC POWER PLANT.
5. SEE LTE SCHEMATIC DIAGRAM DETAIL 1/E-1 FOR BREAKER RATING.

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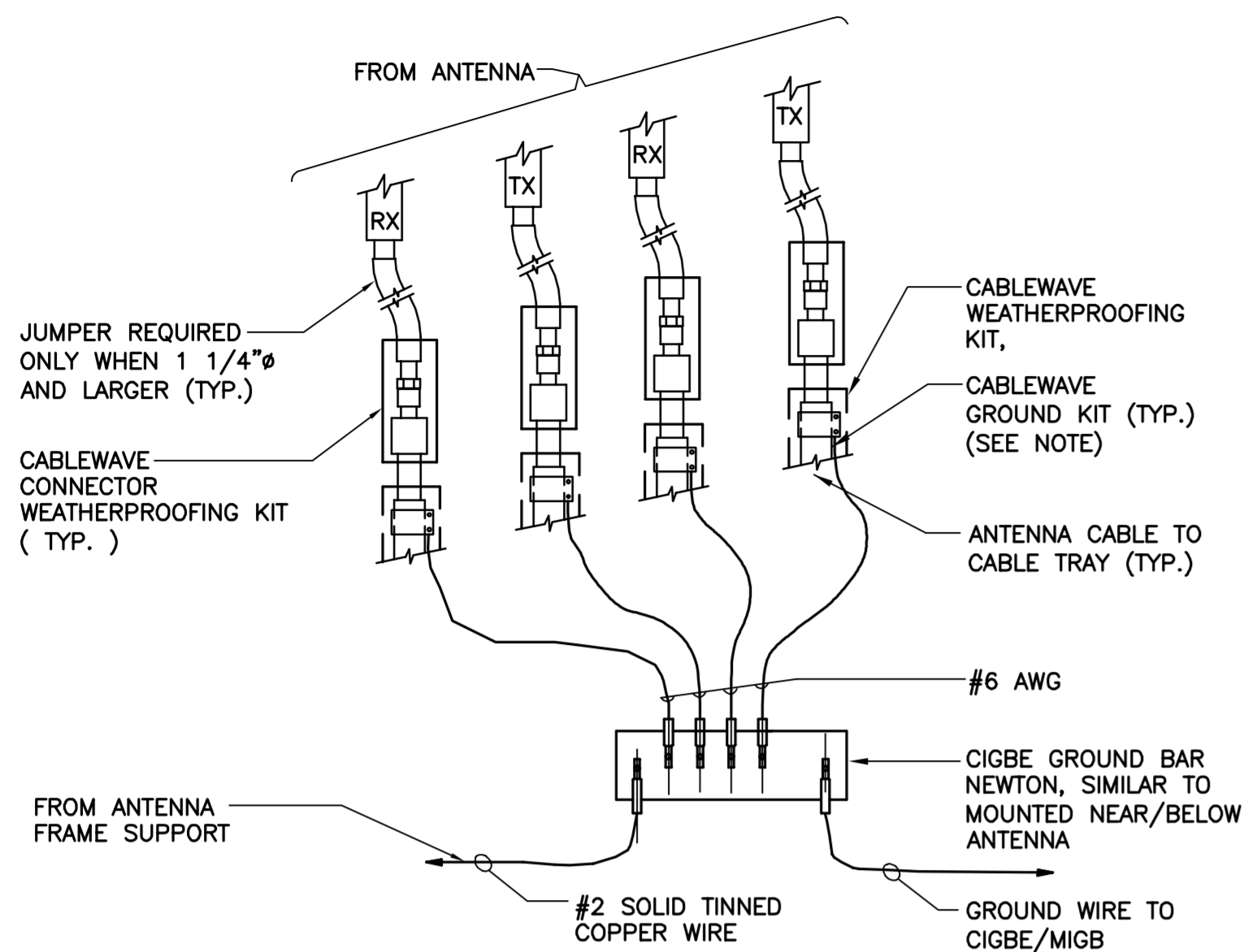


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WIRING DIAGRAM

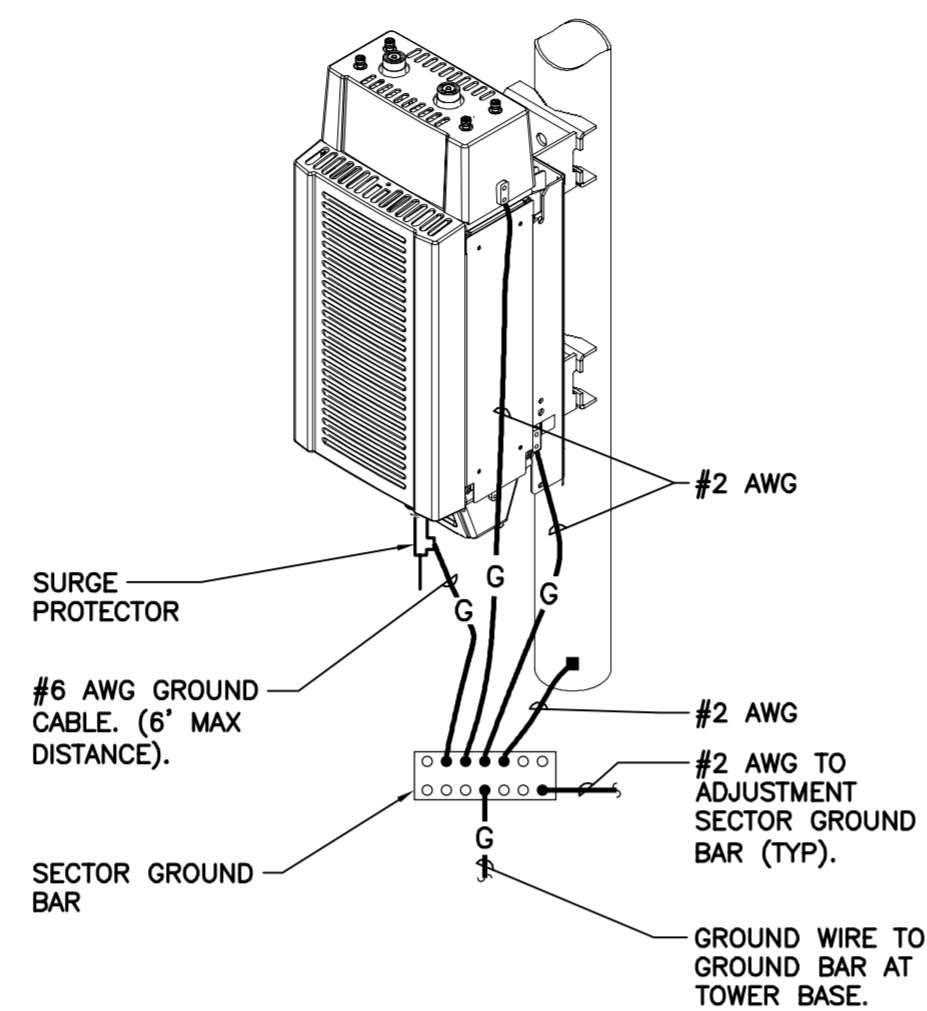


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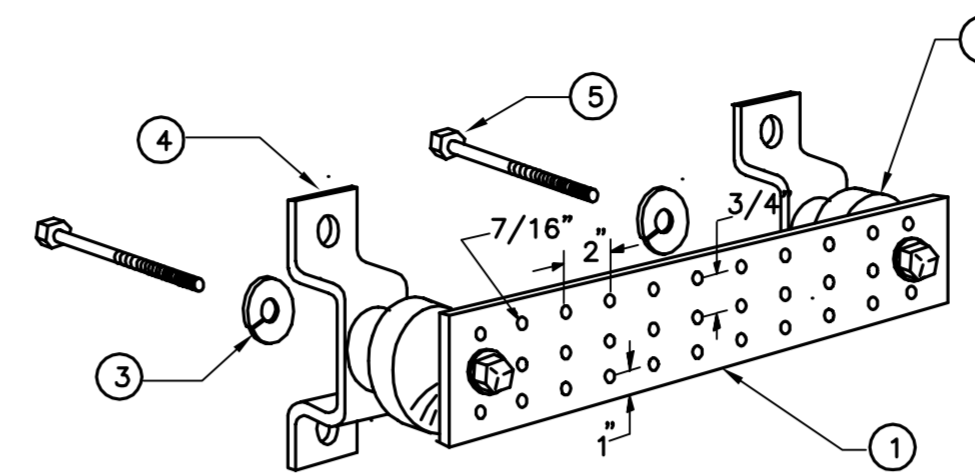
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

1 CONNECTION OF GROUND WIRES TO GROUND BAR
E-3 NOT TO SCALE

EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:
1. AT TOP OF THE CABINET
2. AT RIGHT SIDE OF THE CABINET.



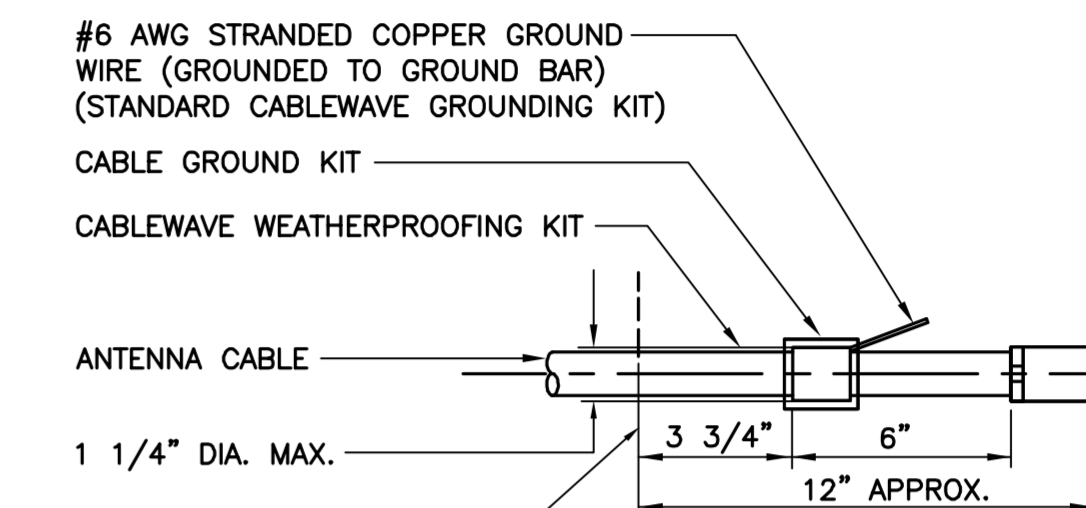
2 RRU POLE MOUNT GROUNING
E-3 NOT TO SCALE



LEGEND

- TINNED COPPER GROUND BAR, 1/4" x 4" x 20", NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG.
- INSULATORS, NEWTON INSTRUMENT CAT. NO. 2. 3061-4.
3. 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8.
- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056.
- STAINLESS STEEL SECURITY SCREWS.

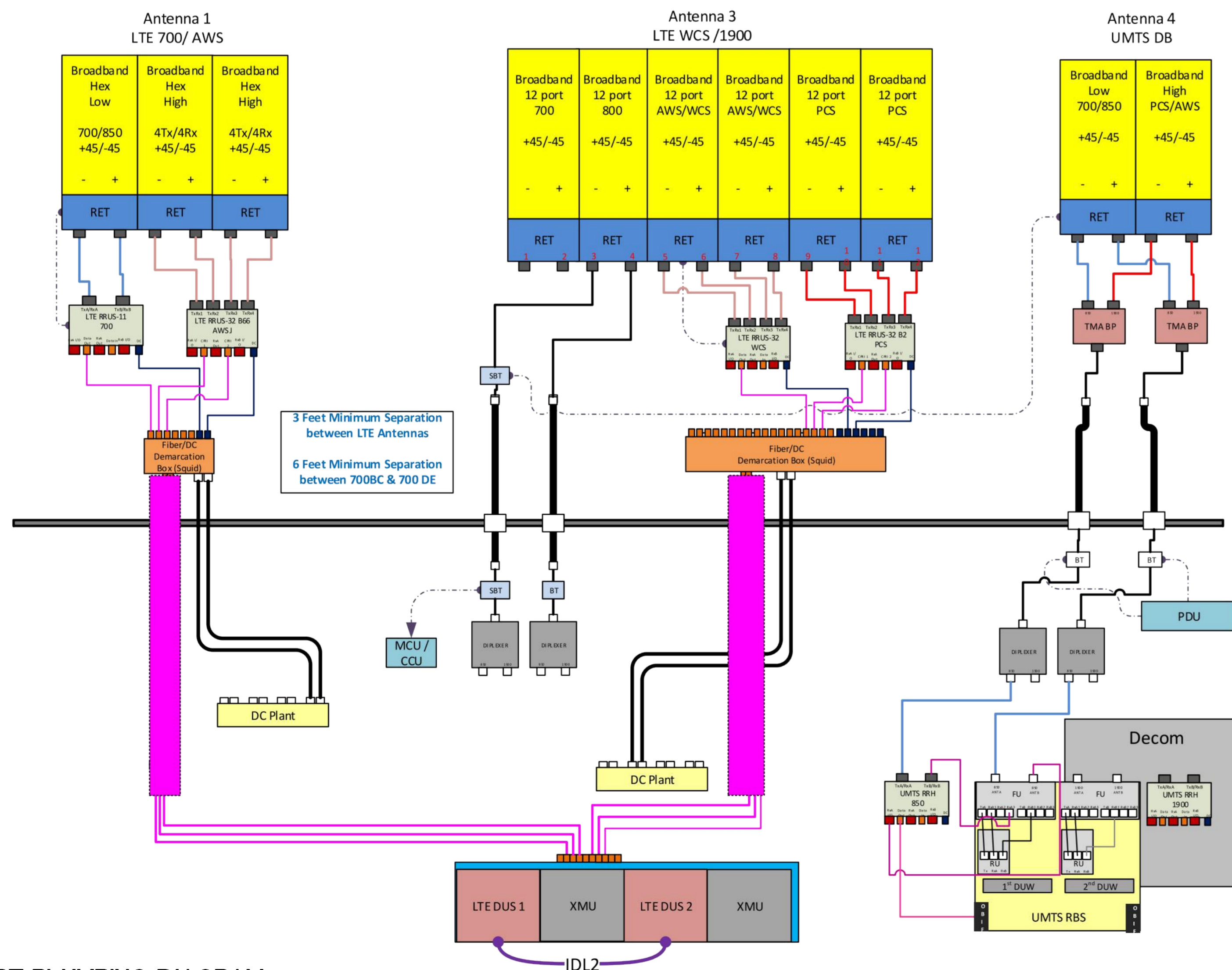
3 GROUND BAR DETAIL
E-3 NOT TO SCALE



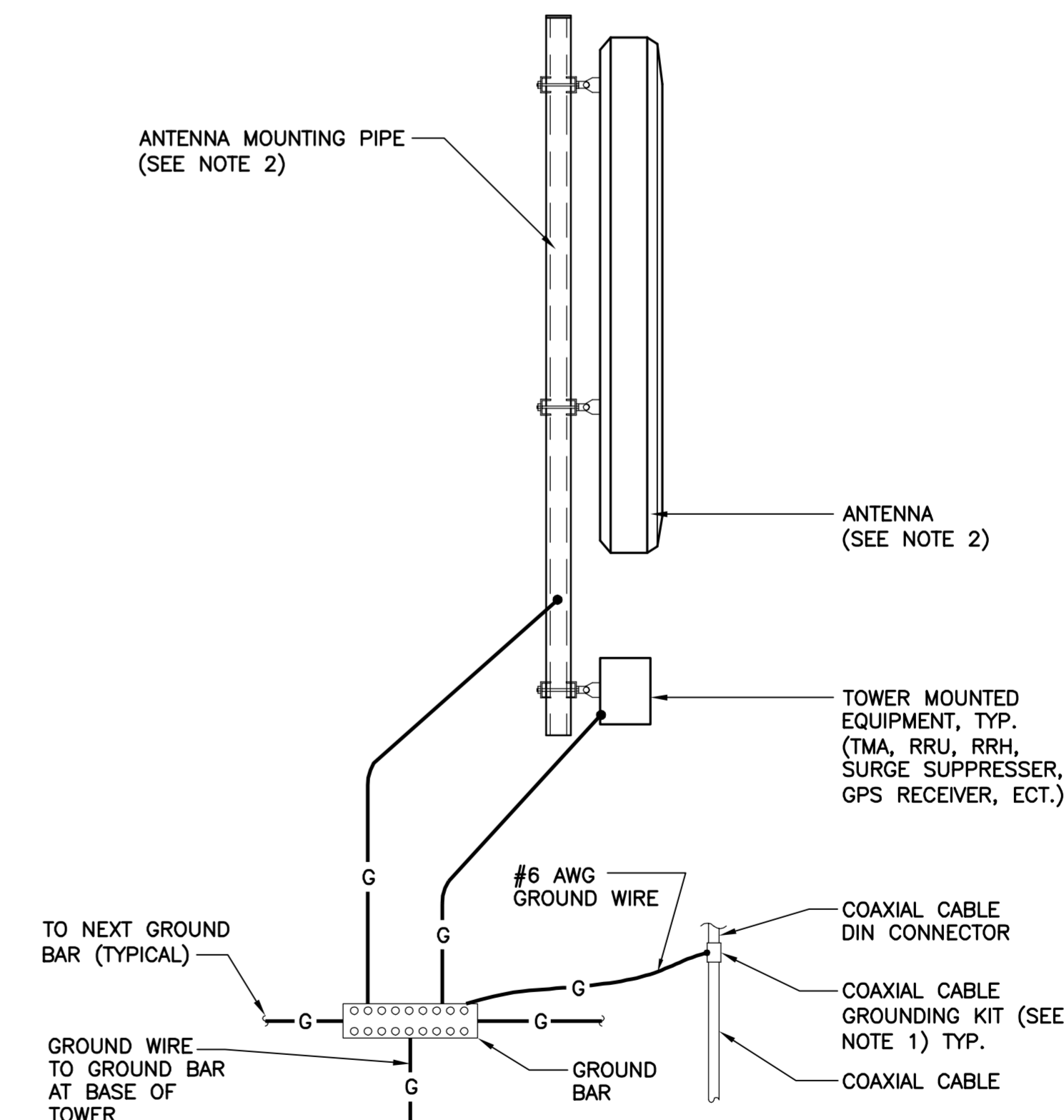
NOTE:

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

4 ANTENNA CABLE GROUNING DETAIL
E-3 NOT TO SCALE



5 RF PLUMBING DIAGRAM
E-3 NOT TO SCALE



NOTES:

- BOND COAXIAL CABLE GROUND KITS TO EACH OWNER'S GROUND BAR ALONG ENTIRE COAX RUN FROM ANTENNA TO SHELTER.
- BOND ALL EQUIPMENT TO GROUND PER NEC AND MANUFACTURERS SPECIFICATIONS.
- DETAIL IS TYPICAL FOR ALL ANTENNA SECTORS, INCLUDING GPS ANTENNA.

6 TYPICAL ANTENNA GROUNING DETAIL
E-3 NOT TO SCALE

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 TYPICAL ELECTRICAL DETAILS
E-3
 Sheet No. 8 of 8

Exhibit 2

Date: **January 27, 2018**

Darcy Tarr
Crown Castle
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Charlotte, NC 28277



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(724) 416-2000

Subject: Structural Analysis Report

Carrier Designation: **AT&T Mobility Co-Locate**
Carrier Site Number: CT2105
Carrier Site Name: 10035026

Crown Castle Designation: **Crown Castle BU Number:** 806355
Crown Castle Site Name: BRG 126 943086
Crown Castle JDE Job Number: 479734
Crown Castle Work Order Number: 1518519
Crown Castle Application Number: 422183 Rev. 1

Engineering Firm Designation: **Crown Castle Project Number:** 1518519

Site Data: **281 WOOD HOUSE ROAD, FAIRFIELD, Fairfield County, CT**
Latitude 41° 11' 45.3", Longitude -73° 16' 52.9"
170.5 Foot - Monopole Tower

Dear Darcy Tarr,

Crown Castle is pleased to submit this "**Structural Analysis Report**" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 1518519, in accordance with application 422183, revision 1.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Existing + Reserved + Proposed Equipment

Sufficient Capacity

Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per Section 1609.3.1 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure B was used in this analysis.

All modifications and equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at *Crown Castle* appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by: Allan R. Smith, E.I.T. / ANJ

Respectfully submitted by:

Maham Barimani, P.E.
Senior Project Engineer

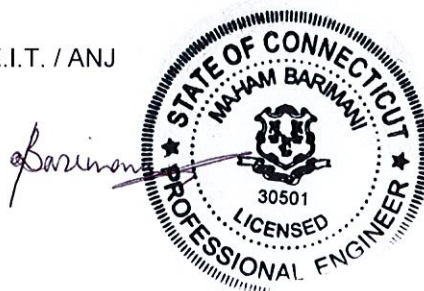


TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 – Proposed Antenna and Cable Information

Table 2 – Existing and Reserved Antenna and Cable Information

Table 3 – Design Antenna and Cable Information

3) ANALYSIS PROCEDURE

Table 4 – Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 5 – Section Capacity (Summary)

Table 6 – Tower Components vs. Capacity – LC7

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 170.5 ft Monopole tower designed by ENGINEERED ENDEAVORS, INC. in May of 1998. The tower was originally designed for a wind speed of 85 mph per TIA/EIA-222-E.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a 3-second gust wind speed of 97 mph with no ice, 50 mph with 0.75 inch ice thickness and 60 mph under service loads, exposure category B.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
146.0	148.0	3	cci antennas	HPA-65R-BUU-H6 w/ Mount Pipe	2 4	3/8 3/4	-
		3	ericsson	RRUS 32 B66			
		3	kathrein	782 10253			
		1	raycap	DC6-48-60-18-8F			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
169.0	171.0	1	icom	HG2409U-PRO	1	1-5/8	3
	169.0	1	tower mounts	Side Arm Mount [SO 305-1]			
166.0	167.0	3	ems wireless	DR90-14-00DPL2 w/ Mount Pipe	6	1-5/8	1
	166.0	1	tower mounts	Pipe Mount [PM 601-3]			
155.0	160.0	1	gps	GPS_A	13	1-5/8	1
	158.0	3	alcatel lucent	B66A RRH4X45			
		3	alcatel lucent	RRH2X60-PCS			
		3	alcatel lucent	RRH2x60-700			
	6	commscope	SBNHH-1D85B w/ Mount Pipe				
	6	decibel	DB844G65ZAXY w/ Mount Pipe				
	2	rfs celwave	DB-T1-6Z-8AB-0Z				
	3	rymsa wireless	MG D3-800TV w/ Mount Pipe				
155.0	6	rfs celwave	FD9R6004/2C-3L				
1	tower mounts	Platform Mount [LP 713-1]					
146.0	148.0	3	ericsson	RRUS 32	12	1-5/8	1
		3	ericsson	RRUS 32 B2			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note			
		12	powerwave technologies	7020.00						
		3	powerwave technologies	7770.00 w/ Mount Pipe						
		3	powerwave technologies	P65-16-XLH-RR w/ Mount Pipe				3 2 2	3/8 5/8 3/4	2
		3	quintel technology	QS66512-2 w/ Mount Pipe						
	146.0	1	raycap	DC6-48-60-18-8F	-	-	1			
		3	ericsson	RRUS-11						
		12	powerwave technologies	LGP2140X						
138.0	140.0	1	tower mounts	Platform Mount [LP 713-1]	13	1-5/8	1			
		3	commscope	LNx-6515DS-VTM w/ Mount Pipe						
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe						
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe						
	138.0	3	ericsson	RRUS 11 B12						
		3	ericsson	KRY 112 144/1						
128.0	128.0	1	andrew	VHLP800-11	1 3 3	1/2 1/4 5/16	1			
		3	kathrein	840 10054 w/ Mount Pipe						
		1	tower mounts	Side Arm Mount [SO 101-3]						

Notes:

- 1) Existing Equipment
- 2) Existing Equipment to be Removed; NOT considered in this analysis
- 3) Reserved Equipment

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
160.0	160.0	12	Allgon	ALP 9212	-	-
148.0	148.0	12	Allgon	ALP 11011	-	-
138.0	138.0	6	Celwave	APN 199015	-	-
128.0	128.0	12	Allgon	ALP 9212	-	-
118.0	118.0	12	Allgon	ALP 9212	-	-

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-TOWER MANUFACTURER DRAWINGS	Engineered Endeavors, Inc.	653293	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Engineered Endeavors, Inc.	1098364	CCISITES
4-GEOTECHNICAL REPORTS	Clarence Welti Assoc., Inc.	1099974	CCISITES
4-TOWER STRUCTURAL ANALYSIS REPORTS	Crown Castle	3363325	CCISITES

3.1) Analysis Method

tnxTower (version 7.0.5.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Crown Castle should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	170.5 - 156	Pole	TP10.75x10.75x0.365	1	-1.07	375.11	12.4	Pass
L2	156 - 155.5	Pole	TP19.5x10.75x0.365	2	-1.09	375.11	12.4	Pass
L3	155.5 - 132.17	Pole	TP24.79x19.5x0.1875	3	-11.66	980.62	55.0	Pass
L4	132.17 - 86.5867	Pole	TP34.63x23.5836x0.375	4	-21.19	2933.29	60.6	Pass
L5	86.5867 - 42.5	Pole	TP43.75x32.7959x0.4375	5	-34.02	4329.85	60.7	Pass
L6	42.5 - 0	Pole	TP52.5x41.5315x0.5	6	-39.02	5117.15	55.8	Pass
							Summary	
						Pole (L5)	60.7	Pass
						Rating =	60.7	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	55.5	Pass
1	Base Plate	0	63.4	Pass
1	Base Foundation	0	63.6	Pass
1	Base Foundation Soil Interaction	0	44.6	Pass
1	Flange Bolts	156	2.7	Pass
1	Flange Plate	156	17.8	Pass

Structure Rating (max from all components) =	63.6%
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Notes:

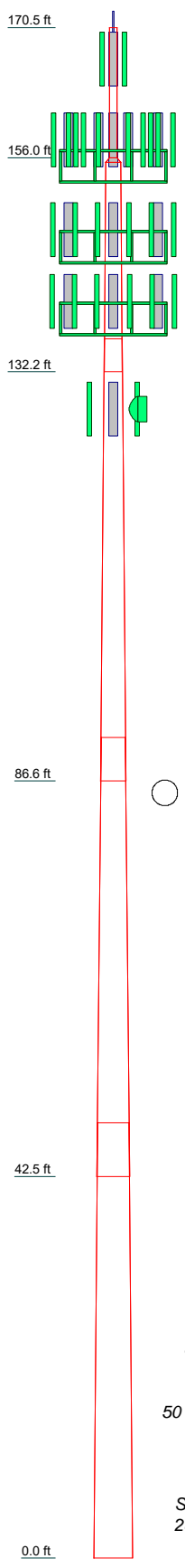
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A
TNXTOWER OUTPUT

Section	1	2	3	4	5	6
Length (ft)	14.50	0.50	23.33	49.25	48.92	48.50
Number of Sides	1	1	18	18	18	18
Thickness (in)	0.3650	0.3650	0.1875	0.3750	0.4375	0.5000
Socket Length (ft)			3.67	4.83	6.00	
Top Dia (in)	10.7500	10.7500	19.5000	23.5836	32.7959	41.5315
Bot Dia (in)	10.7500	19.8000	24.7900	34.6300	43.7500	52.5000
Grade			A53-B-35		A572-65	
Weight (K)	0.6	0.0	1.0	5.7	8.7	12.2



DESIGNED APPURTENANCE LOADING

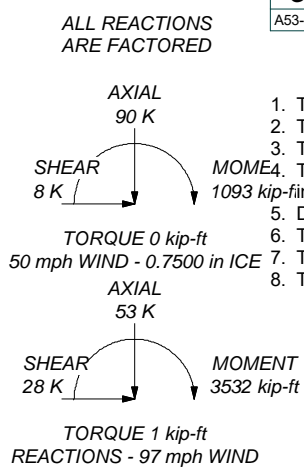
TYPE	ELEVATION	TYPE	ELEVATION
Side Arm Mount [SO 305-1]	169	RRUS 32	146
HG2409U-PRO	169	RRUS 32	146
Lightning Rod 1/2"x4'	166	RRUS 32	146
DR90-14-00DPL2 w/ Mount Pipe	166	DC6-48-60-18-8F	146
DR90-14-00DPL2 w/ Mount Pipe	166	HPA-65R-BUU-H6 w/ Mount Pipe	146
DR90-14-00DPL2 w/ Mount Pipe	166	HPA-65R-BUU-H6 w/ Mount Pipe	146
Pipe Mount [PM 601-3]	166	HPA-65R-BUU-H6 w/ Mount Pipe	146
(2) DB844G65ZAXY w/ Mount Pipe	155	RRUS 32 B66	146
(2) DB844G65ZAXY w/ Mount Pipe	155	RRUS 32 B66	146
(2) DB844G65ZAXY w/ Mount Pipe	155	RRUS 32 B66	146
(2) SBNHH-1D85B w/ Mount Pipe	155	782 10253	146
(2) SBNHH-1D85B w/ Mount Pipe	155	782 10253	146
(2) SBNHH-1D85B w/ Mount Pipe	155	782 10253	146
MG D3-800TV w/ Mount Pipe	155	DC6-48-60-18-8F	146
MG D3-800TV w/ Mount Pipe	155	6' x 2" Mount Pipe	146
MG D3-800TV w/ Mount Pipe	155	6' x 2" Mount Pipe	146
(2) FD9R6004/2C-3L	155	6' x 2" Mount Pipe	146
(2) FD9R6004/2C-3L	155	Platform Mount [LP 713-1]	146
(2) FD9R6004/2C-3L	155	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	138
RRH2x60-700	155	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	138
RRH2x60-700	155	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	138
RRH2x60-700	155	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	138
RRH2X60-PCS	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
RRH2X60-PCS	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
RRH2X60-PCS	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
B66A RRH4X45	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
B66A RRH4X45	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
B66A RRH4X45	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
(2) DB-T1-6Z-8AB-0Z	155	LNX-6515DS-VTM w/ Mount Pipe	138
GPS_A	155	LNX-6515DS-VTM w/ Mount Pipe	138
Platform Mount [LP 713-1]	155	LNX-6515DS-VTM w/ Mount Pipe	138
QS66512-2 w/ Mount Pipe	146	KRY 112 144/1	138
QS66512-2 w/ Mount Pipe	146	KRY 112 144/1	138
QS66512-2 w/ Mount Pipe	146	KRY 112 144/1	138
7770.00 w/ Mount Pipe	146	KRY 112 144/1	138
7770.00 w/ Mount Pipe	146	RRUS 11 B12	138
7770.00 w/ Mount Pipe	146	RRUS 11 B12	138
RRUS-11	146	RRUS 11 B12	138
RRUS-11	146	6' x 2" Mount Pipe	138
RRUS-11	146	6' x 2" Mount Pipe	138
(4) 7020.00	146	6' x 2" Mount Pipe	138
(4) 7020.00	146	Platform Mount [LP 713-1]	138
(4) 7020.00	146	840 10054 w/ Mount Pipe	128
(4) LGP2140X	146	840 10054 w/ Mount Pipe	128
(4) LGP2140X	146	6' x 2" Mount Pipe	128
(4) LGP2140X	146	6' x 2" Mount Pipe	128
RRUS 32 B2	146	Side Arm Mount [SO 101-3]	128
RRUS 32 B2	146	VHLP800-11	128
RRUS 32 B2	146		128

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	60 ksi	A572-65	65 ksi	80 ksi

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 60.7%



Crown Castle
 2000 Corporate Dr.
 Canonsburg, PA 15317
 Phone: (724) 416-2000
 FAX:

Job: 806355	Project:	
Client: Crown Castle	Drawn by: ArSmith	App'd:
Code: TIA-222-G	Date: 01/27/18	Scale: NTS
Path:	Dwg No. E-1	

R:\ISA Models - Lettering\Work Area\Smith\1.0 Production\1.0 WIP\806355.WG.1518519.rvt Model:806355.rvt

Tower Input Data

There is a pole section.

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

The following design criteria apply:

- 1) Tower is located in Fairfield County, Connecticut.
- 2) Basic wind speed of 97 mph.
- 3) Structure Class II.
- 4) Exposure Category B.
- 5) Topographic Category 1.
- 6) Crest Height 0.00 ft.
- 7) Nominal ice thickness of 0.7500 in.
- 8) Ice thickness is considered to increase with height.
- 9) Ice density of 56 pcf.
- 10) A wind speed of 50 mph is used in combination with ice.
- 11) Temperature drop of 50 °F.
- 12) Deflections calculated using a wind speed of 60 mph.
- 13) A non-linear (P-delta) analysis was used.
- 14) Pressures are calculated at each section.
- 15) Stress ratio used in pole design is 1.
- 16) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification ✓ Use Code Stress Ratios ✓ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension ✓ Bypass Mast Stability Checks ✓ Use Azimuth Dish Coefficients ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination ✓ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder	Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation ✓ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-G Bracing Resist. Exemption Use TIA-222-G Tension Splice Exemption <div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets
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Tapered Pole Section Geometry

Section	Elevation <small>ft</small>	Section Length <small>ft</small>	Splice Length <small>ft</small>	Number of Sides	Top Diameter <small>in</small>	Bottom Diameter <small>in</small>	Wall Thickness <small>in</small>	Bend Radius <small>in</small>	Pole Grade
L1	170.50-156.00	14.50	0.00	Round	10.7500	10.7500	0.3650		A53-B-35 (35 ksi)
L2	156.00-155.50	0.50	0.00	Round	10.7500	19.5000	0.3650		A53-B-35 (35 ksi)
L3	155.50-132.17	23.33	3.67	18	19.5000	24.7900	0.1875	0.7500	A572-65 (65 ksi)
L4	132.17-86.59	49.25	4.83	18	23.5836	34.6300	0.3750	1.5000	A572-65 (65 ksi)
L5	86.59-42.50	48.92	6.00	18	32.7959	43.7500	0.4375	1.7500	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L6	42.50-0.00	48.50		18	41.5315	52.5000	0.5000	2.0000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
L2	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
	19.5000	21.9417	1004.6069	6.7665	9.7500	103.0366	2009.2137	10.9643	0.0000	0
L3	19.8008	11.4934	541.5782	6.8559	9.9060	54.6717	1083.8689	5.7478	3.1020	16.544
	25.1724	14.6416	1119.6528	8.7339	12.5933	88.9085	2240.7788	7.3222	4.0330	21.51
L4	24.7825	27.6240	1879.8457	8.2391	11.9805	156.9092	3762.1650	13.8146	3.4907	9.309
	35.1642	40.7720	6044.3215	12.1605	17.5920	343.5828	12096.596	20.3899	5.4349	14.493
L5	34.4008	44.9337	5944.0759	11.4872	16.6603	356.7803	11895.973	22.4711	5.0021	11.433
	44.4249	60.1448	14254.834	15.3759	22.2250	641.3874	28528.426	30.0781	6.9300	15.84
L6	43.5500	65.1170	13850.525	14.5662	21.0980	656.4853	27719.276	32.5647	6.4295	12.859
	53.3099	82.5240	28191.904	18.4600	26.6700	1057.0643	56420.903	41.2698	8.3600	16.72

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontal in	Double Angle Stitch Bolt Spacing Redundants in
L1 170.50-156.00				1	1	1			
L2 156.00-155.50				1	1	1			
L3 155.50-132.17				1	1	1			
L4 132.17-86.59				1	1	1			
L5 86.59-42.50				1	1	1			
L6 42.50-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Section	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
* LDF7-50A(1-5/8")	B	Surface Ar (CaAa)	169.00 - 6.00	1	1	-0.450 -0.450	1.9800		0.82
CR 50 1873(1-5/8")	A	Surface Ar (CaAa)	155.00 - 6.00	2	2	0.250 0.250	1.9800		0.83
LCF158-50JA-A0(1 5/8")	C	Surface Ar (CaAa)	138.00 - 6.00	6	6	0.400 0.500	1.9800		0.08
* * Safety Line 3/8	C	Surface Ar (CaAa)	166.00 - 0.00	1	1	0.000 0.000	0.3750		0.22
*									

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
*								
LDF7-50A(1-5/8")	B	No	Inside Pole	166.00 - 6.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
*								
561(1-5/8")	A	No	Inside Pole	155.00 - 6.00	11	No Ice	0.00	1.35
						1/2" Ice	0.00	1.35
						1" Ice	0.00	1.35
LDF4-50A(1/2")	A	No	Inside Pole	155.00 - 6.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
*								
CR 50 1873(1-5/8")	A	No	Inside Pole	146.00 - 6.00	12	No Ice	0.00	0.83
						1/2" Ice	0.00	0.83
						1" Ice	0.00	0.83
FB-L98B-034- XXX(3/8")	A	No	Inside Pole	146.00 - 0.00	2	No Ice	0.00	0.06
						1/2" Ice	0.00	0.06
						1" Ice	0.00	0.06
WR-VG86ST- BRD(3/4")	A	No	Inside Pole	146.00 - 0.00	4	No Ice	0.00	0.58
						1/2" Ice	0.00	0.58
						1" Ice	0.00	0.58
*								
LCF158-50JA-A0(1 5/8")	C	No	Inside Pole	138.00 - 6.00	7	No Ice	0.00	0.08
						1/2" Ice	0.00	0.08
						1" Ice	0.00	0.08
*								
7983A(1/2")	B	No	Inside Pole	128.00 - 6.00	1	No Ice	0.00	0.08
						1/2" Ice	0.00	0.08
						1" Ice	0.00	0.08
9207(5/16")	B	No	Inside Pole	128.00 - 6.00	3	No Ice	0.00	0.60
						1/2" Ice	0.00	0.60
						1" Ice	0.00	0.60
9258(1/4)	B	No	Inside Pole	128.00 - 6.00	3	No Ice	0.00	0.04
						1/2" Ice	0.00	0.04
						1" Ice	0.00	0.04
2" Rigid Conduit	B	No	Inside Pole	128.00 - 6.00	2	No Ice	0.00	2.80
						1/2" Ice	0.00	2.80
						1" Ice	0.00	2.80
*								
*								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	170.50-156.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	2.574	0.000	0.06
		C	0.000	0.000	0.375	0.000	0.00
L2	156.00-155.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.099	0.000	0.00
		C	0.000	0.000	0.019	0.000	0.00
L3	155.50-132.17	A	0.000	0.000	9.041	0.000	0.55
		B	0.000	0.000	4.619	0.000	0.13
		C	0.000	0.000	7.801	0.000	0.01
L4	132.17-86.59	A	0.000	0.000	18.051	0.000	1.33
		B	0.000	0.000	9.025	0.000	0.58
		C	0.000	0.000	55.862	0.000	0.06
L5	86.59-42.50	A	0.000	0.000	17.458	0.000	1.28
		B	0.000	0.000	8.729	0.000	0.59
		C	0.000	0.000	54.028	0.000	0.06

Tower Section	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
L6	42.50-0.00	A	0.000	0.000	14.454	0.000	1.08
		B	0.000	0.000	7.227	0.000	0.49
		C	0.000	0.000	44.956	0.000	0.05

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
L1	170.50-156.00	A	1.760	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	7.150	0.000	0.16
		C		0.000	0.000	3.895	0.000	0.05
L2	156.00-155.50	A	1.752	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.274	0.000	0.01
		C		0.000	0.000	0.194	0.000	0.00
L3	155.50-132.17	A	1.737	0.000	0.000	21.217	0.000	0.80
		B		0.000	0.000	12.726	0.000	0.32
		C		0.000	0.000	20.171	0.000	0.25
L4	132.17-86.59	A	1.689	0.000	0.000	42.362	0.000	1.82
		B		0.000	0.000	24.864	0.000	0.94
		C		0.000	0.000	105.038	0.000	1.31
L5	86.59-42.50	A	1.603	0.000	0.000	40.443	0.000	1.74
		B		0.000	0.000	23.626	0.000	0.92
		C		0.000	0.000	100.639	0.000	1.22
L6	42.50-0.00	A	1.431	0.000	0.000	32.696	0.000	1.43
		B		0.000	0.000	18.930	0.000	0.74
		C		0.000	0.000	84.051	0.000	0.98

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
L1	170.50-156.00	0.0269	-0.2229	0.0420	-0.2085
L2	156.00-155.50	0.0296	-0.2329	0.0492	-0.1666
L3	155.50-132.17	-0.4679	-0.3340	-0.4640	-0.3783
L4	132.17-86.59	-1.0382	0.1769	-0.9733	0.0726
L5	86.59-42.50	-1.1374	0.1943	-1.1481	0.0911
L6	42.50-0.00	-1.0685	0.1889	-1.1726	0.1381

Shielding Factor K_a

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	2	LDF7-50A(1-5/8")	156.00 - 169.00	1.0000	1.0000
L1	27	Safety Line 3/8	156.00 - 166.00	1.0000	1.0000
L2	2	LDF7-50A(1-5/8")	155.50 - 156.00	1.0000	1.0000
L2	27	Safety Line 3/8	155.50 - 156.00	1.0000	1.0000
L3	2	LDF7-50A(1-5/8")	132.17 - 155.50	1.0000	1.0000
L3	8	CR 50 1873(1-5/8")	132.17 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L3	19	LCF158-50JA-A0(1 5/8")	155.00 132.17 - 138.00	1.0000	1.0000
L3	27	Safety Line 3/8	132.17 - 155.50	1.0000	1.0000
L4	2	LDF7-50A(1-5/8")	86.59 - 132.17	1.0000	1.0000
L4	8	CR 50 1873(1-5/8")	86.59 - 132.17	1.0000	1.0000
L4	19	LCF158-50JA-A0(1 5/8")	86.59 - 132.17	1.0000	1.0000
L4	27	Safety Line 3/8	86.59 - 132.17	1.0000	1.0000
L5	2	LDF7-50A(1-5/8")	42.50 - 86.59	1.0000	1.0000
L5	8	CR 50 1873(1-5/8")	42.50 - 86.59	1.0000	1.0000
L5	19	LCF158-50JA-A0(1 5/8")	42.50 - 86.59	1.0000	1.0000
L5	27	Safety Line 3/8	42.50 - 86.59	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Lightning Rod 1/2"x4'	C	None		0.0000	166.00	No Ice	0.20	0.20	0.03
						1/2"	0.61	0.61	0.03
						Ice	0.95	0.95	0.04
						1" Ice			
*									
Side Arm Mount [SO 305-1]	A	From Leg	0.00 0.00 0.00	0.0000	169.00	No Ice	0.94	1.41	0.03
						1/2"	1.48	2.17	0.04
						Ice	2.02	2.93	0.06
						1" Ice			
HG2409U-PRO	A	From Leg	2.00 0.00 2.00	0.0000	169.00	No Ice	0.38	0.38	0.00
						1/2"	0.54	0.54	0.01
						Ice	0.72	0.72	0.01
						1" Ice			
*									
DR90-14-00DPL2 w/ Mount Pipe	A	From Leg	1.00 0.00 1.00	0.0000	166.00	No Ice	4.59	3.32	0.04
						1/2"	5.02	4.09	0.08
						Ice	5.44	4.78	0.12
						1" Ice			
DR90-14-00DPL2 w/ Mount Pipe	B	From Leg	1.00 0.00 1.00	0.0000	166.00	No Ice	4.59	3.32	0.04
						1/2"	5.02	4.09	0.08
						Ice	5.44	4.78	0.12
						1" Ice			
DR90-14-00DPL2 w/ Mount Pipe	C	From Leg	1.00 0.00 1.00	0.0000	166.00	No Ice	4.59	3.32	0.04
						1/2"	5.02	4.09	0.08
						Ice	5.44	4.78	0.12
						1" Ice			
Pipe Mount [PM 601-3]	C	None		0.0000	166.00	No Ice	4.39	4.39	0.20
						1/2"	5.48	5.48	0.24
						Ice	6.57	6.57	0.28
						1" Ice			
*									

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA}		Weight
			Horz	Lateral			Front	Side	
			ft	ft	°	ft	ft ²	ft ²	K
(2) DB844G65ZAXY w/ Mount Pipe	A	From Leg	4.00	0.0000	155.00	No Ice	4.58	4.80	0.03
			0.00			1/2"	4.96	5.42	0.08
			3.00			Ice	5.34	6.04	0.13
(2) DB844G65ZAXY w/ Mount Pipe	B	From Leg	4.00	0.0000	155.00	No Ice	4.58	4.80	0.03
			0.00			1/2"	4.96	5.42	0.08
			3.00			Ice	5.34	6.04	0.13
(2) DB844G65ZAXY w/ Mount Pipe	C	From Leg	4.00	0.0000	155.00	No Ice	4.58	4.80	0.03
			0.00			1/2"	4.96	5.42	0.08
			3.00			Ice	5.34	6.04	0.13
(2) SBNHH-1D85B w/ Mount Pipe	A	From Leg	4.00	0.0000	155.00	No Ice	8.32	7.00	0.07
			0.00			1/2"	8.88	8.19	0.14
			3.00			Ice	9.40	9.08	0.21
(2) SBNHH-1D85B w/ Mount Pipe	B	From Leg	4.00	0.0000	155.00	No Ice	8.32	7.00	0.07
			0.00			1/2"	8.88	8.19	0.14
			3.00			Ice	9.40	9.08	0.21
(2) SBNHH-1D85B w/ Mount Pipe	C	From Leg	4.00	0.0000	155.00	No Ice	8.32	7.00	0.07
			0.00			1/2"	8.88	8.19	0.14
			3.00			Ice	9.40	9.08	0.21
MG D3-800TV w/ Mount Pipe	A	From Leg	4.00	0.0000	155.00	No Ice	3.57	3.42	0.04
			0.00			1/2"	3.98	4.12	0.07
			3.00			Ice	4.39	4.78	0.11
MG D3-800TV w/ Mount Pipe	B	From Leg	4.00	0.0000	155.00	No Ice	3.57	3.42	0.04
			0.00			1/2"	3.98	4.12	0.07
			3.00			Ice	4.39	4.78	0.11
MG D3-800TV w/ Mount Pipe	C	From Leg	4.00	0.0000	155.00	No Ice	3.57	3.42	0.04
			0.00			1/2"	3.98	4.12	0.07
			3.00			Ice	4.39	4.78	0.11
(2) FD9R6004/2C-3L	A	From Leg	4.00	0.0000	155.00	No Ice	0.31	0.08	0.00
			0.00			1/2"	0.39	0.12	0.01
			0.00			Ice	0.47	0.17	0.01
(2) FD9R6004/2C-3L	B	From Leg	4.00	0.0000	155.00	No Ice	0.31	0.08	0.00
			0.00			1/2"	0.39	0.12	0.01
			0.00			Ice	0.47	0.17	0.01
(2) FD9R6004/2C-3L	C	From Leg	4.00	0.0000	155.00	No Ice	0.31	0.08	0.00
			0.00			1/2"	0.39	0.12	0.01
			0.00			Ice	0.47	0.17	0.01
RRH2x60-700	A	From Leg	4.00	0.0000	155.00	No Ice	3.50	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			3.00			Ice	4.03	2.29	0.11
RRH2x60-700	B	From Leg	4.00	0.0000	155.00	No Ice	3.50	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			3.00			Ice	4.03	2.29	0.11
RRH2x60-700	C	From Leg	4.00	0.0000	155.00	No Ice	3.50	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			3.00			Ice	4.03	2.29	0.11
RRH2X60-PCS	A	From Leg	4.00	0.0000	155.00	No Ice	2.20	1.72	0.06
			0.00			1/2"	2.39	1.90	0.08
			3.00			Ice	2.59	2.09	0.10
RRH2X60-PCS	B	From Leg	4.00	0.0000	155.00	No Ice	2.20	1.72	0.06

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA	CAAA	Weight
			Horz	Lateral			Front	Side	
			ft	ft	°	ft	ft ²	ft ²	K
				0.00			1/2"	1.90	0.08
				3.00			Ice	2.09	0.10
RRH2X60-PCS	C	From Leg	4.00	0.0000	155.00		1" Ice	1.72	0.06
			0.00				No Ice	2.20	0.06
			3.00				1/2"	1.90	0.08
							Ice	2.09	0.10
B66A RRH4X45	A	From Leg	4.00	0.0000	155.00		1" Ice	1.63	0.07
			0.00				No Ice	2.58	0.07
			3.00				1/2"	1.81	0.09
							Ice	2.00	0.11
B66A RRH4X45	C	From Leg	4.00	0.0000	155.00		1" Ice	1.63	0.07
			0.00				No Ice	2.58	0.07
			3.00				1/2"	1.81	0.09
							Ice	2.00	0.11
B66A RRH4X45	B	From Leg	4.00	0.0000	155.00		1" Ice	1.63	0.07
			0.00				No Ice	2.58	0.07
			3.00				1/2"	1.81	0.09
							Ice	2.00	0.11
(2) DB-T1-6Z-8AB-0Z	B	From Leg	4.00	0.0000	155.00		1" Ice	2.00	0.04
			0.00				No Ice	4.80	0.04
			3.00				1/2"	2.19	0.08
							Ice	2.39	0.12
GPS_A	A	From Leg	4.00	0.0000	155.00		1" Ice	0.26	0.00
			0.00				No Ice	0.32	0.00
			5.00				1/2"	0.32	0.00
							Ice	0.39	0.01
Platform Mount [LP 713-1]	C	None		0.0000	155.00		1" Ice	31.27	1.51
							No Ice	39.68	1.93
							1/2"	48.09	2.35
							Ice	48.09	2.35
							1" Ice		
* QS66512-2 w/ Mount Pipe	A	From Leg	4.00	0.0000	146.00		No Ice	8.37	0.14
			0.00				1/2"	8.93	0.21
			2.00				Ice	10.55	0.30
							1" Ice		
QS66512-2 w/ Mount Pipe	B	From Leg	4.00	0.0000	146.00		No Ice	8.37	0.14
			0.00				1/2"	8.93	0.21
			2.00				Ice	10.55	0.30
							1" Ice		
QS66512-2 w/ Mount Pipe	C	From Leg	4.00	0.0000	146.00		No Ice	8.37	0.14
			0.00				1/2"	8.93	0.21
			2.00				Ice	10.55	0.30
							1" Ice		
7770.00 w/ Mount Pipe	A	From Leg	4.00	0.0000	146.00		No Ice	5.75	0.06
			0.00				1/2"	6.18	0.10
			2.00				Ice	6.61	0.16
							1" Ice		
7770.00 w/ Mount Pipe	B	From Leg	4.00	0.0000	146.00		No Ice	5.75	0.06
			0.00				1/2"	6.18	0.10
			2.00				Ice	6.61	0.16
							1" Ice		
7770.00 w/ Mount Pipe	C	From Leg	4.00	0.0000	146.00		No Ice	5.75	0.06
			0.00				1/2"	6.18	0.10
			2.00				Ice	6.61	0.16
							1" Ice		
RRUS-11	A	From Leg	4.00	0.0000	146.00		No Ice	2.78	0.05
			0.00				1/2"	2.99	0.07
			0.00				Ice	3.21	0.09
							1" Ice		
RRUS-11	B	From Leg	4.00	0.0000	146.00		No Ice	2.78	0.05
			0.00				1/2"	2.99	0.07
			0.00				Ice	3.21	0.09
							1" Ice		
RRUS-11	C	From Leg	4.00	0.0000	146.00		No Ice	2.78	0.05

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _A		Weight
			Horz	Lateral			Front	Side	
			ft	ft	°	ft	ft ²	ft ²	K
			0.00			1/2"	2.99	1.33	0.07
			0.00			Ice	3.21	1.49	0.09
(4) 7020.00	A	From Leg	4.00	0.0000	146.00	1" Ice	0.10	0.17	0.00
			0.00			No Ice	0.15	0.24	0.01
			2.00			1/2"	0.20	0.31	0.01
						Ice			
(4) 7020.00	B	From Leg	4.00	0.0000	146.00	1" Ice	0.10	0.17	0.00
			0.00			No Ice	0.15	0.24	0.01
			2.00			1/2"	0.20	0.31	0.01
						Ice			
(4) 7020.00	C	From Leg	4.00	0.0000	146.00	1" Ice	0.10	0.17	0.00
			0.00			No Ice	0.15	0.24	0.01
			2.00			1/2"	0.20	0.31	0.01
						Ice			
(4) LGP2140X	A	From Leg	4.00	0.0000	146.00	1" Ice	1.08	0.36	0.02
			0.00			No Ice	1.21	0.45	0.03
			0.00			1/2"	1.35	0.56	0.04
						Ice			
(4) LGP2140X	B	From Leg	4.00	0.0000	146.00	1" Ice	1.08	0.36	0.02
			0.00			No Ice	1.21	0.45	0.03
			0.00			1/2"	1.35	0.56	0.04
						Ice			
(4) LGP2140X	C	From Leg	4.00	0.0000	146.00	1" Ice	1.08	0.36	0.02
			0.00			No Ice	1.21	0.45	0.03
			0.00			1/2"	1.35	0.56	0.04
						Ice			
RRUS 32 B2	A	From Leg	4.00	0.0000	146.00	1" Ice	2.73	1.67	0.05
			0.00			No Ice	2.95	1.86	0.07
			2.00			1/2"	3.18	2.05	0.10
						Ice			
RRUS 32 B2	B	From Leg	4.00	0.0000	146.00	1" Ice	2.73	1.67	0.05
			0.00			No Ice	2.95	1.86	0.07
			2.00			1/2"	3.18	2.05	0.10
						Ice			
RRUS 32 B2	C	From Leg	4.00	0.0000	146.00	1" Ice	2.73	1.67	0.05
			0.00			No Ice	2.95	1.86	0.07
			2.00			1/2"	3.18	2.05	0.10
						Ice			
RRUS 32	A	From Leg	4.00	0.0000	146.00	1" Ice	2.86	1.78	0.06
			0.00			No Ice	3.08	1.97	0.08
			2.00			1/2"	3.32	2.17	0.10
						Ice			
RRUS 32	B	From Leg	4.00	0.0000	146.00	1" Ice	2.86	1.78	0.06
			0.00			No Ice	3.08	1.97	0.08
			2.00			1/2"	3.32	2.17	0.10
						Ice			
RRUS 32	C	From Leg	4.00	0.0000	146.00	1" Ice	2.86	1.78	0.06
			0.00			No Ice	3.08	1.97	0.08
			2.00			1/2"	3.32	2.17	0.10
						Ice			
DC6-48-60-18-8F	C	From Leg	4.00	0.0000	146.00	1" Ice	0.79	0.79	0.02
			0.00			No Ice	1.27	1.27	0.04
			2.00			1/2"	1.45	1.45	0.05
						Ice			
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.00	0.0000	146.00	1" Ice	9.90	8.11	0.08
			0.00			No Ice	10.47	9.30	0.16
			2.00			1/2"	11.01	10.21	0.25
						Ice			
HPA-65R-BUU-H6 w/ Mount Pipe	B	From Leg	4.00	0.0000	146.00	1" Ice	9.90	8.11	0.08
			0.00			No Ice	10.47	9.30	0.16
			2.00			1/2"	11.01	10.21	0.25
						Ice			
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.00	0.0000	146.00	1" Ice	9.90	8.11	0.08
			0.00			No Ice	10.47	9.30	0.16
						1/2"			

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral	Vert						ft
			ft	ft	ft	°	ft	ft ²	ft ²	K	
			2.00				Ice	11.01	10.21	0.25	
RRUS 32 B66	A	From Leg	4.00			0.0000	146.00	1" Ice			
			0.00					No Ice	2.74	1.67	0.05
			2.00					1/2"	2.96	1.86	0.07
							Ice	3.19	2.05	0.10	
RRUS 32 B66	B	From Leg	4.00			0.0000	146.00	1" Ice			
			0.00					No Ice	2.74	1.67	0.05
			2.00					1/2"	2.96	1.86	0.07
							Ice	3.19	2.05	0.10	
RRUS 32 B66	C	From Leg	4.00			0.0000	146.00	1" Ice			
			0.00					No Ice	2.74	1.67	0.05
			2.00					1/2"	2.96	1.86	0.07
							Ice	3.19	2.05	0.10	
782 10253	A	From Leg	4.00			0.0000	146.00	1" Ice			
			0.00					No Ice	0.11	0.06	0.00
			2.00					1/2"	0.15	0.10	0.00
							Ice	0.20	0.14	0.01	
782 10253	B	From Leg	4.00			0.0000	146.00	1" Ice			
			0.00					No Ice	0.11	0.06	0.00
			2.00					1/2"	0.15	0.10	0.00
							Ice	0.20	0.14	0.01	
782 10253	C	From Leg	4.00			0.0000	146.00	1" Ice			
			0.00					No Ice	0.11	0.06	0.00
			2.00					1/2"	0.15	0.10	0.00
							Ice	0.20	0.14	0.01	
DC6-48-60-18-8F	A	From Leg	4.00			0.0000	146.00	1" Ice			
			0.00					No Ice	0.79	0.79	0.02
			2.00					1/2"	1.27	1.27	0.04
							Ice	1.45	1.45	0.05	
6' x 2" Mount Pipe	A	From Leg	4.00			0.0000	146.00	1" Ice			
			0.00					No Ice	1.43	1.43	0.02
			0.00					1/2"	1.92	1.92	0.03
							Ice	2.29	2.29	0.05	
6' x 2" Mount Pipe	B	From Leg	4.00			0.0000	146.00	1" Ice			
			0.00					No Ice	1.43	1.43	0.02
			0.00					1/2"	1.92	1.92	0.03
							Ice	2.29	2.29	0.05	
6' x 2" Mount Pipe	C	From Leg	4.00			0.0000	146.00	1" Ice			
			0.00					No Ice	1.43	1.43	0.02
			0.00					1/2"	1.92	1.92	0.03
							Ice	2.29	2.29	0.05	
Platform Mount [LP 713-1]	C	None				0.0000	146.00	1" Ice			
								No Ice	31.27	31.27	1.51
								1/2"	39.68	39.68	1.93
							Ice	48.09	48.09	2.35	
							1" Ice				
* ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00			0.0000	138.00	No Ice	6.33	5.64	0.11
			0.00					1/2"	6.78	6.43	0.17
			2.00					Ice	7.21	7.13	0.23
							1" Ice				
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00			0.0000	138.00	No Ice	6.33	5.64	0.11
			0.00					1/2"	6.78	6.43	0.17
			2.00					Ice	7.21	7.13	0.23
							1" Ice				
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00			0.0000	138.00	No Ice	6.33	5.64	0.11
			0.00					1/2"	6.78	6.43	0.17
			2.00					Ice	7.21	7.13	0.23
							1" Ice				
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.00			0.0000	138.00	No Ice	6.33	5.64	0.11
			0.00					1/2"	6.78	6.43	0.17
			2.00					Ice	7.21	7.13	0.23
							1" Ice				
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.00			0.0000	138.00	No Ice	6.33	5.64	0.11
			0.00					1/2"	6.78	6.43	0.17

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			2.00			Ice 7.21	7.13	0.23	
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.00	0.0000	138.00	1" Ice			
			0.00			No Ice	6.33	5.64	0.11
			2.00			1/2"	6.78	6.43	0.17
LNx-6515DS-VTM w/ Mount Pipe	A	From Leg	4.00	0.0000	138.00	Ice			
			0.00			1" Ice	7.21	7.13	0.23
			2.00			No Ice	11.68	9.84	0.08
LNx-6515DS-VTM w/ Mount Pipe	B	From Leg	4.00	0.0000	138.00	1/2"			
			0.00			Ice	12.40	11.37	0.17
			2.00			1" Ice	13.14	12.91	0.27
LNx-6515DS-VTM w/ Mount Pipe	C	From Leg	4.00	0.0000	138.00	No Ice			
			0.00			1" Ice	11.68	9.84	0.08
			2.00			1/2"	12.40	11.37	0.17
KRY 112 144/1	A	From Leg	4.00	0.0000	138.00	Ice			
			0.00			1" Ice	0.35	0.17	0.01
			0.00			No Ice	0.43	0.23	0.01
KRY 112 144/1	B	From Leg	4.00	0.0000	138.00	1/2"			
			0.00			Ice	0.51	0.30	0.02
			0.00			1" Ice	0.35	0.17	0.01
KRY 112 144/1	C	From Leg	4.00	0.0000	138.00	No Ice			
			0.00			1" Ice	0.35	0.17	0.01
			0.00			1/2"	0.43	0.23	0.01
RRUS 11 B12	A	From Leg	4.00	0.0000	138.00	Ice			
			0.00			1" Ice	2.83	1.18	0.05
			2.00			No Ice	3.04	1.33	0.07
RRUS 11 B12	B	From Leg	4.00	0.0000	138.00	1/2"			
			0.00			Ice	3.26	1.48	0.10
			2.00			1" Ice	2.83	1.18	0.05
RRUS 11 B12	C	From Leg	4.00	0.0000	138.00	No Ice			
			0.00			1" Ice	2.83	1.18	0.05
			2.00			1/2"	3.04	1.33	0.07
6' x 2" Mount Pipe	A	From Leg	4.00	0.0000	138.00	Ice			
			0.00			1" Ice	1.43	1.43	0.02
			0.00			No Ice	1.92	1.92	0.03
6' x 2" Mount Pipe	B	From Leg	4.00	0.0000	138.00	1/2"			
			0.00			Ice	2.29	2.29	0.05
			0.00			1" Ice	1.43	1.43	0.02
6' x 2" Mount Pipe	C	From Leg	4.00	0.0000	138.00	No Ice			
			0.00			1" Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
Platform Mount [LP 713-1]	C	None		0.0000	138.00	Ice			
						1" Ice	31.27	31.27	1.51
						No Ice	39.68	39.68	1.93
840 10054 w/ Mount Pipe	A	From Leg	2.00	0.0000	128.00	1/2"			
			0.00			Ice	4.81	2.39	0.05
			0.00			1" Ice	5.16	2.92	0.09
840 10054 w/ Mount Pipe	B	From Leg	2.00	0.0000	128.00	Ice			
			0.00			1" Ice	5.53	3.47	0.13
						No Ice	4.81	2.39	0.05
						1/2"	5.16	2.92	0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	CAAA Front ft ²	CAAA Side ft ²	Weight K
			0.00			Ice 1" Ice 5.53	3.47	0.13
840 10054 w/ Mount Pipe	C	From Leg	2.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 5.53	2.39 2.92 3.47	0.05 0.09 0.13
6' x 2" Mount Pipe	B	From Leg	2.00 0.00 0.00	0.0000	128.00	1" Ice No Ice 1/2" Ice 2.29	1.43 1.43 1.92 2.29	0.02 0.03 0.05
Side Arm Mount [SO 101-3]	C	None		0.0000	128.00	1" Ice No Ice 1/2" Ice 10.30	7.50 7.50 8.90 10.30	0.25 0.33 0.41
						1" Ice		

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K
** 128 **										
VHLP800-11	B	Paraboloid w/Shroud (HP)	From Leg	1.00 0.00 0.00	-36.0000		128.00	2.92	No Ice 1/2" Ice 7.07 7.46	0.02 0.03 0.03

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice

Comb. No.	Description
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	170.5 - 156	29.162	48	1.5713	0.0026
L2	156 - 155.5	24.423	48	1.5459	0.0028
L3	155.5 - 132.17	24.261	48	1.5455	0.0028
L4	135.837 - 86.5867	18.176	48	1.3716	0.0017
L5	91.42 - 42.5	7.645	48	0.8496	0.0006
L6	48.5 - 0	2.018	48	0.3902	0.0002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
169.00	Side Arm Mount [SO 305-1]	48	28.669	1.5679	0.0026	44145
166.00	Lightning Rod 1/2"x4'	48	27.683	1.5613	0.0026	44145
155.00	(2) DB844G65ZAXY w/ Mount Pipe	48	24.100	1.5449	0.0028	13331
146.00	QS66512-2 w/ Mount Pipe	48	21.244	1.4902	0.0024	7399
138.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	48	18.811	1.3987	0.0018	5333
128.00	VHLP800-11	48	15.969	1.2763	0.0012	4925

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	170.5 - 156	136.937	20	7.3684	0.0131
L2	156 - 155.5	114.711	20	7.2518	0.0133
L3	155.5 - 132.17	113.953	20	7.2500	0.0133
L4	135.837 - 86.5867	85.400	20	6.4514	0.0081
L5	91.42 - 42.5	35.936	20	3.9964	0.0029
L6	48.5 - 0	9.484	20	1.8345	0.0010

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
169.00	Side Arm Mount [SO 305-1]	20	134.625	7.3528	0.0131	9922
166.00	Lightning Rod 1/2"x4'	20	130.004	7.3226	0.0131	9922
155.00	(2) DB844G65ZAXY w/ Mount Pipe	20	113.197	7.2471	0.0133	3030
146.00	QS66512-2 w/ Mount Pipe	20	99.797	6.9968	0.0116	1648
138.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20	88.380	6.5765	0.0088	1173
128.00	VHLP800-11	20	75.044	6.0025	0.0059	1076

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	170.5 - 156 (1)	TP10.75x10.75x0.365	14.50	0.00	0.0	11.908 3	-1.07	375.11	0.003
L2	156 - 155.5 (2)	TP19.5x10.75x0.365	0.50	0.00	0.0	11.908 3	-1.09	375.11	0.003
L3	155.5 - 132.17 (3)	TP24.79x19.5x0.1875	23.33	0.00	0.0	14.146 8	-11.66	980.62	0.012
L4	132.17 - 86.5867 (4)	TP34.63x23.5836x0.375	49.25	0.00	0.0	39.481 7	-21.19	2933.29	0.007
L5	86.5867 - 42.5 (5)	TP43.75x32.7959x0.4375	48.92	0.00	0.0	58.279 2	-34.02	4329.85	0.008
L6	42.5 - 0 (6)	TP52.5x41.5315x0.5	48.50	0.00	0.0	68.876 1	-39.02	5117.15	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M _{uy} kip-ft	φM _{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	170.5 - 156 (1)	TP10.75x10.75x0.365	12.46	103.38	0.121	0.00	103.38	0.000
L2	156 - 155.5 (2)	TP19.5x10.75x0.365	12.46	103.38	0.121	0.00	103.38	0.000
L3	155.5 - 132.17 (3)	TP24.79x19.5x0.1875	257.07	479.32	0.536	0.00	479.32	0.000
L4	132.17 - 86.5867 (4)	TP34.63x23.5836x0.375	1193.23	1993.99	0.598	0.00	1993.99	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L5	86.5867 (4) 86.5867 - 42.5 (5)	TP43.75x32.7959x0.4375	2231.07	3727.27	0.599	0.00	3727.27	0.000
L6	42.5 - 0 (6)	TP52.5x41.5315x0.5	2501.94	4550.27	0.550	0.00	4550.27	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	170.5 - 156 (1)	TP10.75x10.75x0.365	1.32	187.56	0.007	0.07	157.00	0.000
L2	156 - 155.5 (2)	TP19.5x10.75x0.365	1.34	345.58	0.004	0.07	157.00	0.000
L3	155.5 - 132.17 (3)	TP24.79x19.5x0.1875	18.66	490.31	0.038	0.13	959.83	0.000
L4	132.17 - 86.5867 (4)	TP34.63x23.5836x0.375	22.76	1466.65	0.016	0.65	3992.86	0.000
L5	86.5867 - 42.5 (5)	TP43.75x32.7959x0.4375	25.50	2164.93	0.012	0.65	7463.65	0.000
L6	42.5 - 0 (6)	TP52.5x41.5315x0.5	26.31	2588.40	0.010	0.65	9111.67	0.000

Pole Interaction Design Data

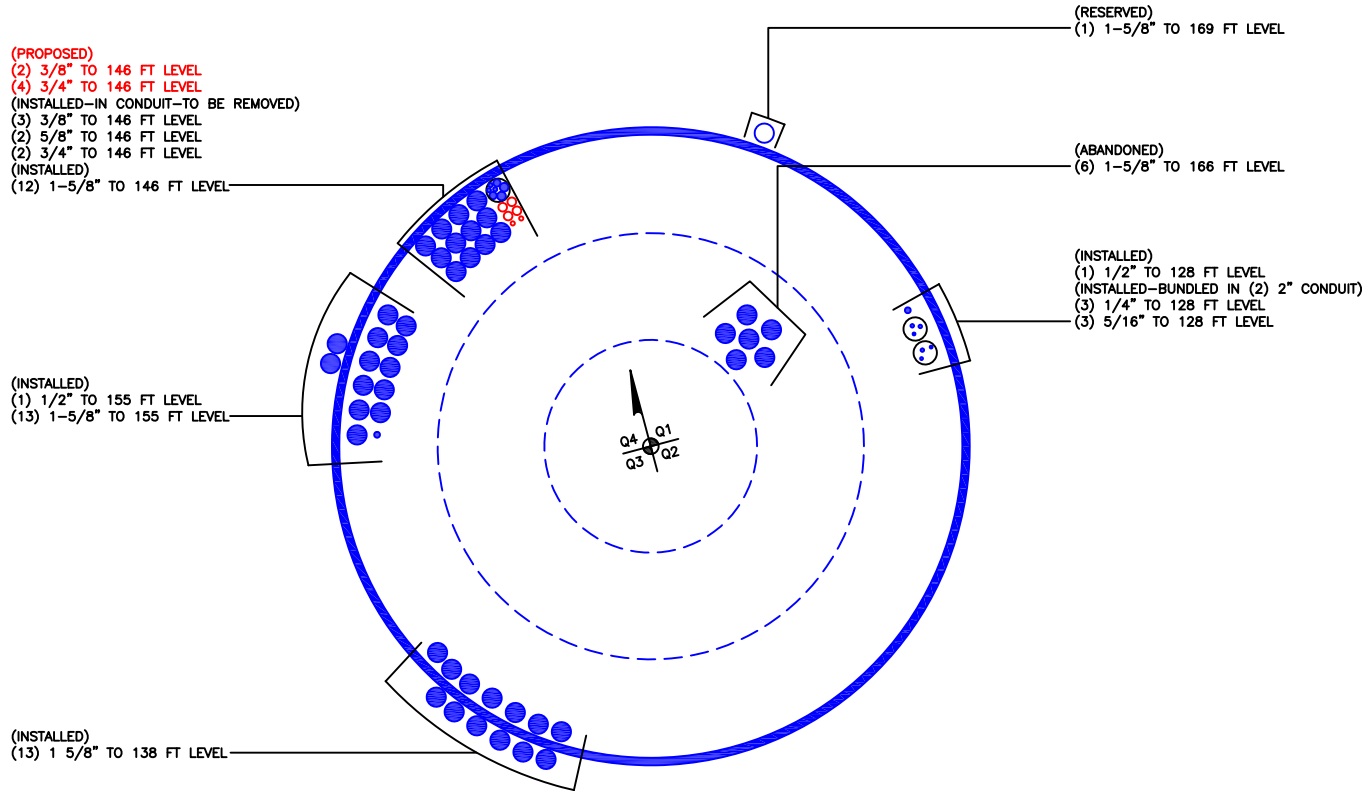
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	170.5 - 156 (1)	0.003	0.121	0.000	0.007	0.000	0.124	1.000	4.8.2 ✓
L2	156 - 155.5 (2)	0.003	0.121	0.000	0.004	0.000	0.124	1.000	4.8.2 ✓
L3	155.5 - 132.17 (3)	0.012	0.536	0.000	0.038	0.000	0.550	1.000	4.8.2 ✓
L4	132.17 - 86.5867 (4)	0.007	0.598	0.000	0.016	0.000	0.606	1.000	4.8.2 ✓
L5	86.5867 - 42.5 (5)	0.008	0.599	0.000	0.012	0.000	0.607	1.000	4.8.2 ✓
L6	42.5 - 0 (6)	0.008	0.550	0.000	0.010	0.000	0.558	1.000	4.8.2 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	170.5 - 156	Pole	TP10.75x10.75x0.365	1	-1.07	375.11	12.4	Pass
L2	156 - 155.5	Pole	TP19.5x10.75x0.365	2	-1.09	375.11	12.4	Pass
L3	155.5 - 132.17	Pole	TP24.79x19.5x0.1875	3	-11.66	980.62	55.0	Pass
L4	132.17 - 86.5867	Pole	TP34.63x23.5836x0.375	4	-21.19	2933.29	60.6	Pass
L5	86.5867 - 42.5	Pole	TP43.75x32.7959x0.4375	5	-34.02	4329.85	60.7	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L6	42.5 - 0	Pole	TP52.5x41.5315x0.5	6	-39.02	5117.15	55.8	Pass	
							Summary		
							Pole (L5)	60.7	Pass
							RATING =	60.7	Pass

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C
ADDITIONAL CALCULATIONS

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: 806355
 Site Name: BRG 126 943086
 App #: 422183 Rev. 1

Reactions		
Mu	12.46	ft-kips
Axial, Pu:	1.07	kips
Shear, Vu:	1.32	kips
Elevation:	156	feet

Bolt Threads:
X-Excluded
$\phi V_n = \phi(0.55 A_b F_u)$
$\phi = 0.75, \phi V_n$ (kips):
38.88

Pole Manufacturer: Other

If No stiffeners, Criteria: TIA G <-Only Applicable to Unstiffened Cases

Bolt Data

Qty:	15	
Diameter (in.):	1	Bolt Fu: 120
Bolt Material:	A325	Bolt Fy: 92
N/A:	75	<-- Disregard
N/A:	55	<-- Disregard
Circle (in.):	25.75	

Flange Bolt Results

Bolt Tension Capacity, $\phi^*T_n, B1$: 54.54 kips
 Adjusted ϕ^*T_n (due to $V_u = V_u/Q_t$), **B**: 54.54 kips
 Max Bolt directly applied Tu: 1.48 Kips
 Min. PL "tc" for **B** cap. **w/o** Pry: 3.168 in
 Min PL "treq" for actual **T w/** Pry: 0.422 in
 Min PL "t1" for actual **T w/o** Pry: 0.521 in
 T allowable with Prying: 8.30 kips $\alpha' > 1$ case
 Prying Force, q: 0.00 kips
 Total Bolt Tension = Tu + q: 1.48 kips
 Prying Bolt Stress Ratio = (Tu + q) / (B): 2.7% **Pass**

Non-Rigid
ϕ^*T_n
$\phi T_n [1 - (V_u / \phi V_n)^2]^{\alpha'}$

Plate Data

Diam:	28.5	in
Thick, t:	1	in
Grade (Fy):	60	ksi
Strength, Fu:	75	ksi
Single-Rod B-eff:	2.25	in

Exterior Flange Plate Results

Flexural Check
 Compression Side Plate Stress: 6.5 ksi
 Allowable Plate Stress: 54.0 ksi
 Compression Plate Stress Ratio: 12.1% **Pass**
No Prying
 Tension Side Stress Ratio, (treq/t)^2: 17.8% **Pass**

Non-Rigid
TIA G
ϕ^*F_y
Comp. Y.L. Length: 23.40

Stiffener Data (Welding at Both Sides)

Config:	0	*
Weld Type:		
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<-- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

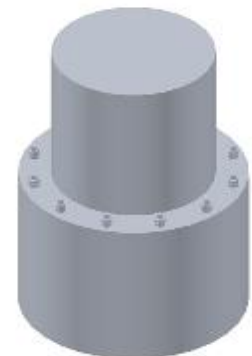
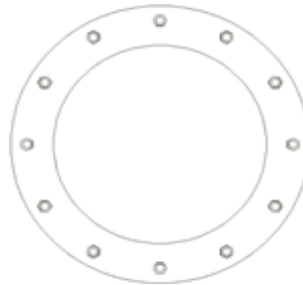
n/a

Stiffener Results

Horizontal Weld : n/a
 Vertical Weld: n/a
 Plate Flex+Shear, fb/Fb + (fv/Fv)^2: n/a
 Plate Tension+Shear, ft/Ft + (fv/Fv)^2: n/a
 Plate Comp. (AISC Bracket): n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, UngROUTED, Circular Base Plate - Any Rod Material

TIA Rev G

Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data	
BU#:	806355
Site Name:	BRG 126 943086
App #:	422183 Rev. 1
Pole Manufacturer:	Other

Reactions		
Mu:	3532	ft-kips
Axial, Pu:	53	kips
Shear, Vu:	28	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

Anchor Rod Data		
Qty:	20	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	61	in

If No stiffeners, Criteria: **AISC LRFD** <-Only Applicable to Unstiffened Cases

Anchor Rod Results

Max Rod (Cu+ Vu/η): 144.4 Kips
 Allowable Axial, Φ*Fu*Anet: 260.0 Kips
 Anchor Rod Stress Ratio: 55.5% **Pass**

Rigid
AISC LRFD
φ*Tn

Plate Data		
Diam:	67	in
Thick:	2.25	in
Grade:	60	ksi
Single-Rod B-eff:	8.33	in

Base Plate Results

Base Plate Stress: 34.2 ksi
 Allowable Plate Stress: 54.0 ksi
 Base Plate Stress Ratio: 63.4% **Pass**

Flexural Check

Rigid
AISC LRFD
φ*Fy
Y.L. Length: 31.06

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

n/a

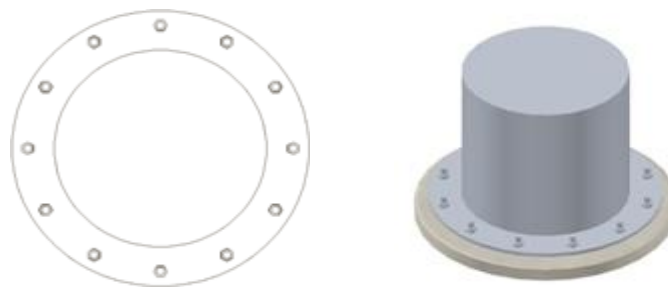
Stiffener Results

Horizontal Weld : n/a
 Vertical Weld: n/a
 Plate Flex+Shear, fb/Fb+(fv/Fv)^2: n/a
 Plate Tension+Shear, ft/Ft+(fv/Fv)^2: n/a
 Plate Comp. (AISC Bracket): n/a

Pole Results

Pole Punching Shear Check: n/a

Pole Data		
Diam:	52.5	in
Thick:	0.5	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Pier and Pad Foundation



BU #: 806355
Site Name: BRG 126 943086
App. Number: 422183 Rev. 1

TIA-222 Revision: G
Tower Type: Monopole

Block Foundation?:

Superstructure Analysis Reactions		
Compression, P_{comp} :	53	kips
Base Shear, V_{u_comp} :	28	kips
Moment, M_u :	3532	ft-kips
Tower Height, H :	170.5	ft
BP Dist. Above Fdn, bp_{dist} :	3	in

Foundation Analysis Checks				
	Capacity	Demand	Rating	Check
<i>Lateral (Sliding) (kips)</i>	533.09	28.00	5.3%	Pass
<i>Bearing Pressure (ksf)</i>	18.00	3.26	18.1%	Pass
<i>Overtuning (kip*ft)</i>	8622.45	3847.00	44.6%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	5902.07	3756.00	63.6%	Pass
<i>Pier Compression (kip)</i>	31187.52	123.56	0.4%	Pass
<i>Pad Flexure (kip*ft)</i>	3909.72	1264.97	32.4%	Pass
<i>Pad Shear - 1-way (kips)</i>	788.93	221.04	28.0%	Pass
<i>Pad Shear - 2-way (ksi)</i>	0.19	0.04	20.6%	Pass

Pier Properties		
Pier Shape:	Square	
Pier Diameter, $dpier$:	7.0	ft
Ext. Above Grade, E :	1.00	ft
Pier Rebar Size, Sc :	8	
Pier Rebar Quantity, mc :	46	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :	7	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

Soil Rating:	44.6%
Structural Rating:	63.6%

Pad Properties		
Depth, D :	10.0	ft
Pad Width, W :	22.0	ft
Pad Thickness, T :	3.0	ft
Pad Rebar Size, Sp :	8	
Pad Rebar Quantity, mp :	36	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, Fy :	60000	psi
Concrete Compressive Strength, $F'c$:	4000	psi
Dry Concrete Density, δc :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	125	pcf
Ultimate Gross Bearing, Q_{ult} :	24.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	36	degrees
SPT Blow Count, N_{blows} :	50	
Base Friction, μ :	0.6	
Neglected Depth, N :	3.50	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	10	ft

<--Toggle between Gross and Net

Exhibit 3



Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT2105

FA#: 10035026

Fairfield - Murray
281 Wood House Road
Fairfield, CT 06824

March 14, 2018

Centerline Communications Project Number: 950006-106

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	8.85 %



March 14, 2018

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT2105 – Fairfield - Murray**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **281 Wood House Road, Fairfield, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ 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 ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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 (see below), 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.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **281 Wood House Road, Fairfield, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE	700 MHz	2	40
LTE	2100 MHz (AWS)	4	30
LTE	2300 MHz (WCS)	4	30
LTE	1900 MHz (PCS)	4	40
UMTS	850 MHz	2	30

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	CCI HPA-65R-BUU-H6	148
A	2	Quintel QS66512-2	148
A	3	Powerwave 7770	148
B	1	CCI HPA-65R-BUU-H6	148
B	2	Quintel QS66512-2	148
B	3	Powerwave 7770	148
C	1	CCI HPA-65R-BUU-H6	148
C	2	Quintel QS66512-2	148
C	3	Powerwave 7770	148

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)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	CCI HPA-65R-BUU-H6	700 MHz / 2100 MHz (AWS)	11.95 / 15.05	6	200	5,092.07	1.16
Antenna A2	Quintel QS66512-2	2300 MHz (WCS) / 1900 MHz (PCS)	14.85 / 13.85	6	280	7,548.48	1.35
Antenna A3	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.26
Sector A Composite MPE%							2.77
Antenna B1	CCI HPA-65R-BUU-H6	700 MHz / 2100 MHz (AWS)	11.95 / 15.05	6	200	5,092.07	1.16
Antenna B2	Quintel QS66512-2	2300 MHz (WCS) / 1900 MHz (PCS)	14.85 / 13.85	6	280	7,548.48	1.35
Antenna B3	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.26
Sector B Composite MPE%							2.77
Antenna C1	CCI HPA-65R-BUU-H6	700 MHz / 2100 MHz (AWS)	11.95 / 15.05	6	200	5,092.07	1.16
Antenna C2	Quintel QS66512-2	2300 MHz (WCS) / 1900 MHz (PCS)	14.85 / 13.85	6	280	7,548.48	1.35
Antenna C3	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.26
Sector C Composite MPE%							2.77

Table 3: AT&T Emissions Levels



The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. 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. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
AT&T – Max Sector Value	2.77 %
Clearwire	0.12 %
PageNet	0.19 %
T-Mobile	2.24 %
Verizon Wireless	1.50 %
XM Satellite Radio	2.03 %
Metricom	0.00 %
Site Total MPE %:	8.85 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	2.77 %
AT&T Sector B Total:	2.77 %
AT&T Sector C Total:	2.77 %
Site Total:	8.85 %

Table 5: Site MPE Summary

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 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

AT&T _ Frequency Band / Technology Max Power Values (All Sectors)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 700 MHz LTE (Antenna 1)	2	626.70	148	2.23	700 MHz	467	0.48%
AT&T 2100 MHz (AWS) LTE (Antenna 1)	4	959.67	148	6.84	2100 MHz (AWS)	1000	0.68%
AT&T 2300 MHz (WCS) LTE (Antenna 2)	2	1,832.95	148	6.54	2300 MHz (WCS)	1000	0.65%
AT&T 1900 MHz (PCS) LTE (Antenna 2)	4	970.64	148	6.92	1900 MHz (PCS)	1000	0.69%
AT&T 850 MHz UMTS (Antenna 3)	2	414.12	148	1.48	850 MHz	567	0.26%
						Total:	2.77%

Table 6: AT&T Maximum Sector 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:

AT&T Sector	Power Density Value (%)
Sector A:	2.77 %
Sector B:	2.77 %
Sector C:	2.77 %
AT&T Maximum Total (per sector):	2.77 %
Site Total:	8.85 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **8.85 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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.

A handwritten signature in black ink, appearing to read 'Scott Heffernan', is positioned above the contact information.

Scott Heffernan
RF Engineering Director
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767

Exhibit 4

281 WOOD HOUSE ROAD

Location 281 WOOD HOUSE ROAD

Mblu 118/ 57/ //

Acct# 06700

Owner J FERNANDES PROPERTIES
LLC

Assessment \$529,200

Appraisal \$756,000

PID 8854

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$387,400	\$368,600	\$756,000

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$271,180	\$258,020	\$529,200

Owner of Record

Owner J FERNANDES PROPERTIES LLC
Co-Owner
Address 281 WOOD HOUSE ROAD
FAIRFIELD, CT 06824-1823

Sale Price \$0
Certificate
Book & Page 5620/ 132
Sale Date 12/08/2017
Instrument 02

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
J FERNANDES PROPERTIES LLC	\$0		5620/ 132	02	12/08/2017
J FERNANDES HOME IMPROVEMENT	\$450,000		5592/ 251	25	09/20/2017
GHOSH MOITRAYEE & RANJAN	\$172,000		706/ 293		06/13/1983

Building Information

Building 1 : Section 1

Year Built: 1968
Living Area: 2,426
Replacement Cost: \$444,461
Building Percent 69
Good:

**Replacement Cost
Less Depreciation:** \$306,700

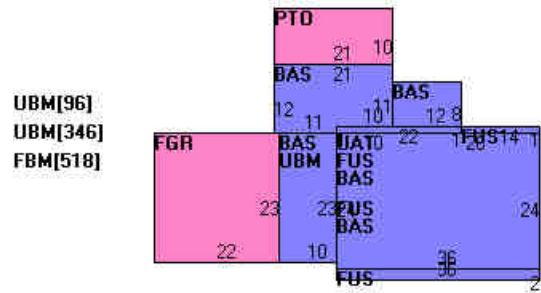
Building Attributes	
Field	Description
Style	Colonial
Stories:	2 Stories
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asphalt
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Carpet
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	4 Bedrooms
Total Bthrms:	2
Total Half Baths:	1
Total Xtra Fixtrs:	
Total Rooms:	8 Rooms
Bath Style:	Average
Kitchen Style:	Average
FCPZ	

Building Photo



(<http://images.vgsi.com/photos2/FairfieldCTPhotos//\02\04\39\1>)

Building Layout



(<http://images.vgsi.com/photos2/FairfieldCTPhotos//Sketches/88>)

Building Sub-Areas (sq ft)			
Code	Description	Gross Area	Living Area
BAS	First Floor	1,454	1,454
FUS	Upper Story, Finished	972	972
FBM	Basement, Finished	518	0
FGR	Garage	506	0
PTO	Patio	210	0
UAT	Attic, Unfinished	864	0
UBM	Basement, Unfinished	672	0
		5,196	2,426

Extra Features

Extra Features				
Code	Description	Size	Value	Bldg #
FPL3	2.0 STORY FIREPLACE	1 UNITS	\$5,200	1

FPL1	1.0 STORY FIREPLACE	1 UNITS	\$3,500	1
------	---------------------	---------	---------	---

Land

Land Use

Use Code	1010
Description	Single Fam MDL-01
Zone	AAA
Neighborhood	0057
Alt Land Appr Category	No

Land Line Valuation

Size (Acres)	2.00
Depth	0
Assessed Value	\$258,020
Appraised Value	\$368,600

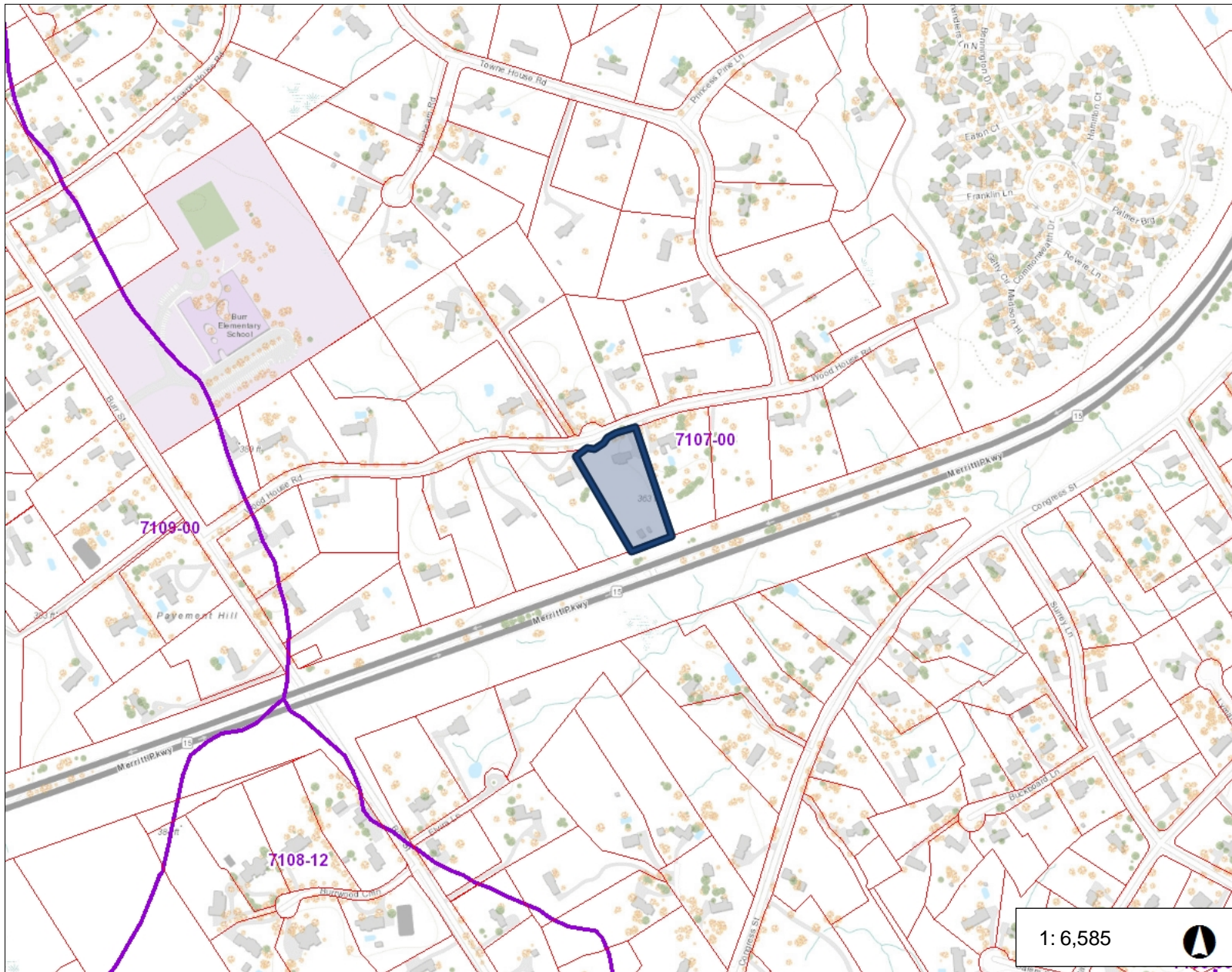
Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
	UTIL BLD			1	\$31,000	1
	UTIL BLD			1	\$31,000	1
	EQUIP SHED			1	\$10,000	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$387,400	\$368,600	\$756,000
2016	\$387,400	\$368,600	\$756,000
2015	\$387,400	\$368,600	\$756,000

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$271,180	\$258,020	\$529,200
2016	\$271,180	\$258,020	\$529,200
2015	\$271,180	\$258,020	\$529,200



Legend

- Parcels
- Local Basin Boundary
- Major
- Regional
- Subregional
- Local
- Local Basin Area

1: 6,585

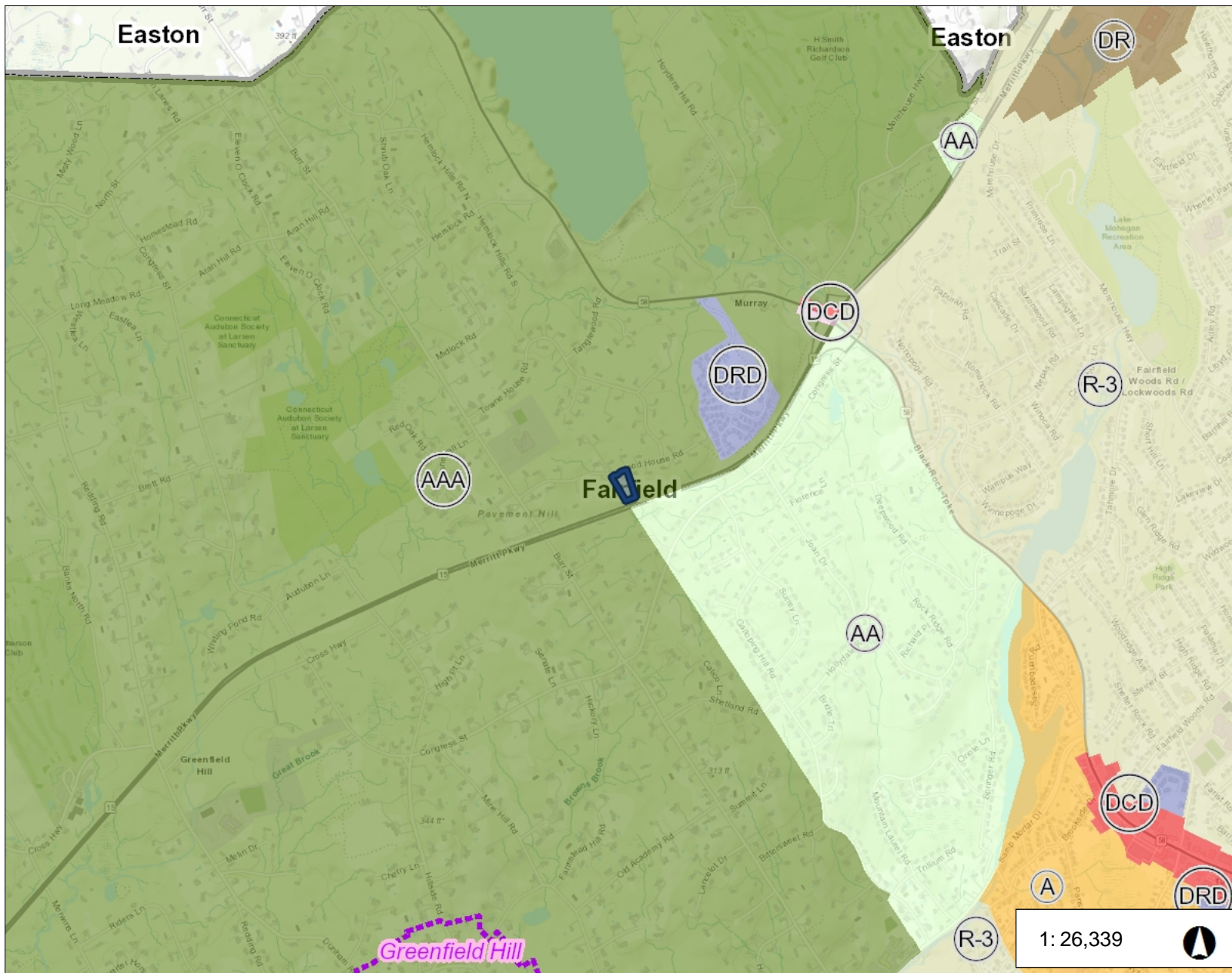
1,097.4 0 548.72 1,097.4 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Greater Bridgeport Regional Council

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION





Legend

- Historic Districts
- Zoning Districts**
- Residential Districts**
- AAA
- AA
- R-3
- R-2
- A
- B
- C
- Design Residence
- Beach District (BD)
- Flood Plain District
- Business Districts**
- CDBD
- Design Commercial District
- NDD
- Industrial Districts**
- DI
- DRD
- Town Boundary

4,389.8 0 2,194.90 4,389.8 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Greater Bridgeport Regional Council

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

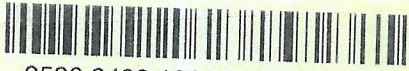


SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

**Michael C. Tetreau, First Selectman
Sullivan Independence Hall, Second Floor
725 Old Post Road
Fairfield, CT 06824**



9590 9402 1864 6104 9435 69

2. Article Number (Transfer from service label)

7016 2140 0000 9458 6979

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *[Handwritten Signature]*

- Agent
- Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Insured Mail
- Insured Mail Restricted Delivery (over \$500)
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Return Receipt for Merchandise
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

**Thomas Conley, Building Official
Sullivan Independence Hall, Second Floor
725 Old Post Road
Fairfield, CT 06824**



9590 9402 1864 6104 9436 06

2. Article Number (Transfer from service label)

7016 2140 0000 9458 6948

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *[Handwritten Signature]*

- Agent
- Addressee

B. Received by (Printed Name)


C. Date of Delivery


D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Insured Mail
- Insured Mail Restricted Delivery (over \$500)
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Return Receipt for Merchandise
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> ■ Complete items 1, 2, and 3. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <input checked="" type="checkbox"/> <i>L. Bianco</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (<i>Printed Name</i>) <i>Lindsay Bianco</i></p> <p>C. Date of Delivery <i>4/23/18</i></p>
<p>1. Article Addressed to:</p> <p>Paul Pedicone, Project Manager CROWN CASTLE USA INC 3 Corporate Park Drive, Suite 101 Clifton Park, NY 12065</p>  <p>9590 9402 1864 6104 9435 83</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p> <p>3. Service Type <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Adult Signature <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p>
<p>Article Number (Transfer from service label) 7016 2140 0000 9458 6955</p>	<p>PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt</p>

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> ■ Complete items 1, 2, and 3. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <input checked="" type="checkbox"/> <i>James Wendt</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (<i>Printed Name</i>) <i>James Wendt</i></p> <p>C. Date of Delivery <i>4/23/18</i></p>
<p>1. Article Addressed to:</p> <p>James Wendt, Planning Director Sullivan Independence Hall 725 Old Post Road Fairfield, CT 06824</p>  <p>9590 9402 1864 6104 9435 90</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p> <p>3. Service Type <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Adult Signature <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p>
<p>Article Number (Transfer from service label) 7016 2140 0000 9458 6931</p>	<p>PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt</p>

7016 3010 0000 7829 1438

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

CT2105

For delivery information, visit our website at www.usps.com®.
FAIRFIELD, CT 06824

Certified Mail Fee	\$3.45
Extra Services & Fees (check box, add fee as appropriate)	\$2.75
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$2.05
Total Postage and Fees	\$8.25

0821
06
Postmark
Here
05/02/2018

Sent To
J Fernandes Properties LLC
Street and Apt. No., or PO Box No.
281 Wood House Rd.
City, State, ZIP+4®
Fairfield, CT 06824-1823

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

re-sent notice
package

7016 2140 0000 9458 6962

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

CT2105

For delivery information, visit our website at www.usps.com®.
FAIRFIELD, CT 06824

Certified Mail Fee	\$3.45
Extra Services & Fees (check box, add fee as appropriate)	\$2.75
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$2.05
Total Postage and Fees	\$8.25

0821
03
Postmark
Here
04/18/2018

Sent To
J FERNANDES PROPERTIES LLC
Street and Apt. No., or PO Box
281 WOOD HOUSE ROAD
FAIRFIELD, CT 06824-1823
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

delivery
not
successful

Track Another Package +

Tracking Number: 70163010000078291438

Remove X

Expected Delivery on

MONDAY

7 MAY
2018 ⓘ

by
8:00pm ⓘ

 **Delivered**

May 7, 2018 at 12:26 pm
Delivered, To Agent
FAIRFIELD, CT 06824

Get Updates ∨

Text & Email Updates



Tracking History



Product Information



See Less ^

Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

FAQs (<http://faq.usps.com/?articleId=220900>)

The easiest tracking number is the one you don't have to know.

With Informed Delivery[®], you never have to type in another tracking number. Sign up to:

- See images* of incoming mail.
- Automatically track the packages you're expecting.
- Set up email and text alerts so you don't need to enter tracking numbers.
- Enter USPS Delivery Instructions[™] for your mail carrier.

Sign Up

([https://reg.usps.com/entreg/RegistrationAction_input?](https://reg.usps.com/entreg/RegistrationAction_input?app=UspsTools&appURL=https%3A%2F%2Ftools.usps.com%2Fgc)

***NOTE: Black and white (grayscale) images show the outside, front of letter-sized envelopes and mailpieces that are processed through USPS automated equipment.**