EMPIRE telecom

September 28, 2018

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

Regarding:	Notice of Exempt Modification – Addition of (3) Antennas, Addition of (9) Remote Radios.
Property Address:	220 Evergreen Street, Bridgeport, CT 06606
Applicant:	AT&T Mobility ("AT&T", Site # CT5100)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 135'-foot monopole at the above-referenced address, latitude -41.19777778, longitude -73.19069444Said monopole is owned by Blue Sky Towers and the ground space is owned by Blue Sky Towers. The existing equipment shelter is 12 x 20 totaling 240 square feet.

AT&T desires to modify its existing telecommunications facility by adding (3) Antennas and (9) remote Radios. The centerline height of said antennas is and will remain at 130' 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 Joseph P. Ganim the Town Mayor of Bridgeport, Mr. Bruce Nelson the town's Building Official and zoning Enforcement Officer. A copy of this letter is also being sent to Blue Sky Towers LLC, the owner of the structure 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 130' atop the 135' 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.

16 Esquire Road, Billerica, MA 01862 Phone 339-223-9828 Email: spike@empiretelecomm.com

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 Bennett & Pless, Inc. dated 9/7/18, 2018).

For the foregoing reasons AT&T respectfully requests that the proposed work will be allowed within the exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

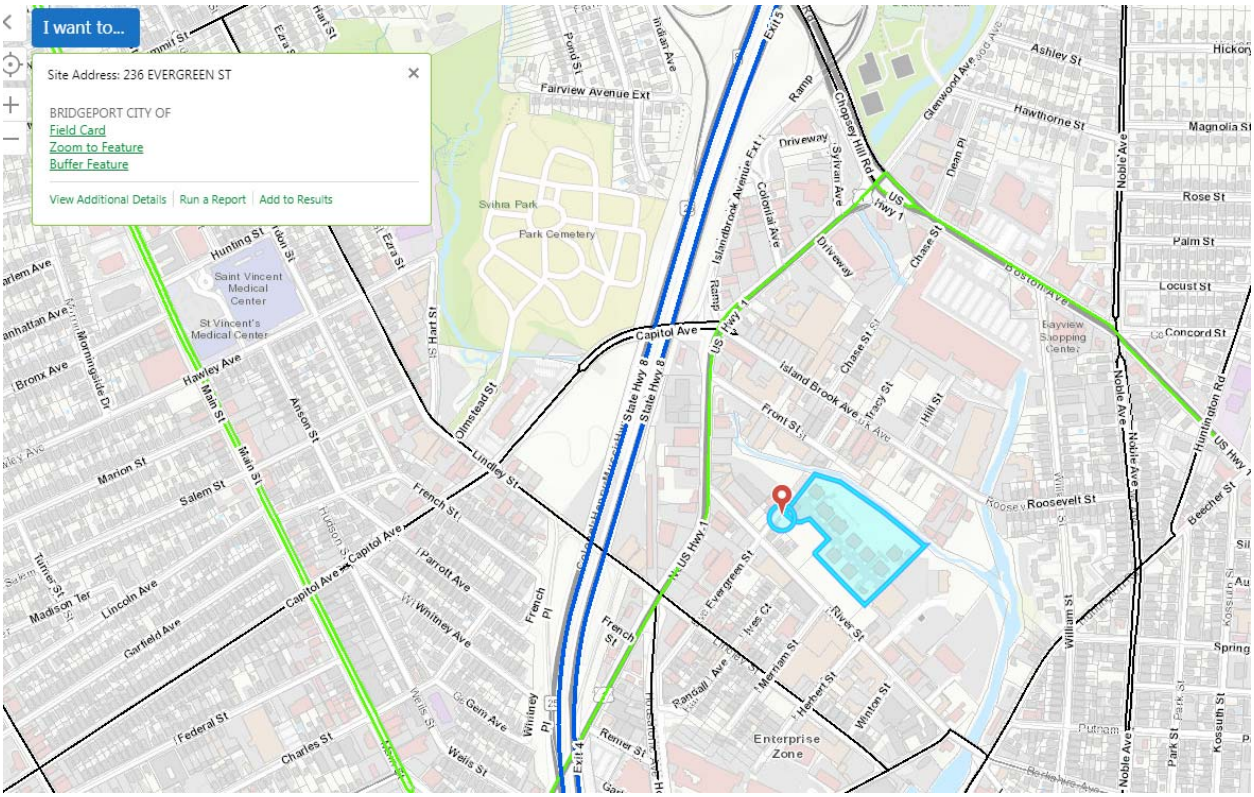
Sincerely,

Scott Pike

Scott Pike
Site Acquisition Specialist
Phone- 339-223-9828
Empire Telecom
16 Esquire Road
Billerica, MA 01862
spike@empiretelecomm.com

Enclosures:

CC: Joseph P. Ganim, Town Mayor
Bruce A. Nelson, Town Building Official
James Burges, Blue Sky Towers LLC, Tower Owner


I want to...
Site Address: 236 EVERGREEN ST
BRIDGEPORT CITY OF
Field Card
Zoom to Feature
Buffer Feature
View Additional Details | Run a Report | Add to Results
Fairview Avenue Ext
Pond St
Indian Ave
Exit 3
Ramp
Chopsey Hill Rd
Ashley St
Hawthorne St
Glenwood Ave
Magnolia St
Rose St
Palm St
Locust St
Concord St
Noble Ave
Dean Pl
Sylvan Ave
Driveway
Islandbrook Avenue Ext
Colonial Ave
US Hwy 1
Chase St
Boston Ave
Bayview Shopping Center
Sylvia Park
Park Cemetery
Saint Vincent Medical Center
St Vincent's Medical Center
Hunting St
Ezra St
Hart St
Capitol Ave
State Hwy 8
Island Brook Ave
Tracy St
Hill St
Front St
Olmstead St
Lindley St
Hawley Ave
Main St
Anson St
Marion St
Salem St
French St
Parrott Ave
Whitney Ave
Lincoln Ave
Garfield Ave
Madison Ter
Turner St
Federal St
Charles St
Wells St
Glenn Ave
Whitney Pl
French Pl
Renner St
Exit 4
N US Hwy 1
Evergreen St
Ives Ct
Merriam St
Randall Ave
Herbert St
Winton St
River St
Roosevelt St
Beecher St
William St
Spring
Putnam
Park St
Kossuth St
Enterprise Zone
Bronx Ave
Morningside Dr
Harlem Ave
Manhattan Ave

220 EVERGREEN ST

Location	220 EVERGREEN ST	**Mblu**	53/ 1527/ 2/ /
Acct#	R--0048990	**Owner**	CHAPIN & BANGS COMPANY
Assessment	$246,652	**Appraisal**	$352,360
PID	13578	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$2,250	$350,110	$352,360
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$1,580	$245,072	$246,652

Owner of Record

Owner	CHAPIN & BANGS COMPANY	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	PO BOX 1117 BRIDGEPORT, CT 06601	**Book & Page**	2291/ 54
		Sale Date	05/12/1987
		Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
CHAPIN & BANGS COMPANY	$0		2291/ 54		05/12/1987

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Attributes	
Field	**Description**
Style	Vacant Land
Model	
Grade:	
Stories:	
Occupancy:	
Exterior Wall 1:	
Exterior Wall 2:	
Roof Structure:	
Roof Cover:	

Building Photo

(http://images.vgsi.com/photos2/BridgeportCTPhotos//\00\10\2C

Building Layout

(http://images.vgsi.com/photos2/BridgeportCTPhotos//Sketches/

Building Sub-Areas (sq ft)	Legend

Interior Wall 1:	
Interior Wall 2:	
Interior Flr 1:	
Interior Flr 2	
Heat Fuel:	
Heat Type:	
AC Type:	
Total Bedrooms	
Total Full Baths	
Total Half Baths	
Total Xtra Fixtrs:	
Total Rooms	
Bath Style:	
Kitchen Style:	
Fireplaces	
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Garages	
.	

No Data for Building Sub-Areas

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	399
Description	Vac Ind Lnd
Zone	ILI
Neighborhood	IND
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	1.00
Frontage	0
Depth	0
Assessed Value	$245,072
Appraised Value	$350,110

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FN2	Fence, WD	4	4 ft	150 LF	$2,250	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$2,250	$350,110	$352,360
2016	$29,050	$200,110	$229,160
2015	$2,250	$200,110	$202,360

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$1,580	$245,072	$246,652
2016	$1,580	$140,080	$141,660

2015	$1,580	$140,080	$141,660

WIRELESS COMMUNICATIONS FACILITY
CT5100 - LTE 4C/5C/6C/FIRSTNET
BRIDGEPORT EVERGREEN ST.
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

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:
   - INSTALL KATHTREIN ANTENNA AT POS 3. (TOTAL OF 3)
   - INSTALL (1) DC/FIBER SQUID.
   - INSTALL RRUS-12 AT POS. 2. (TOTAL OF 3)
   - INSTALL B14-4478 AT POS. 3. (TOTAL OF 3)
   - INSTALL RRUS-32 B66 AT POS. 3. (TOTAL OF 3)

   B. AT THE EQUIPMENT SHELTER
   - IN LTE RACK, REPLACE DUS TO 5216
   - IN LTE RACK, REPLACE IDL2 WITH IDLe

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.

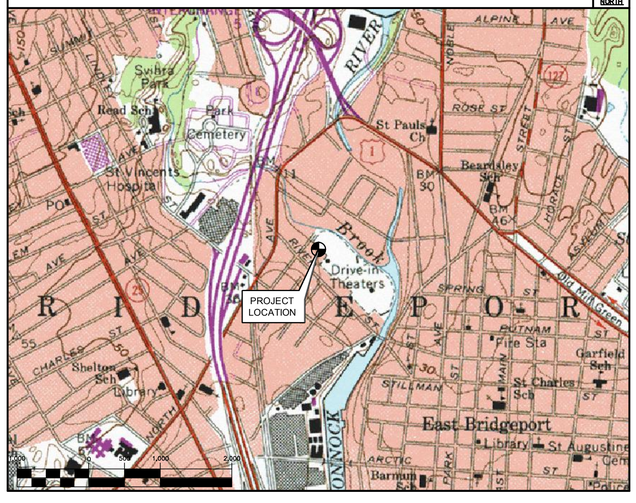
SITE DIRECTIONS

FROM: 500 ENTERPRISE DRIVE, ROCKY HILL, CONNECTICUT
TO: 220 EVERGREEN STREET, BRIDGEPORT, CONNECTICUT

1.	TURN LEFT ONTO CAPITAL BLVD.	0.36 MI
2.	TURN LEFT ONTO WEST ST.	0.27 MI
3.	TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN.	0.30 MI
4.	TAKE EXIT 17 FOR CT-15 S/W CROSS PKWY.	9.59 MI
5.	TAKE EXIT 52 FOR CT- 8 S.	30.24 MI
6.	TAKE EXIT 5 TOWARD NORTH AVE/BOSTON AVE/BEARDSLEY ZOOLOGICAL GARDENS/MOTOR VEH DEPT.	3.48 MI
7.	MERGE ONTO CHOPSEY HILL RD.	0.34 MI
8.	TURN RIGHT ONTO US-1 S/NORTH AVE.	0.29 MI
9.	TURN LEFT ONTO RIVER ST.	0.40 MI
10.	TAKE THE 1ST LEFT ONTO EVERGREEN ST.	0.08 MI
11.	220 EVERGREEN ST, BRIDGEPORT, CT 06606-5714, 220 EVERGREEN ST IS ON THE RIGHT.	0.03 MI

VICINITY MAP

SCALE: 1" = 1000'



PROJECT INFORMATION

AT&T SITE NUMBER:	CT5100
AT&T SITE NAME:	BRIDGEPORT EVERGREEN ST.
SITE ADDRESS:	220 EVERGREEN STREET BRIDGEPORT, CT 06606
LESSEE/APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
AT&T PACE ID NUMBER:	PACE JOB 1 - MRCTB027008 PACE JOB 2 - MRCTB027004 PACE JOB 3 - MRCTB027009
AT&T FA LOCATION CODE:	10107972
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405
PROJECT COORDINATES:	LATITUDE: 41°-11'-51.92" N LONGITUDE: 73°-11'-26.09" W GROUND ELEVATION: ±12' AMSL SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

SHEET INDEX

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	04/13/18	TJR	DMD	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
0	04/12/18	TJR	DMD	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
BRIDGEPORT EVERGREEN ST.
CT5100 - LTE 4C/5C/6C/FIRSTNET
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

DATE: 04/02/18
SCALE: AS NOTED
JOB NO. 18000.29

TITLE SHEET

T-1

Sheet No. 1 of 8

NOTES AND SPECIFICATIONS

DESIGN BASIS:

GOVERNING CODE: 2012 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2016 CT STATE BUILDING CODE AND AMENDMENTS.

1. 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 (Vasd) (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:

1. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
2. 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.
3. 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.
4. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
5. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
6. 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.
7. 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.
8. 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.
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 SITE OPERATIONS, COORDINATE WORK WITH NORTHEAST UTILITIES
10. 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.
11. 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.
12. 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.
13. NO DRILLING WELDING OR TAPING ON EVERSOURCE OWNED EQUIPMENT.
14. REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)

   A. STRUCTURAL STEEL (W SHAPES)---ASTM A992 (FY = 50 KSI)
   B. STRUCTURAL STEEL (OTHER SHAPES)---ASTM A36 (FY = 36 KSI)
   C. STRUCTURAL HSS (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
   D. STRUCTURAL HSS (ROUND SHAPES)---ASTM A500 GRADE B, (FY = 42 KSI)
   E. PIPE---ASTM A53 (FY = 35 KSI)
   F. CONNECTION BOLTS---ASTM A325-N
   G. U-BOLTS---ASTM A36
   H. ANCHOR RODS---ASTM F 1554
   I. WELDING ELECTRODE---ASTM E 70XX

2. 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.
3. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
4. PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
5. FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
6. INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
7. AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON-GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
8. 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.
9. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".
10. 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.
11. CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
12. 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.
13. LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
14. SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
15. MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
16. FABRICATE BEAMS WITH MILL CAMBER UP.
17. 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.
18. COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
19. INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
20. 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:

1. ANTENNA PANELS:
   A. SHERWIN WILLIAMS POLANE-B
   B. COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.
2. COAXIAL CABLES:
   A. ONE COAT OF DTM BONDING PRIMER (2–5 MILS. DRY FINISH)
   B. TWO COATS OF DTM ACRYLIC PRIMER/FINISH (2.5–5 MILS. DRY FINISH)
   C. COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.

EXAMINATION AND PREPARATION:

1. 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.
2. 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.
3. TEST SHOP APPLIED PRIMER FOR COMPATIBILITY WITH SUBSEQUENT COVER MATERIALS.
4. PERFORM PREPARATION AND CLEANING PROCEDURE IN STRICT ACCORDANCE WITH COATING MANUFACTURER'S INSTRUCTIONS FOR EACH SUBSTRATE CONDITION.
5. CORRECT DEFECTS AND CLEAN SURFACES WHICH AFFECT WORK OF THIS SECTION. REMOVE EXISTING COATINGS THAT EXHIBIT LOOSE SURFACE DEFECTS.
6. IMPERVIOUS SURFACE: REMOVE MILDEW BY SCRUBBING WITH SOLUTION OF TRI-SODIUM PHOSPHATE AND BLEACH. RINSE WITH CLEAN WATER AND ALLOW SURFACE TO DRY.
7. ALUMINUM SURFACE SCHEDULED FOR PAINT FINISH: REMOVE SURFACE CONTAMINATION BY STEAM OR HIGH-PRESSURE WATER. REMOVE OXIDATION WITH ACID ETCH AND SOLVENT WASHING. APPLY ETCHING PRIMER IMMEDIATELY FOLLOWING CLEANING.
8. 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.
9. 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.
10. 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).
11. COAXIAL CABLES: REMOVE ALL OIL, DUST, GREASE. DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION.

CLEANING:

1. COLLECT WASTE MATERIAL, WHICH MAY CONSTITUTE A FIRE HAZARD, PLACE IN CLOSED METAL CONTAINERS AND REMOVE DAILY FROM SITE.

APPLICATION:

1. APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY.
3. APPLY EACH COAT TO UNIFORM FINISH.
4. APPLY EACH COAT OF PAINT SLIGHTLY DARKER THAN PRECEDING COAT UNLESS OTHERWISE APPROVED.
5. SAND METAL LIGHTLY BETWEEN COATS TO ACHIEVE REQUIRED FINISH.
6. VACUUM CLEAN SURFACES FREE OF LOOSE PARTICLES. USE TACK CLOTH JUST PRIOR TO APPLYING NEXT COAT.
7. ALLOW APPLIED COAT TO DRY BEFORE NEXT COAT IS APPLIED.

COMPLETED WORK:

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

ANTENNA SCHEDULE

SECTOR	EXISTING/PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/DIPLEXER/TRIPLEXER (QTY)	(E/P) RRU (QTY)	FEEDER	(E/P) RAYCAP (QTY)
A1	EXISTING	UMTS DB	CCI (HPA-65R-BUU-H8)	93 x 15 x 7	130'	20°		(E) RRUS-11 (1)	FEEDER AND DC POWER	(E) RAYCAP DC6-48-60-18-8C (2)
A2	EXISTING	LTE WCS/700DE/850	CCI (0PA-65R-LCUU-H8)	92.7 x 14 x 7	130'	20°		(E) RUUS-32 (1), (P) RRUS-12 (1)	FEEDER AND DC POWER	
A3	PROPOSED	LTE 700 B14/AWS J	KATHREIN (800-10966)	96 x 20 x 6.9	130'	20°		(P) B14 4478 (1), (P) RRUS-32 B66 (1)	FEEDER AND DC POWER	(P) RAYCAP DC6-48-60-0-8C (2)
A4	EXISTING	LTE 700BC/PCS	CCI (HPA-65R-BUU-H8)	93 x 15 x 7	130'	20°		(E) RRUS-11 (1), (E) RRUS-32 B2 (1)	FEEDER AND DC POWER	
B1	EXISTING	UMTS DB	CCI (HPA-65R-BUU-H8)	93 x 15 x 7	130'	150°		(E) RRUS-11 (1)	FEEDER AND DC POWER	
B2	EXISTING	LTE WCS/700DE/850	CCI (0PA-65R-LCUU-H8)	92.7 x 14 x 7	130'	150°		(E) RUUS-32 (1), (P) RRUS-12 (1)	FEEDER AND DC POWER	
B3	PROPOSED	LTE 700 B14/AWS J	KATHREIN (800-10966)	96 x 20 x 6.9	130'	150°		(P) B14 4478 (1), (P) RRUS-32 B66 (1)	FEEDER AND DC POWER	
B4	EXISTING	LTE 700BC/PCS	CCI (HPA-65R-BUU-H8)	93 x 15 x 7	130'	150°		(E) RRUS-11 (1), (E) RRUS-32 B2 (1)	FEEDER AND DC POWER	
C1	EXISTING	UMTS DB	CCI (HPA-65R-BUU-H8)	93 x 15 x 7	130'	270°		(E) RRUS-11 (1)	FEEDER AND DC POWER	
C2	EXISTING	LTE WCS/700DE/850	CCI (0PA-65R-LCUU-H8)	92.7 x 14 x 7	130'	270°		(E) RUUS-32 (1), (P) RRUS-12 (1)	FEEDER AND DC POWER	
C3	PROPOSED	LTE 700 B14/AWS J	KATHREIN (800-10966)	96 x 20 x 6.9	130'	270°		(P) B14 4478 (1), (P) RRUS-32 B66 (1)	FEEDER AND DC POWER	
C4	EXISTING	LTE 700BC/PCS	CCI (HPA-65R-BUU-H8)	93 x 15 x 7	130'	270°		(E) RRUS-11 (1), (E) RRUS-32 B2 (1)	FEEDER AND DC POWER	

RRU	SIZE (INCHES) (L x W x D)
RRUS-11	19.7 x 17 x 7.2
RRUS-12	20.4 x 18.5 x 7.5
RRUS-32	27.2 x 12.1 x 7
RRUS-32 B2	27.2 x 12.1 x 7
RRUS-32 B66	27.2 x 12.1 x 7
B14-4478	14.9 x 13.1 x 7.3

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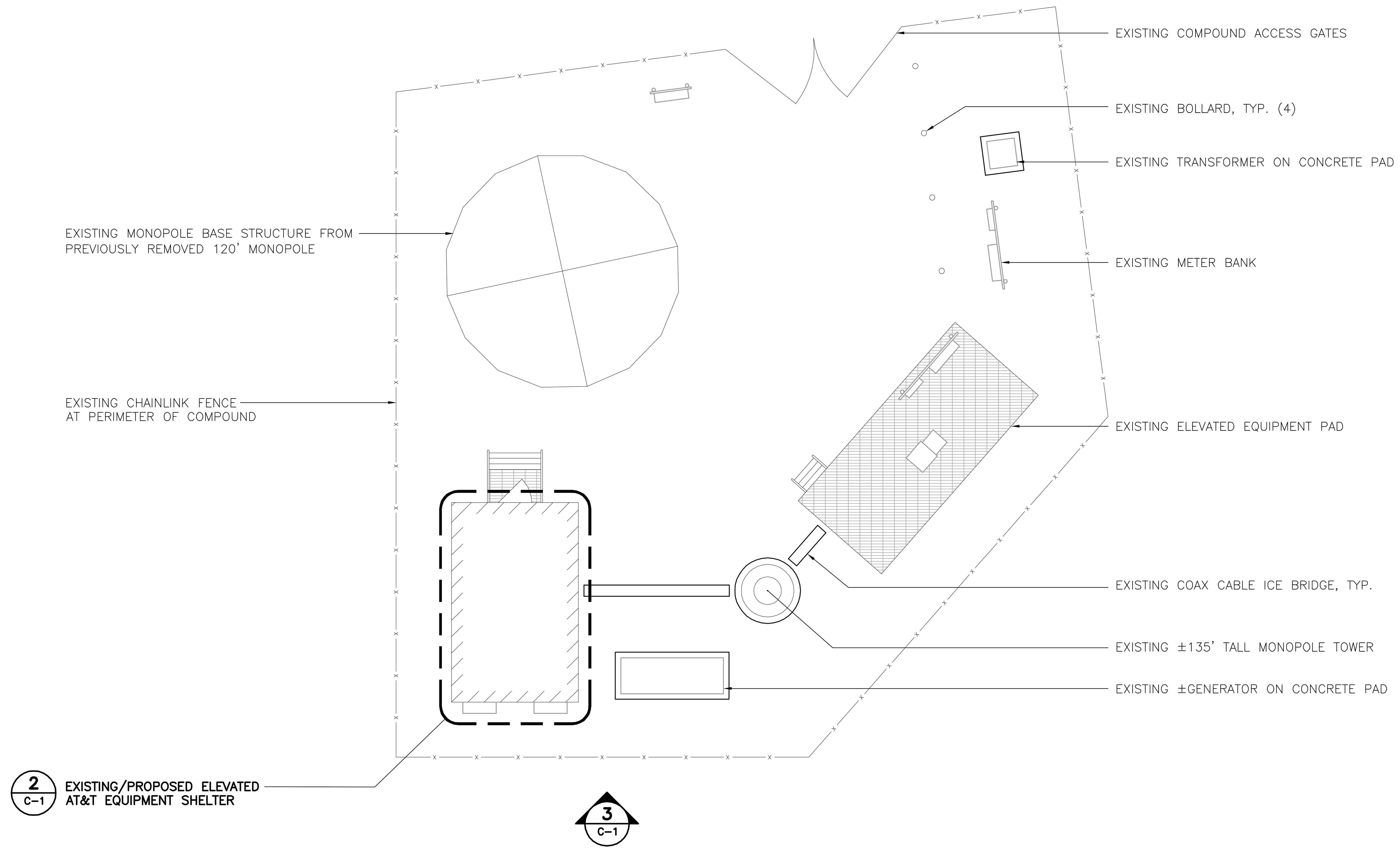
NOTES, SPECIFICATIONS AND ANTENNA SCHEDULE

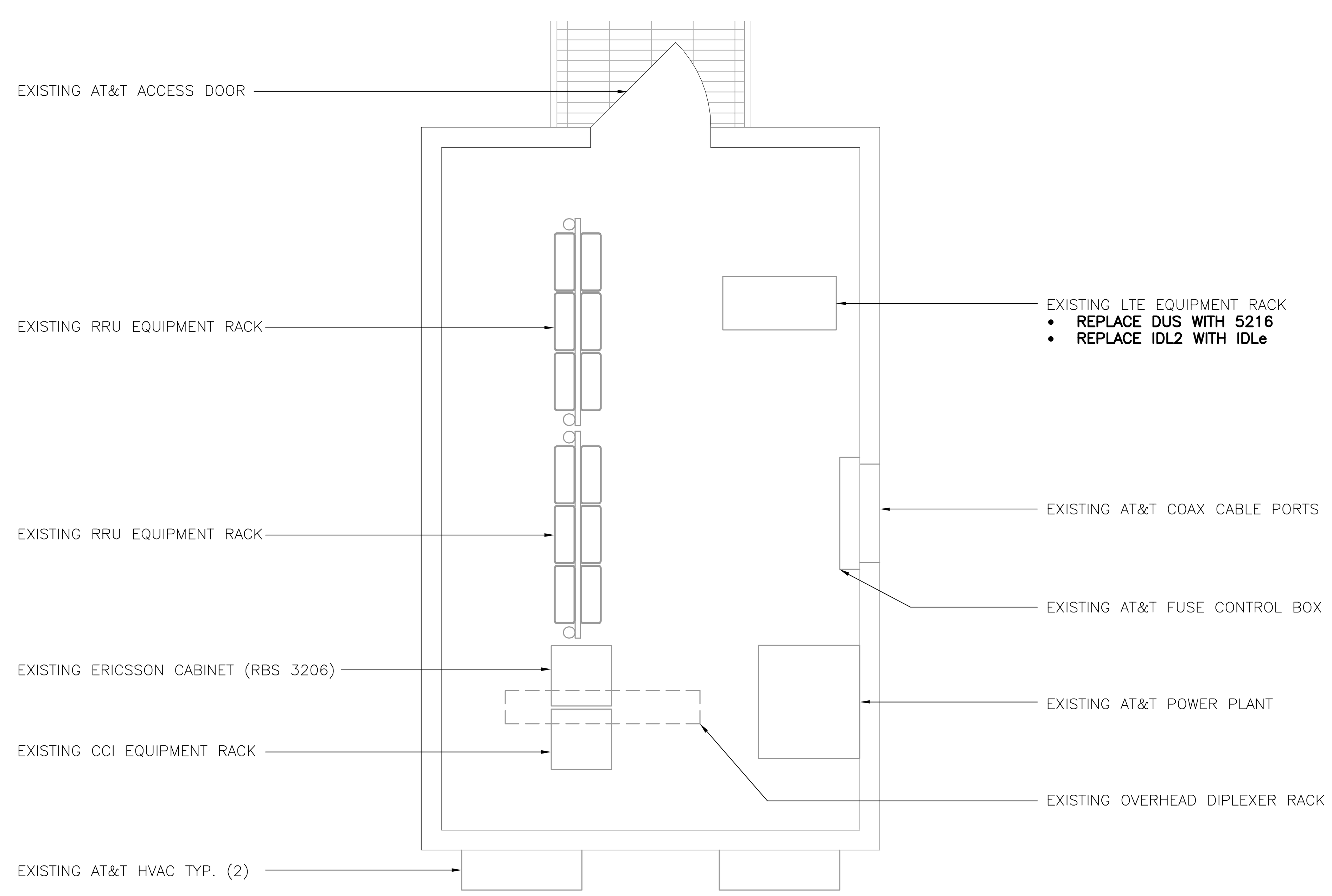
N-1



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

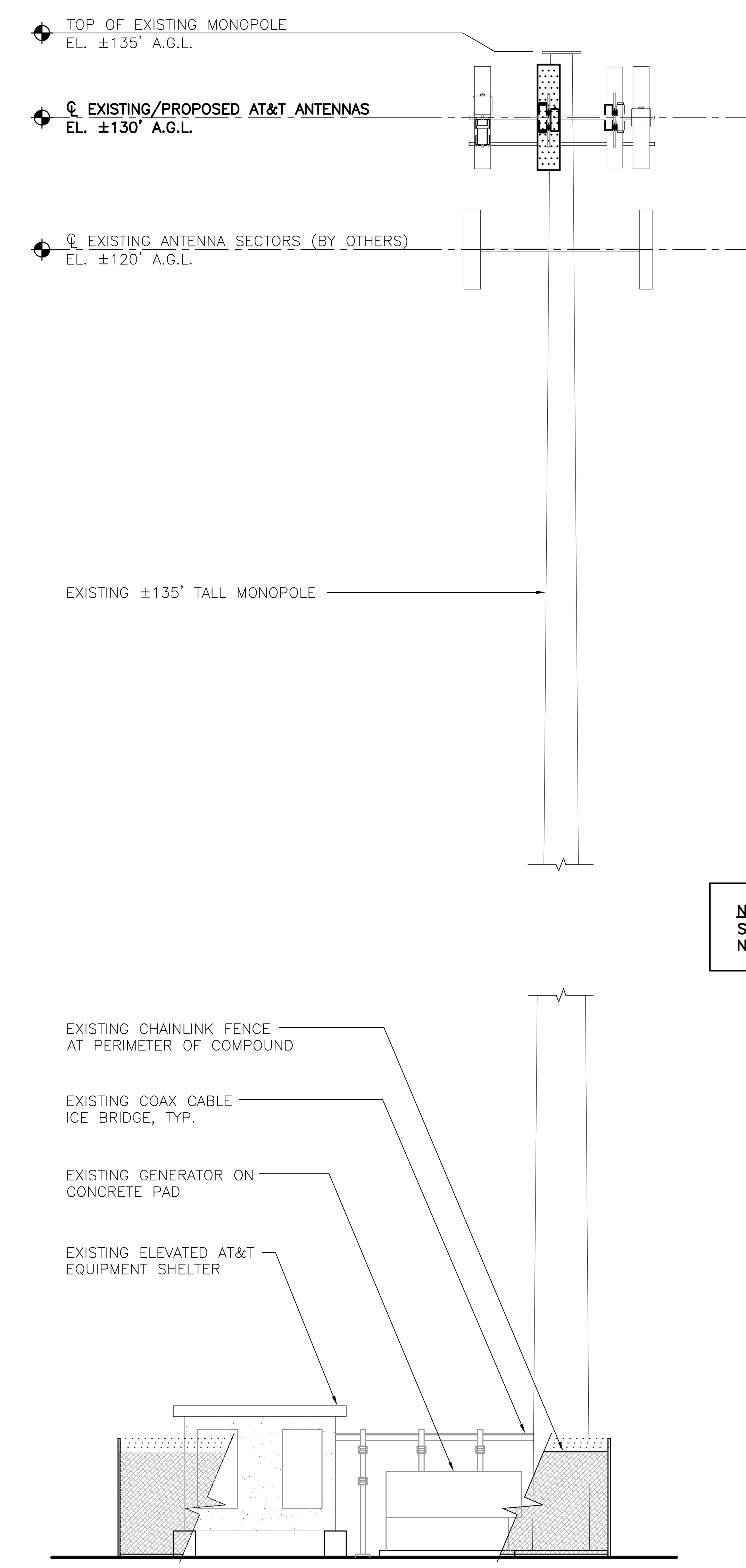
TRUE NORTH

GRAPHIC SCALE
8 0 4 8 16 32
(IN FEET)
1/8 inch = 1 ft.



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

TRUE NORTH



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

3 C-1 PARTIAL SOUTHEAST ELEVATION - PROPOSED
SCALE: 1/8" = 1'-0"

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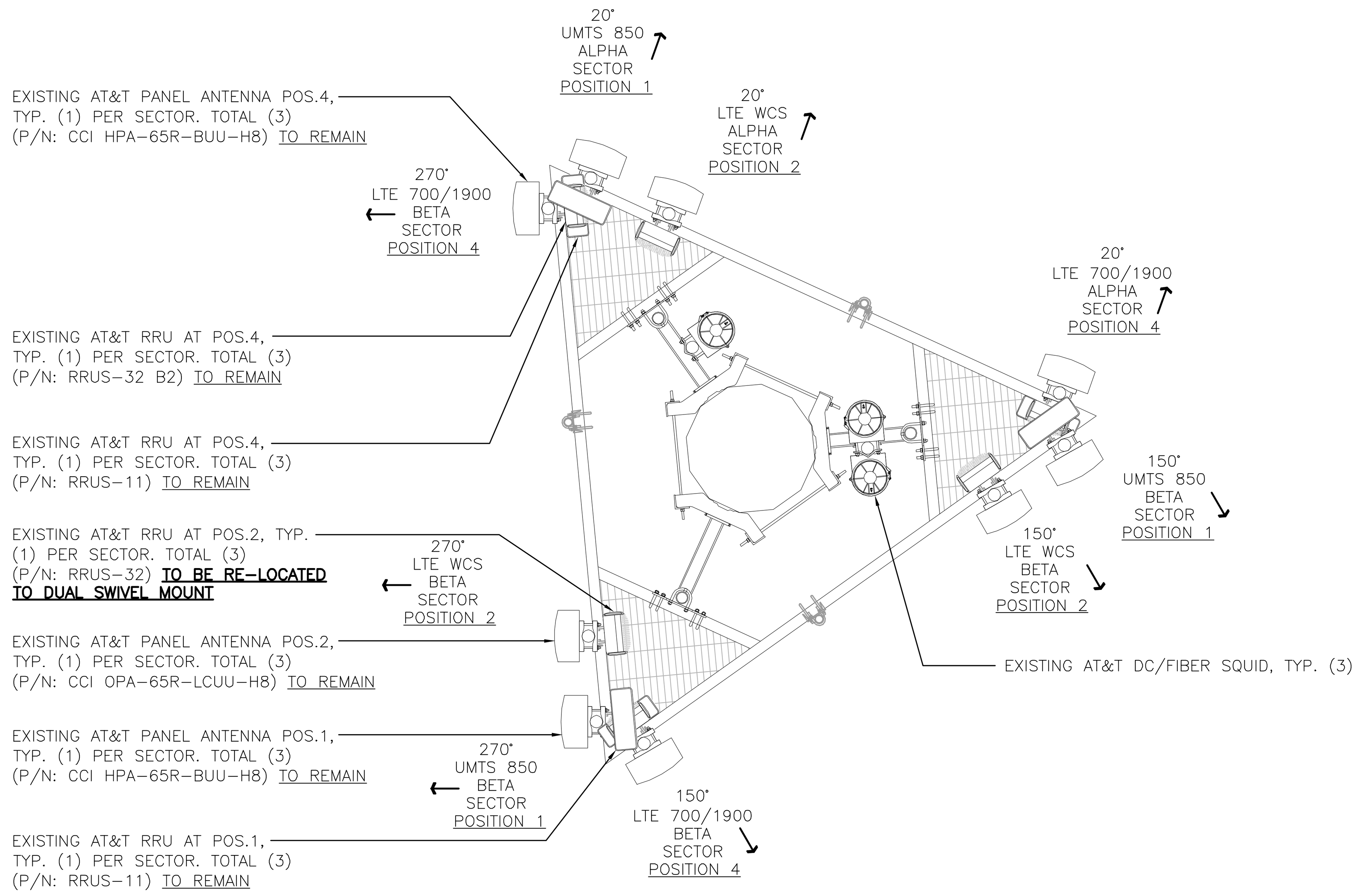
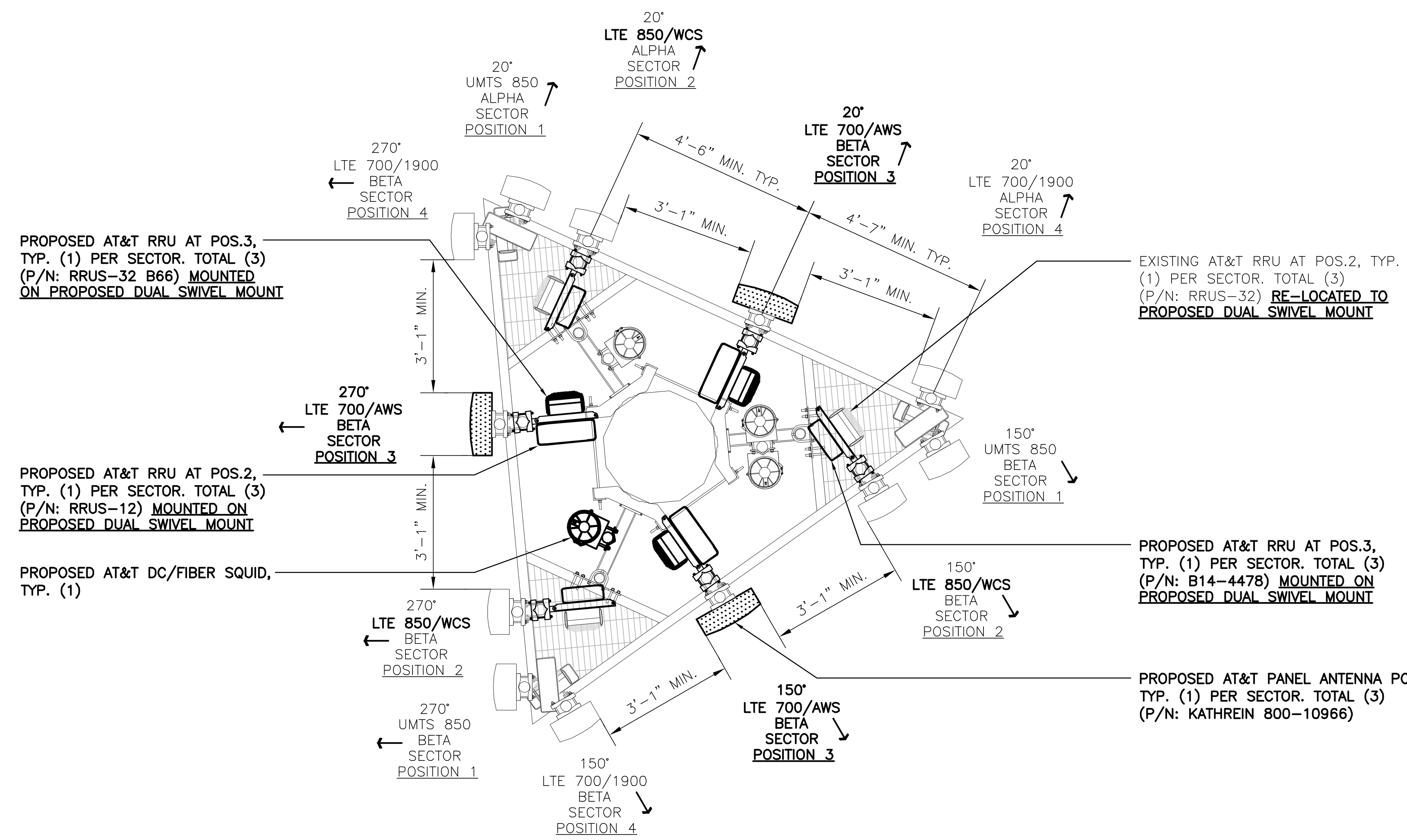
PLANS AND ELEVATION

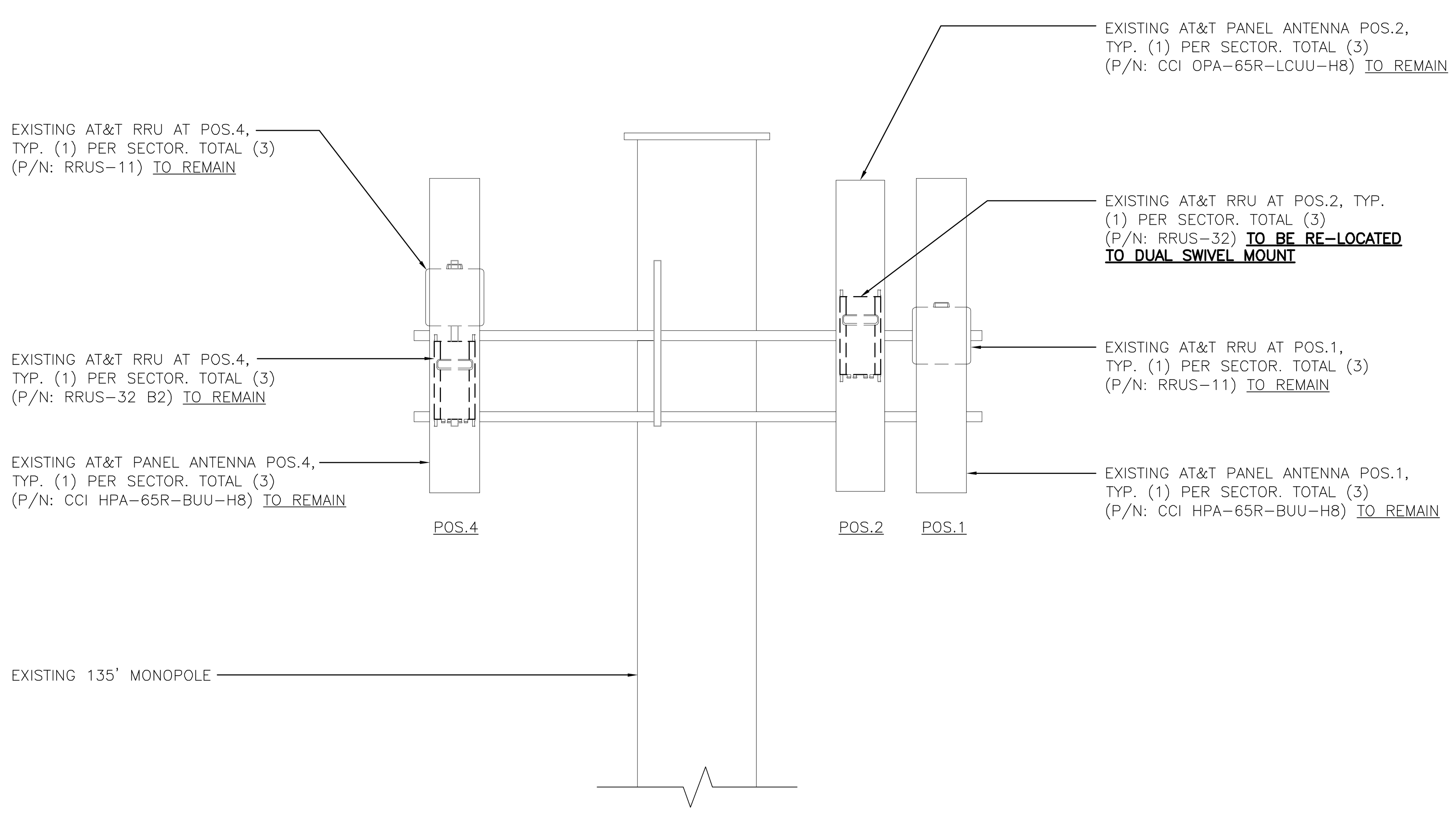
C-1



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

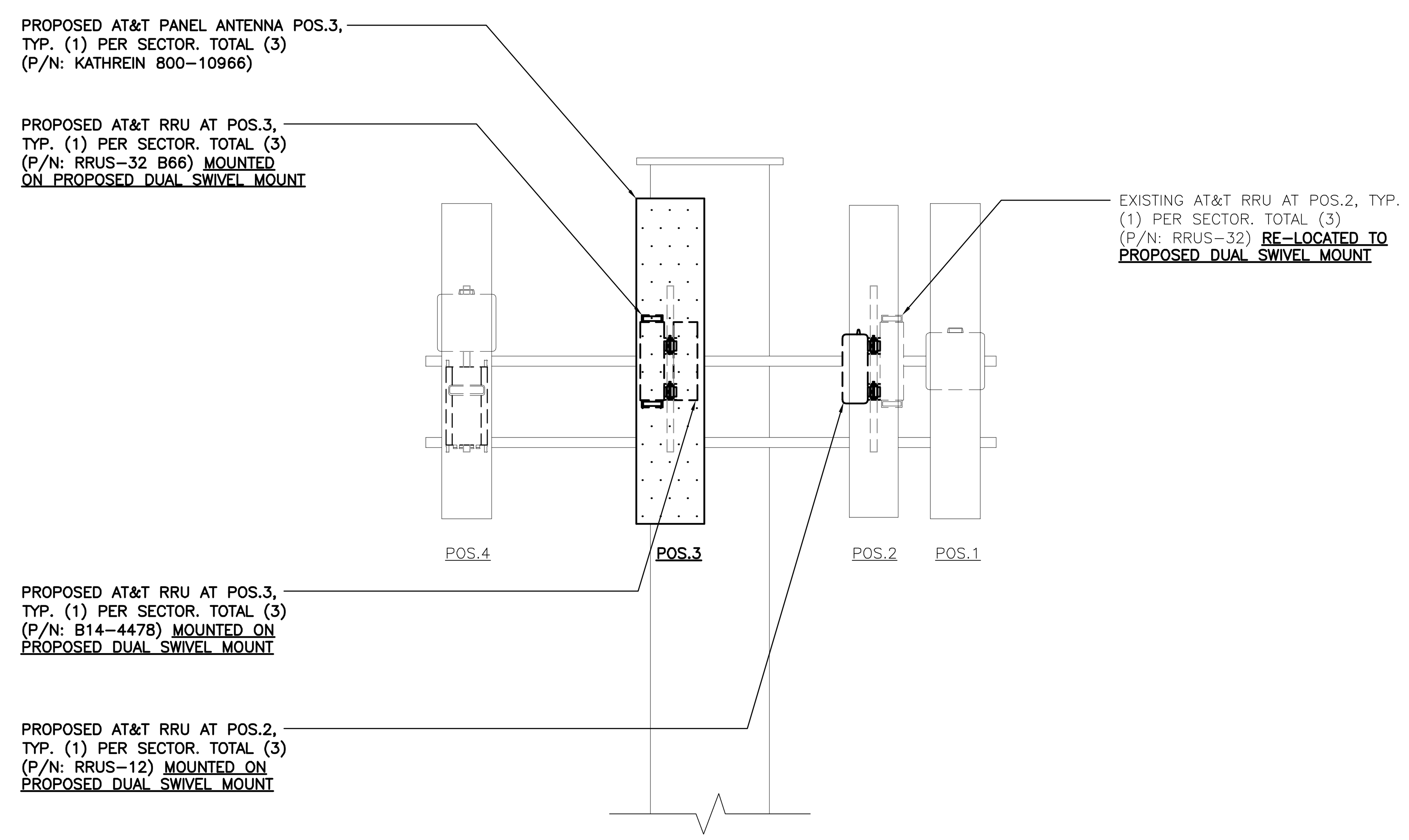


2 C-2 **PROPOSED ANTENNA PLAN**
SCALE: 3/8" = 1'-0"



TYPICAL SECTOR

1A C-2 **EXISTING ANTENNA ELEVATION**
SCALE: 3/8" = 1'-0"



TYPICAL SECTOR

2A C-2 **PROPOSED ANTENNA ELEVATION**
SCALE: 3/8" = 1'-0"

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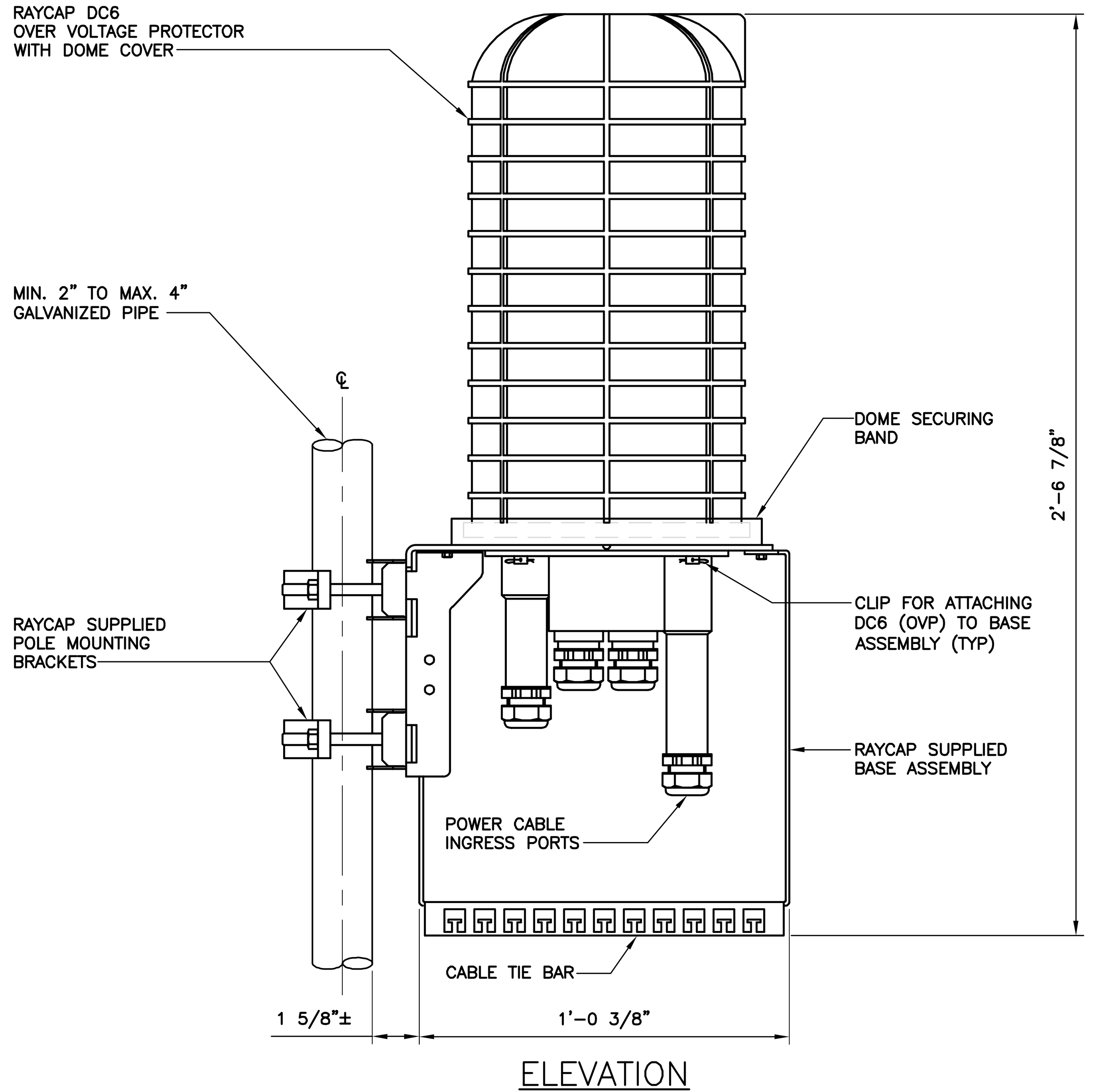
ANTENNA CONFIGURATION DETAILS

C-2

Sheet No. 4 of 8

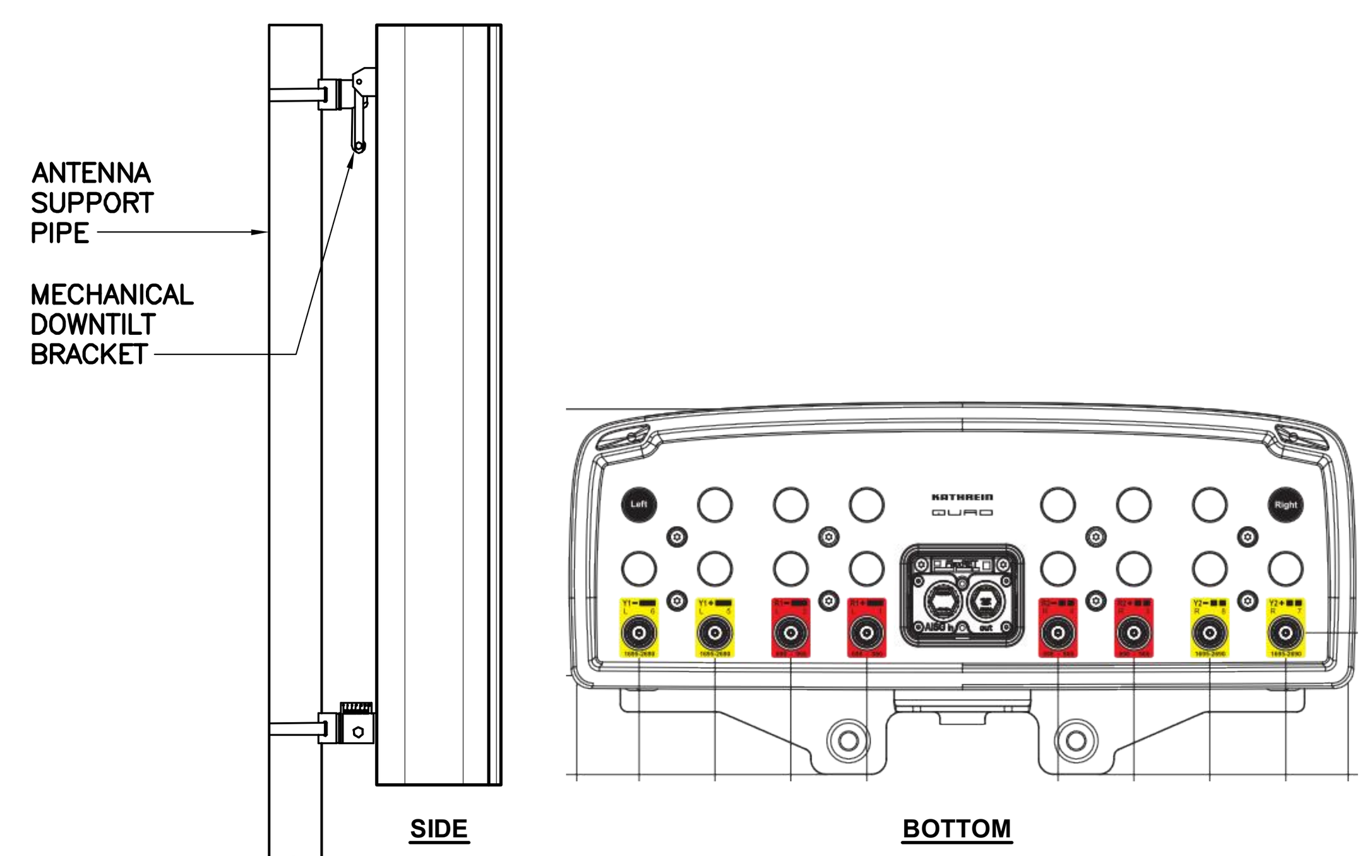


ELEVATION

SITE TYPE	ARRESTOR MAKE/MODEL	QTY REQUIRED	ARRESTOR LOCATION	WEIGHT
	MAKE: RAYCAP (SQUID) MODEL: DC6-48-60-18-8F	(1) PER SITE	TOWER, ADJACENT TO AT&T ANTENNAS AND RRUs.	20 LBS. (WITHOUT MOUNT)

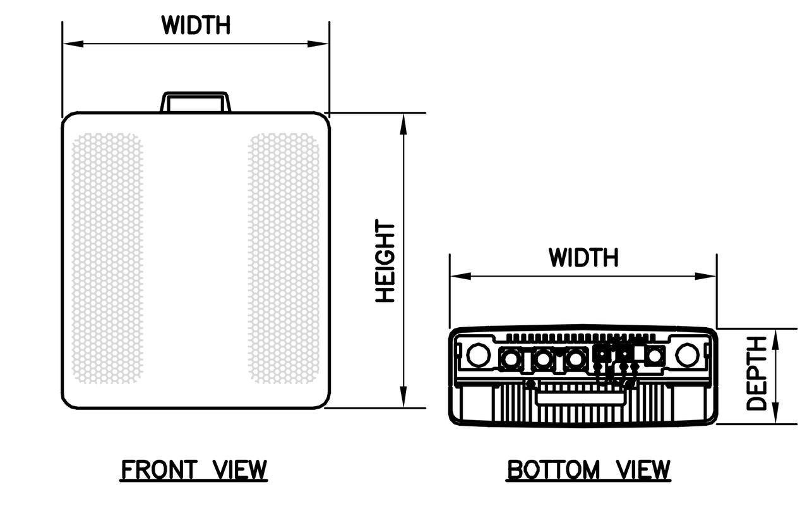
NOTES:
1. CONTRACTOR TO COORDINATE FINAL SURGE ARRESTOR MODEL SELECTION(S) WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.
2. CONTRACTOR TO INSTALL ARRESTOR IN CONFORMANCE WITH MANUFACTURERS RECOMMENDATIONS.
3. RAYCAP VIA AT&T SUPPLIES THE DC6 OVER VOLTAGE PROTECTOR AND PIPE MOUNTING BRACKETS. SUBCONTRACTOR SHALL SUPPLY THE PIPE.

1 C-3 TYPICAL DC/FIBER SQUID DETAIL
NOT TO SCALE



ALPHA/BETA/GAMMA ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: KATHREIN MODEL: 800-10966	96"L x 20"W x 6.9"D	114.6 LBS.

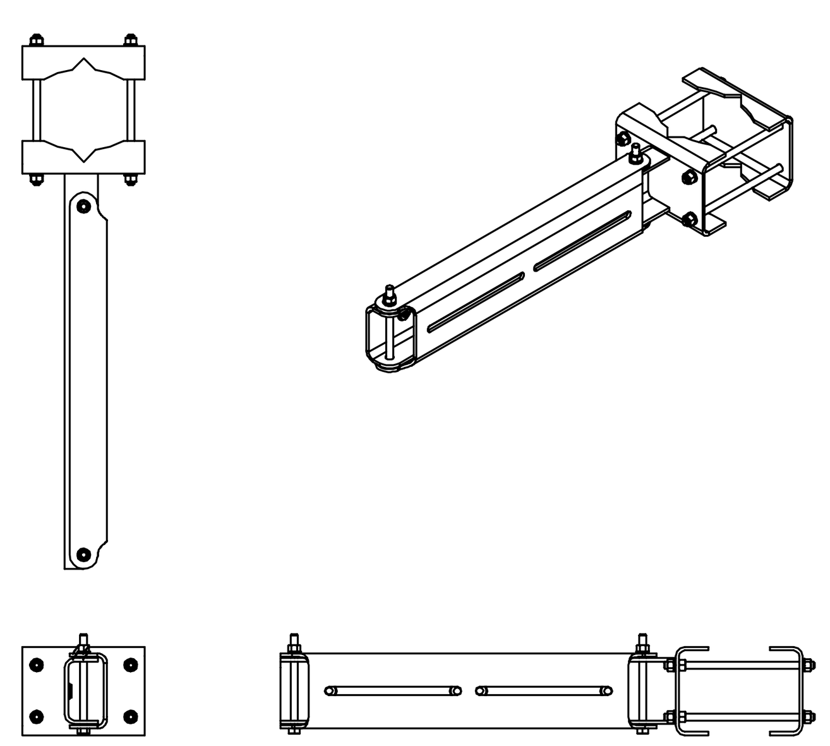
2 C-3 PROPOSED ANTENNA DETAIL
NOT TO SCALE



RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS 12	20.4"L x 18.5"W x 7.5"D	50 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.

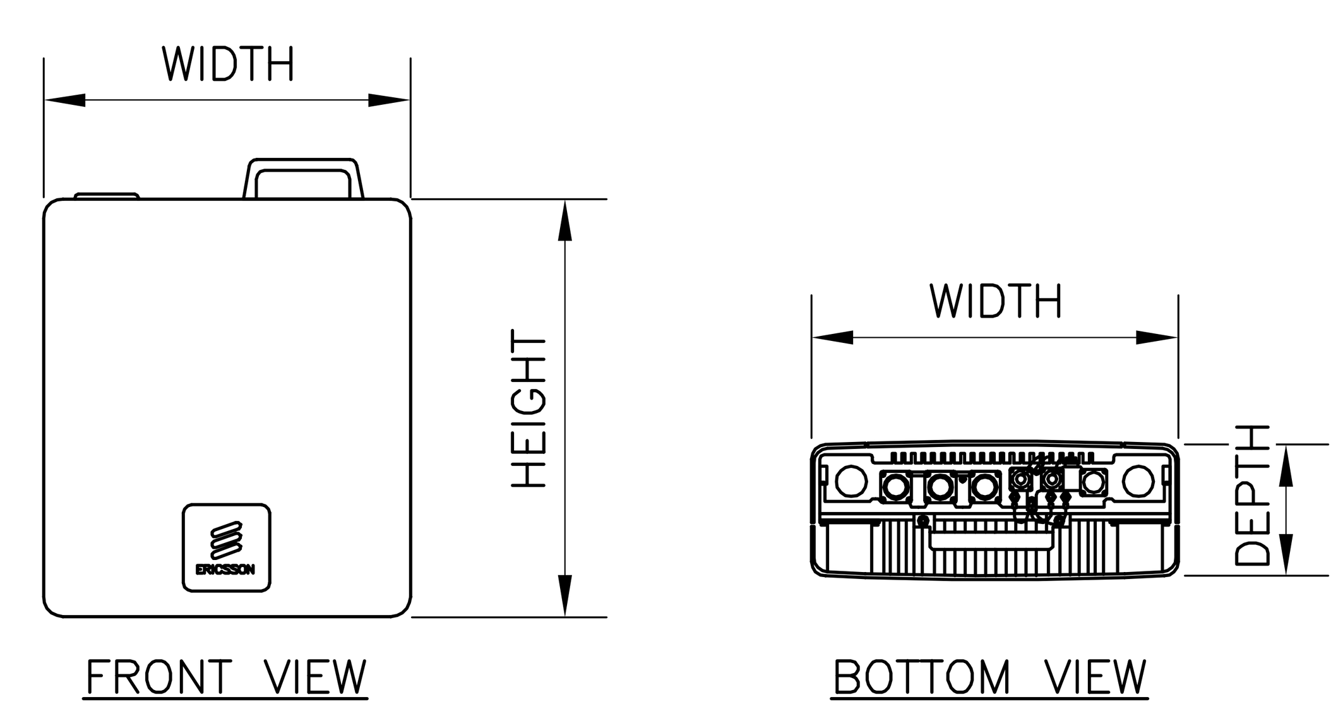
NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

3 C-3 ERICSSON RRUS 12 DETAIL
NOT TO SCALE



RRU DUAL SWIVEL MOUNT		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: SITE PRO 1 PART NO.: RRUDSM	27.75"L x 6.5"W x 4.7"D	39.4 LBS.

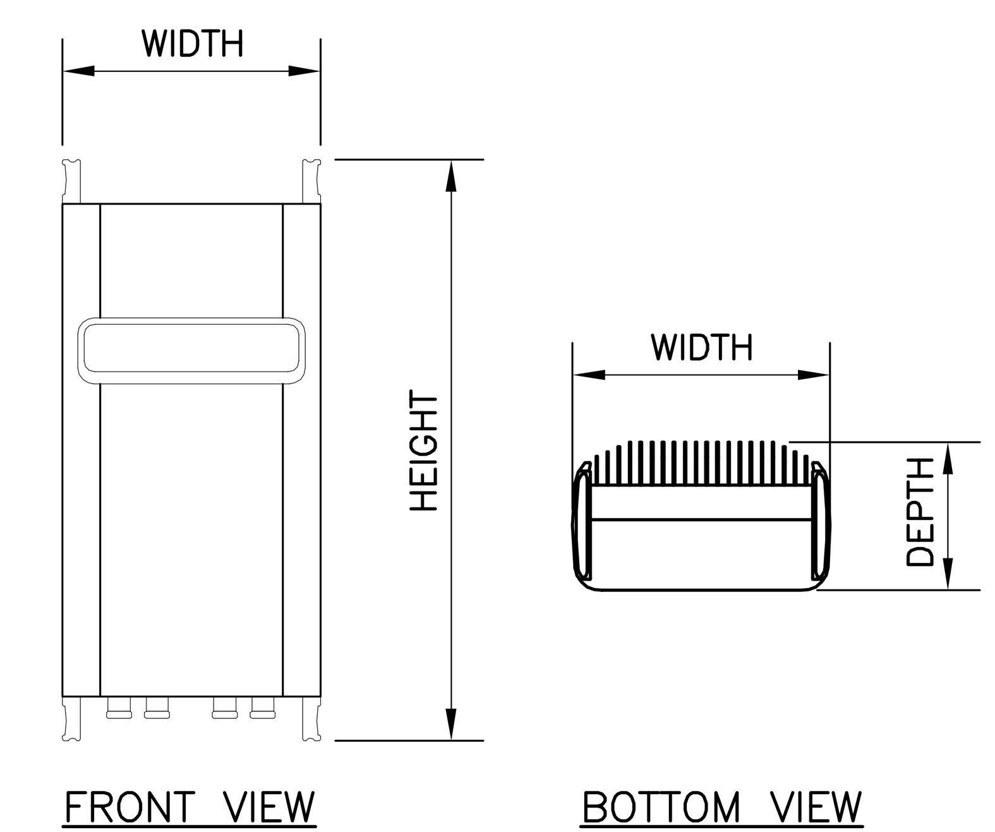
4 C-3 RRH DUAL SWIVEL MOUNT DETAIL
NOT TO SCALE



RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: B14 4478	14.9"L x 13.1"W x 7.3"D	60 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.

5 C-3 ERICSSON B14 4478 DETAIL
NOT TO SCALE



RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS-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.

6 C-3 ERICSSON RRUS-32 B66 DETAIL
NOT TO SCALE

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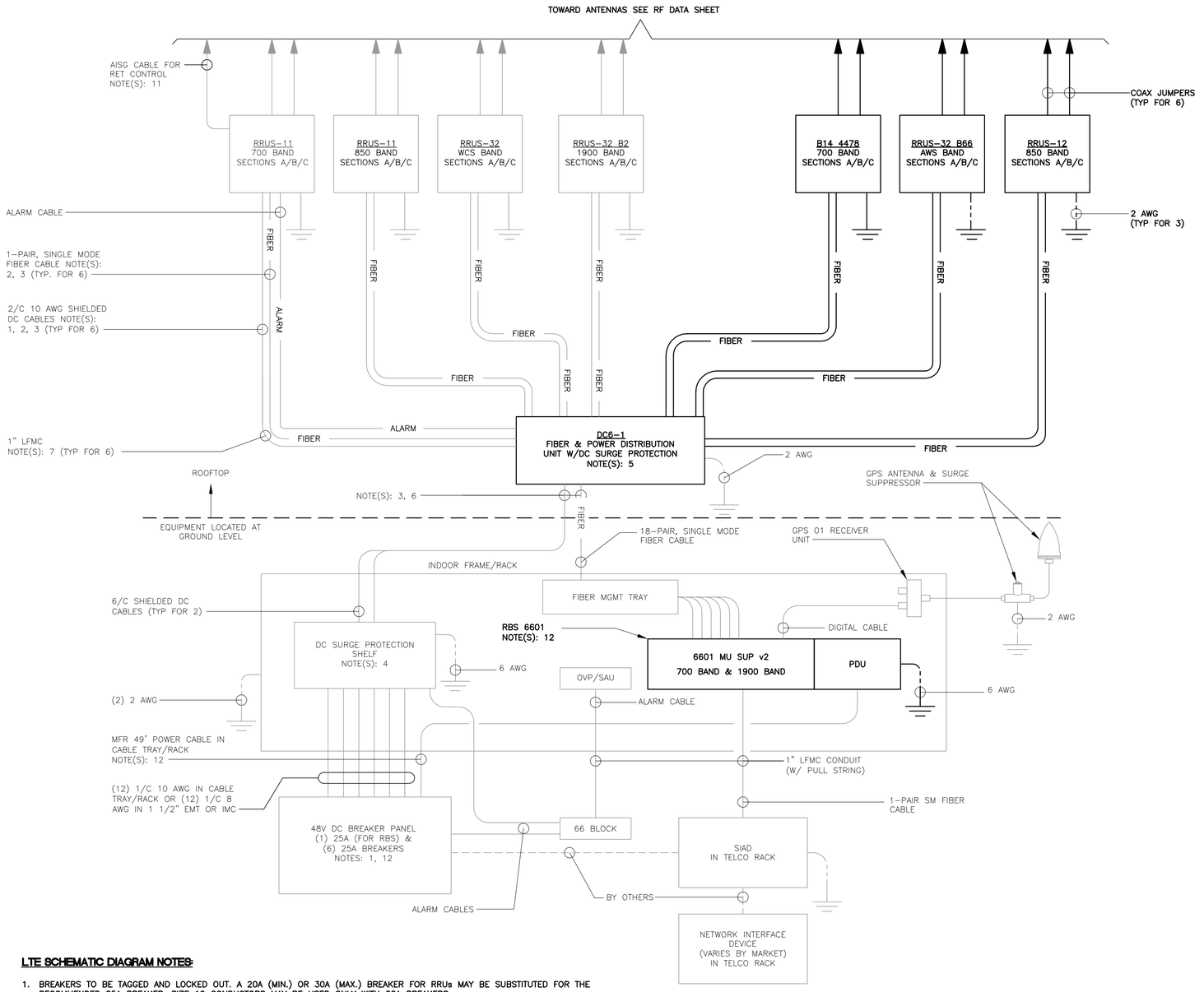
DETAILS

C-3



LTE SCHEMATIC DIAGRAM NOTES:

1. 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.
2. LEAVE COILED AND PROTECTED UNTIL TERMINATED.
3. DC AND FIBER CABLE SHALL BE ROUTED WITH THE EXISTING COAX CABLE.
4. DC SURGE PROTECTION SHELF SHALL BE RAYCAP DCx-48-60-RM.
5. FIBER & DC DISTRIBUTION BOX W/DC SURGE PROTECTION SHALL BE RAYCAP DC6-48-60-18-8F.
6. 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.
7. CONDUIT TO BE USED ON A TOWER IF THE RRU IS MORE THAN 10' FROM THE DISTRIBUTION UNITS. MAX CABLE LENGTH IS 16 FEET.
8. 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.
9. 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.
10. FIBER OPTIC CABLES SHALL BE INSTALLED IN FLEXIBLE CONDUIT AS SCOPED BY MARKET.
11. RET CONTROL FROM THE RRU IS AN OPTIONAL METHOD OF CONNECTION. REFER TO RF DATA SHEET FOR APPLICABILITY.
12. 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 / E-1 **SCHEMATIC DIAGRAM**
NOT TO SCALE

ELECTRICAL NOTES

1. 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.
2. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRIC CODE, OWNER AND MANUFACTURER'S SPECIFICATIONS.
3. CONNECT ALL NEW EQUIPMENT TO EXISTING TELCO AS REQUIRED BY MANUFACTURER.
4. MAINTAIN ALL CLEARANCES REQUIRED BY NEC AND EQUIPMENT MANUFACTURER.
5. 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.
6. 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.
7. 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.
8. PROVIDE AND INSTALL GROUND KITS FOR ALL NEW COAXIAL CABLES AND BOND TO EXISTING OWNERS GROUNDING SYSTEM PER OWNERS SPECIFICATIONS AND NEC.
9. 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:
10. MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.
11. 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.
12. 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.
13. 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.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE SITE AND/OR BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
15. 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.
16. 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.
17. 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.
18. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
19. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122. (MIN. #12 AWG).
20. 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

A. 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:

TEST 1: RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM.

THE TESTING FIRM SHALL INCLUDE THE FOLLOWING INFORMATION WITH THE REPORT:

1. TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
2. CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
3. GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.

B. 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.

C. 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.

D. CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	04/13/18	TJR	DMD	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
0	04/12/18	TJR	DMD	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

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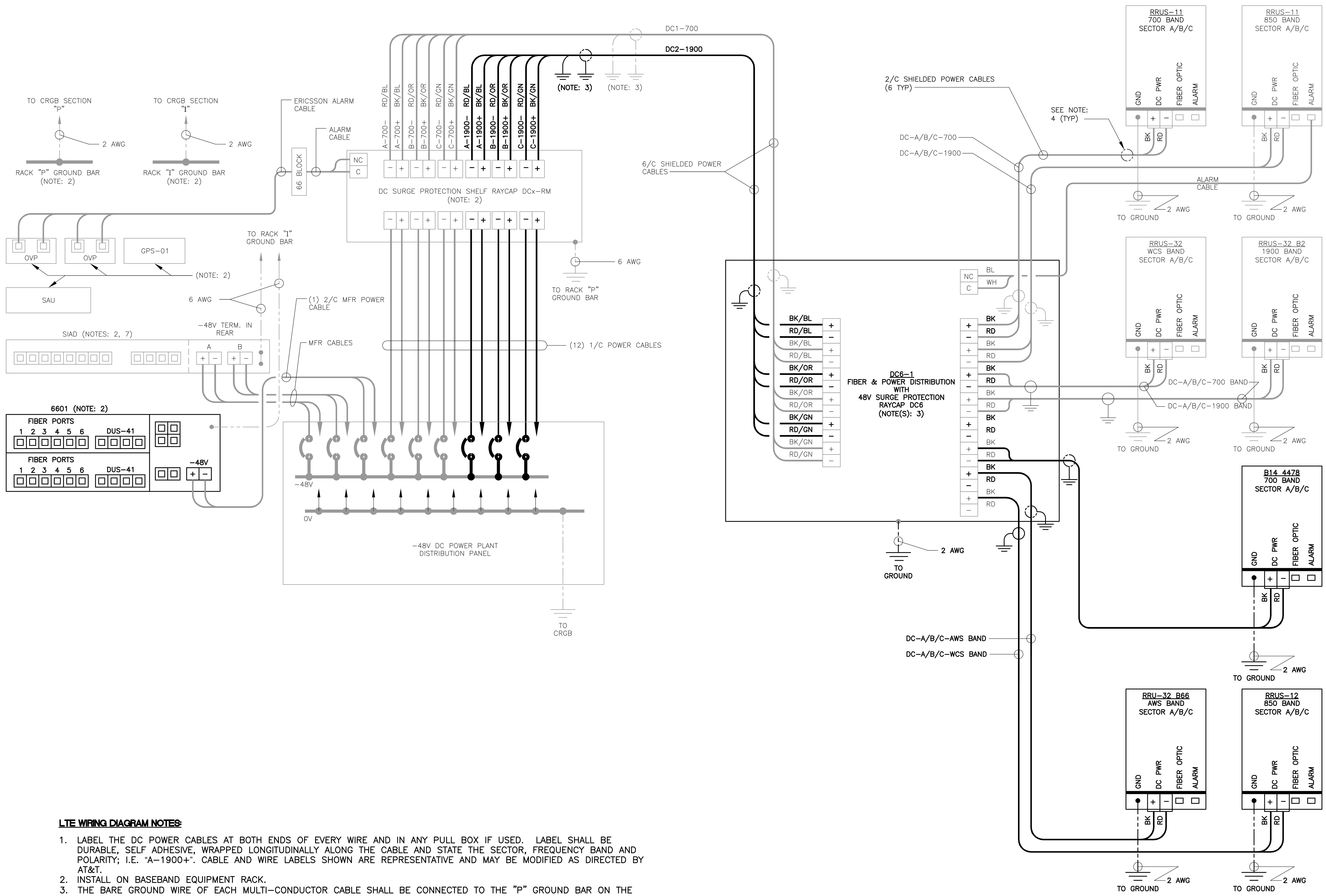
WIRELESS COMMUNICATIONS FACILITY

BRIDGEPORT EVERGREEN ST.
CT5100 - LTE 4C/5C/6C/FIRSTNET
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

DATE: 04/02/18
SCALE: AS NOTED
JOB NO. 18000.29

SCHEMATIC DIAGRAM AND NOTES

E-1
Sheet No. 6 of 8



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.

1 / E-2 **WIRING DIAGRAM**
NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	04/13/18	TJR	DMD	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
0	04/12/18	TJR	DMD	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

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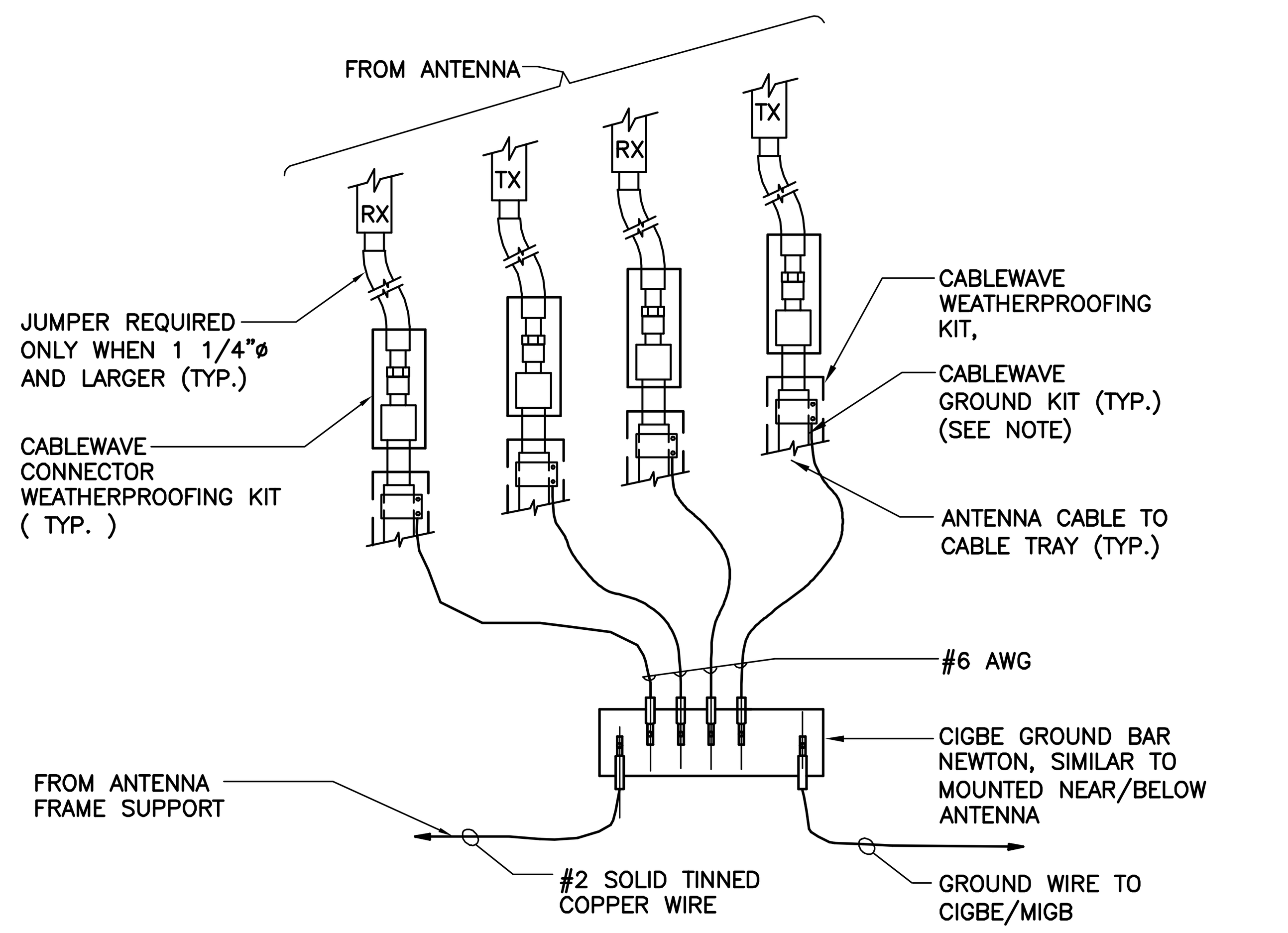
BRIDGEPORT, CT 06606

DATE: 04/02/18
SCALE: AS NOTED
JOB NO. 18000.29

WIRING DIAGRAM

E-2



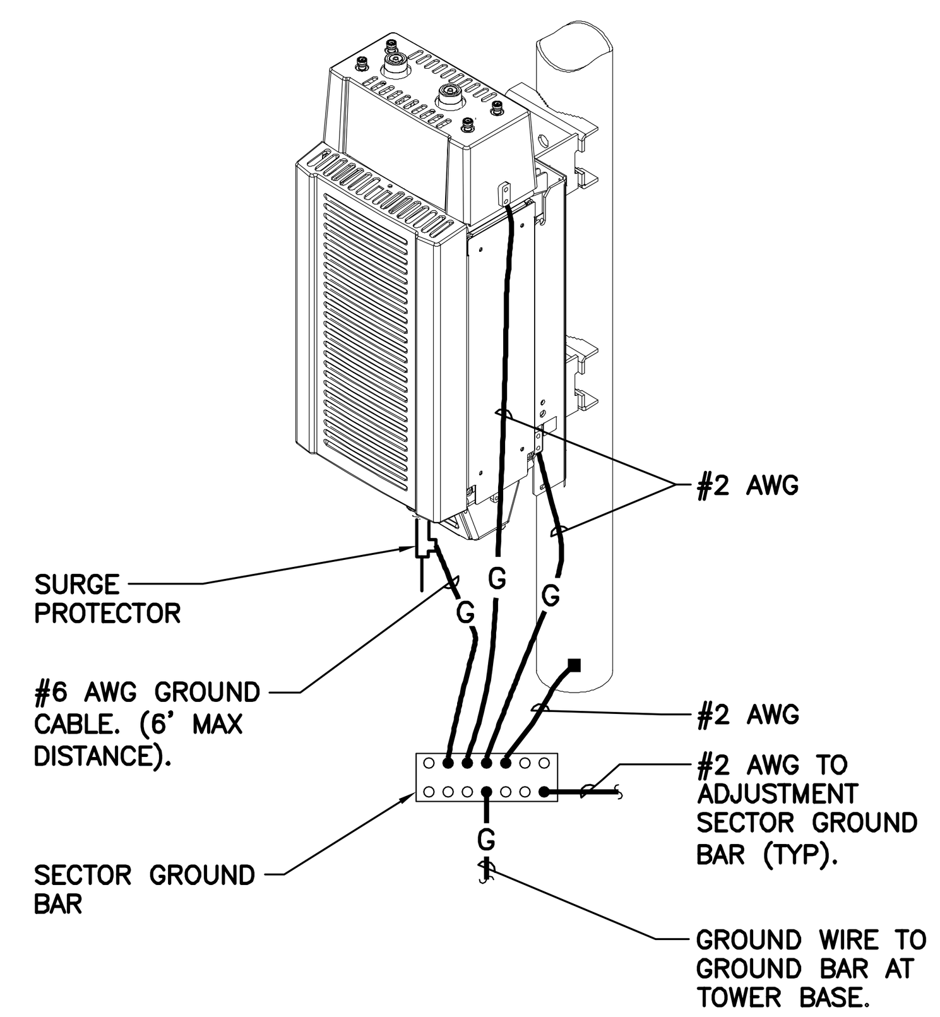
NOTE:

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

1 (E-3) CONNECTION OF GROUND WIRES TO GROUND BAR

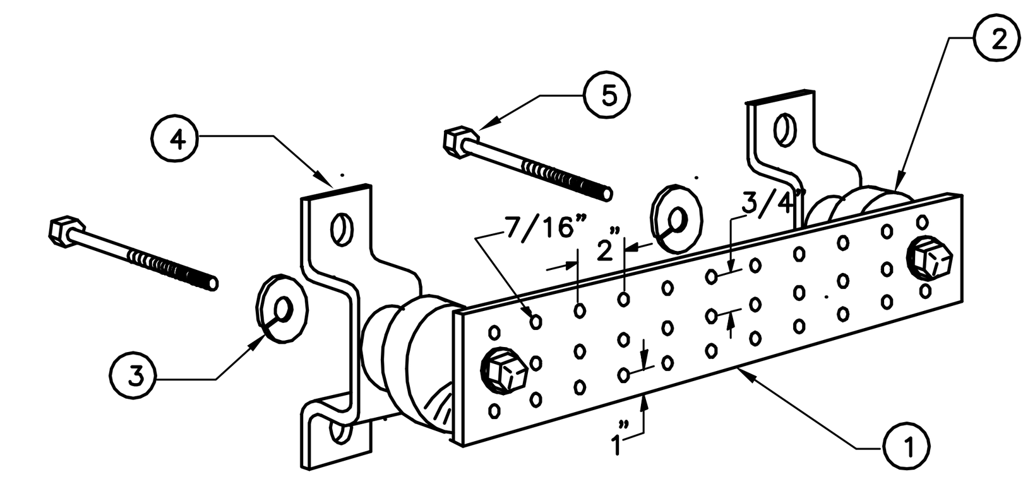
NOT TO SCALE

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



2 (E-3) RRU POLE MOUNT GROUNDING

NOT TO SCALE

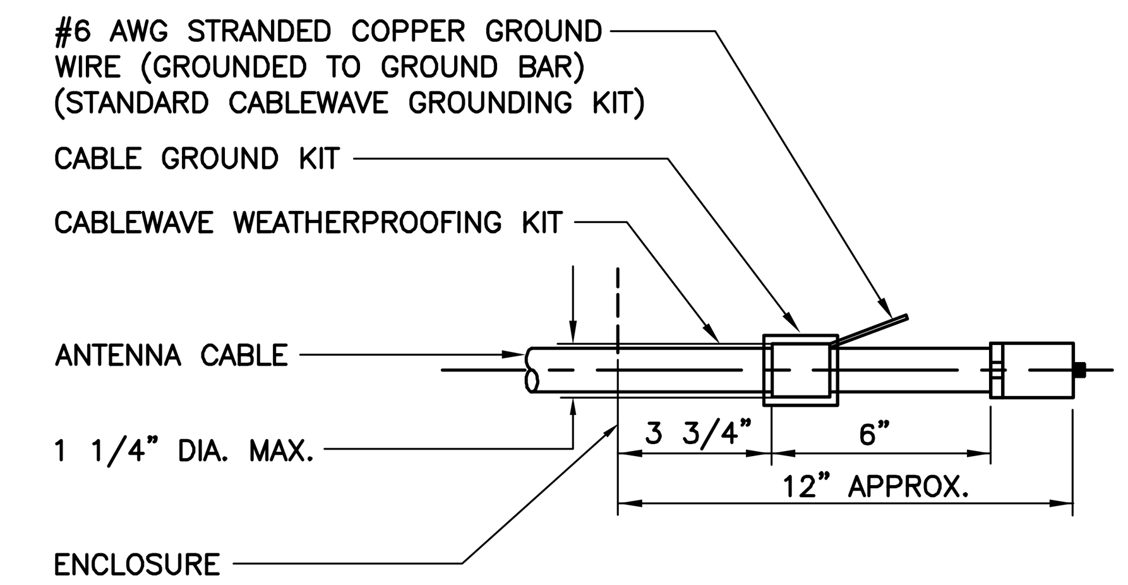


LEGEND

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

3 (E-3) GROUND BAR DETAIL

NOT TO SCALE

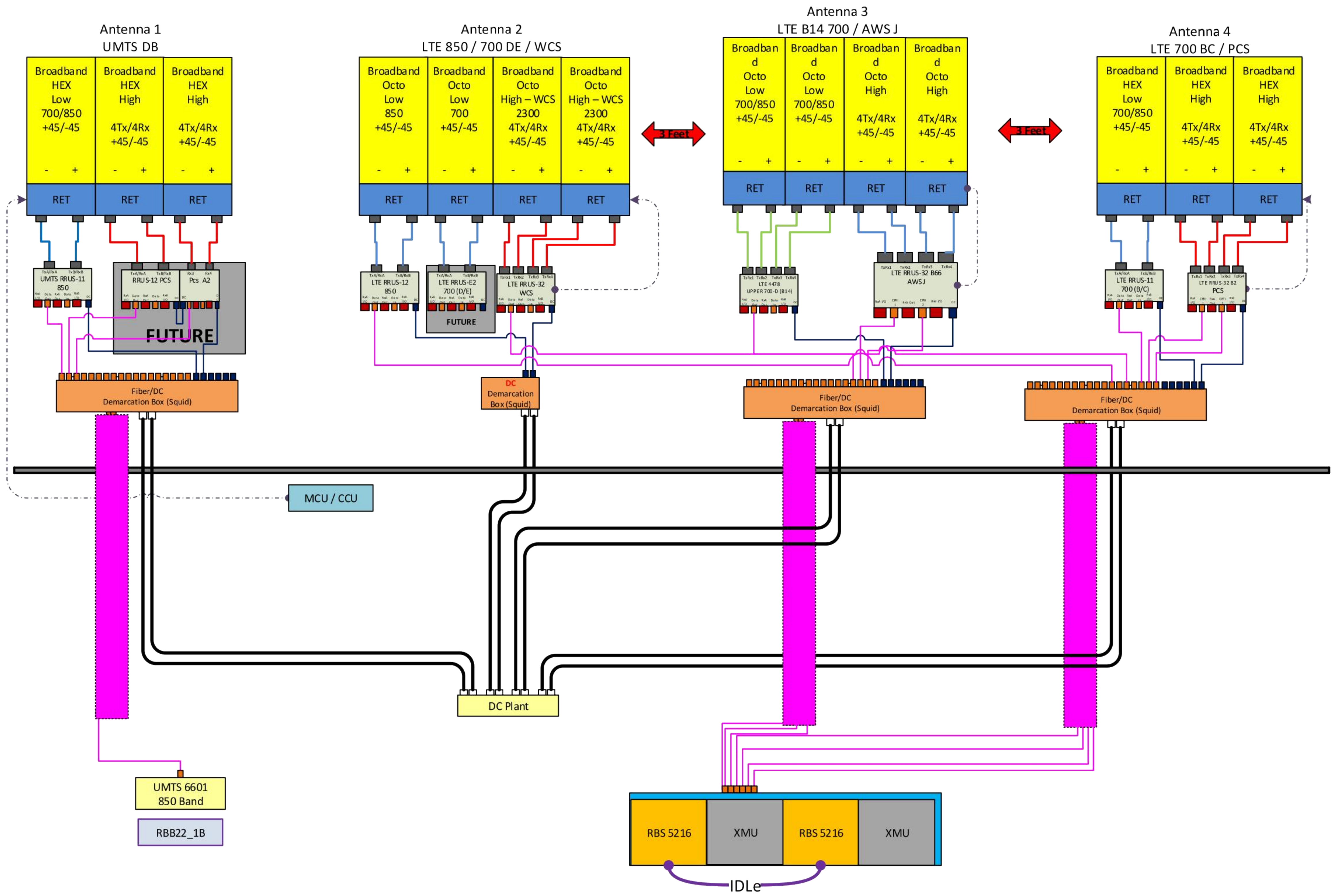


NOTE:

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

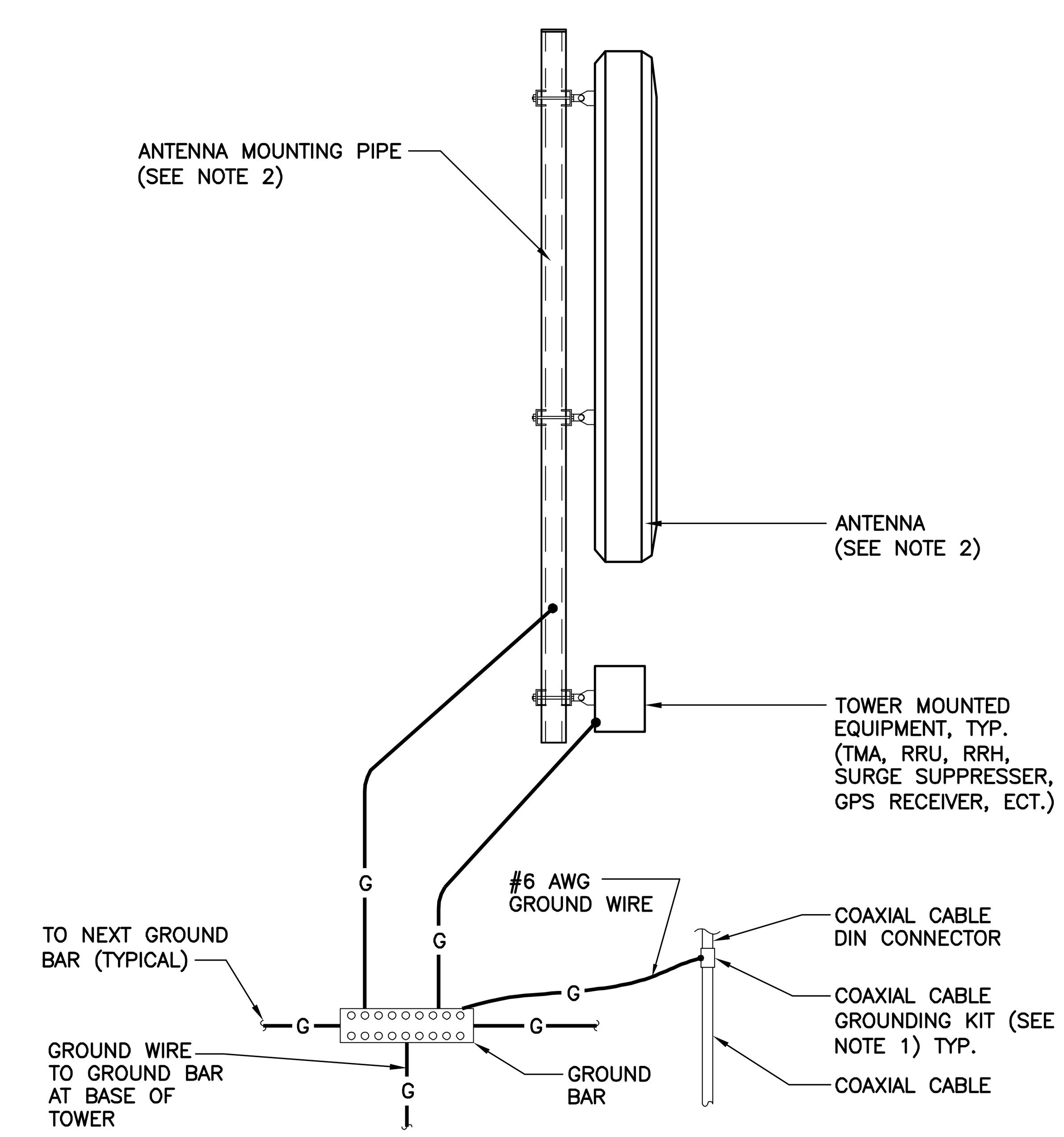
4 (E-3) ANTENNA CABLE GROUNDING DETAIL

NOT TO SCALE



5 (E-3) RF PLUMBING DIAGRAM

NOT TO SCALE



NOTES:

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

6 (E-3) TYPICAL ANTENNA GROUNDING DETAIL

NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	04/13/18	TJR	DMD	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION
0	04/12/18	TJR	DMD	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION

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BRIDGEPORT, CT 06606

DATE: 04/02/18
SCALE: AS NOTED
JOB NO. 18000.29

TYPICAL ELECTRICAL DETAILS

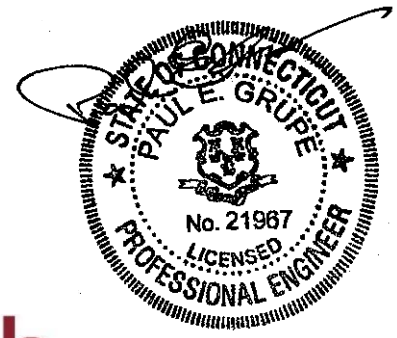
E-3

Sheet No. 8 of 8

Structural Analysis Report

Structure	**:** 135 foot Monopole Tower
BST Site Name	**:** Bridgeport-Evergreen St
BST Site Number	**:** CT-5020
Proposed Carrier	**:** AT&T
Carrier Site Name	**:** Bridgeport HiHo Replacement
Carrier Site Number	**:** CT 5100
Site Location	**:** 220 Evergreen Street Bridgeport, CT 06606 (Fairfield County) 41.1977, -73.1907
Date	**:** September 7, 2018
Max Member Stress Level	**:** 43% (Tower) **:** 54% (Foundation)
Result	**: PASS**

Prepared by:
Bennett & Pless, Inc.
B&P Job No.: 18003.001



9/7/2018

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Table of Contents

Introduction

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

Existing Structural Information

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

Tower Information	Rohn Drawing No.: 217435-01-DIR2 dated March 17, 2016.
Foundation Information	Rohn Drawing No.: 217435-01-F1 dated March 17, 2016.
Geotechnical Information	Geotechnical Information was not available at this time.
Existing Equipment Information	Bennett & Pless Structural Analysis dated January 22, 2018. BlueSky AT&T Collocation Application dated June 13, 2018.
Tower Reinforcement Information	Tower has not been previously reinforced.

Final Proposed Equipment Loading for AT&T

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

Antenna/Equipment					Coax	
Mount	RAD	Qty.	Antenna	Type	Qty.	Size/Type
130.0	-	1	12’ Low Profile Platform	Mount	4 3	2” Conduit RET Lines
	130.0	6	CCI HPA-65R-BUU-H8	Panel		
		3	CCI OPA-65R-LCUU-H8	Panel		
		3	**Kathrein 800 10966**	**Panel**		
		3	RRUS 32	RRU		
		6	RRUS 11	RRU		
		3	**RRUS 12**	**RRU**		
		3	**Ericsson RRUS32 B66**	**RRU**		
		3	**Ericsson RRUS 4478 B14**	**RRU**		
		3	Ericsson RRUS 32 B2	RRU		
		6	RRUS A2 Module	RRU		
		3	DC6-48-60-18-8F	OVP		
		1	**DC6-48-60-18-8F**	**OVP**		
		2	Ericsson RBS 6601	Transmitter		

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

Design Criteria

The tower was analyzed using tnxTower (Version 8.0.4.0) tower analysis software using the following design criteria.

State/County	Connecticut / Fairfield County
State Building Code	2016 Connecticut State Bldg. Code (IBC 2012)
TIA/EIA Standard Code	TIA-222-G
Basic Wind Speed	125 MPH (V_{ult})/97 MPH (V_{asd})
Basic Wind Speed w/ Ice	50 MPH/ 0.75" Ice
Steel Grade	65 ksi pole, 50 ksi base plate, anchor bolts A615 Grade 75
Exposure Category	C
Topographic Category (height)	1 (0.0 ft)
Structure Class	II

Analysis Results

Based on the foregoing information, our structural analysis determined that **the existing tower is structurally capable of supporting the proposed equipment loads without modification.**

The existing foundation has also been evaluated. Based on the foregoing information, our structural analysis determined that **the existing foundation is structurally capable of supporting the proposed equipment loads without modification.**

Component	Analysis Reactions	Original Reactions	% Capacity	Results
Vertical (Kips)	59	156.5	**38**	**Pass**
Shear (Kips)	42	79.6	**53**	**Pass**
Moment (Kip-ft)	4323	8066.7	**54**	**Pass**

Assumptions

The below assumptions are true, complete and accurate.

1. The existing tower has been maintained to manufacturer's specifications and is in good condition.
2. Foundations are considered to have been properly designed for the original design loads.
3. All member connections are considered to have been designed to meet the load carrying capacity of the connected member.
4. Antenna mount loads have been estimated based on generally accepted industry standards.
5. The mounts for the proposed antennas have been analyzed and designed by others.
6. See additional assumptions contained in the report attached.
7. Tower is within acceptable engineering tolerance at 105%.
8. Foundations are within acceptable engineering tolerance at 110%.

Conclusions

The existing tower described above **does have sufficient capacity** to support the proposed loading based on the governing Building Code. The existing tower foundation also has sufficient capacity.

We appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance, please call us anytime at 561-288-1187.

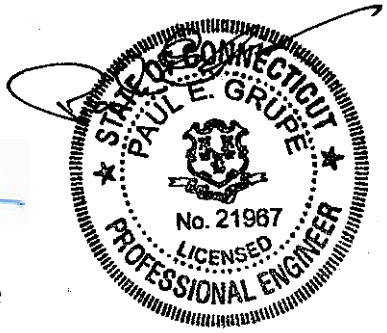
Sincerely,

Analysis by:

Chunhui Song, P.E.
Design Engineer

Reviewed by:

Paul Grupe, P.E.
Vice President, Atlanta Office



9/7/2018

Standard Conditions

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

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

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

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

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

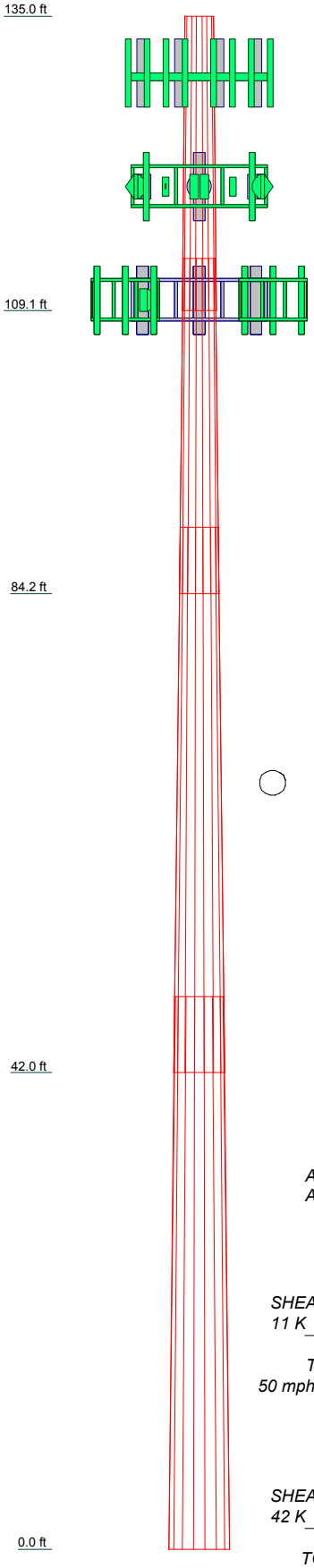
All services are performed, results obtained and recommendations made in accordance with the generally accepted engineering principles and practices. Bennett & Pless Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

Disclaimer of Warranties

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

Attachment 1:
Calculations

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	25.920	18	0.2500	4.580	29.5200	36.6900		2.3
2	29.500	18	0.3125	5.833	34.9231	42.8600		3.8
3	48.000	18	0.5000	6.667	40.6656	53.8100	A572-65	12.1
4	48.660	18	0.6250		50.9844	64.0000		18.7



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C 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 in 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 0.000 ft
8. Weld together tower sections have flange connections.
9. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
10. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
11. Welds are fabricated with ER-70S-6 electrodes.
12. TOWER RATING: 43.1%

ALL REACTIONS ARE FACTORED

AXIAL 92 K
SHEAR 11 K
MOMENT 1105 kip-ft
TORQUE 3 kip-ft
50 mph WIND - 0.7500 in ICE

AXIAL 59 K
SHEAR 42 K
MOMENT 4323 kip-ft
TORQUE 12 kip-ft
REACTIONS - 97 mph WIND

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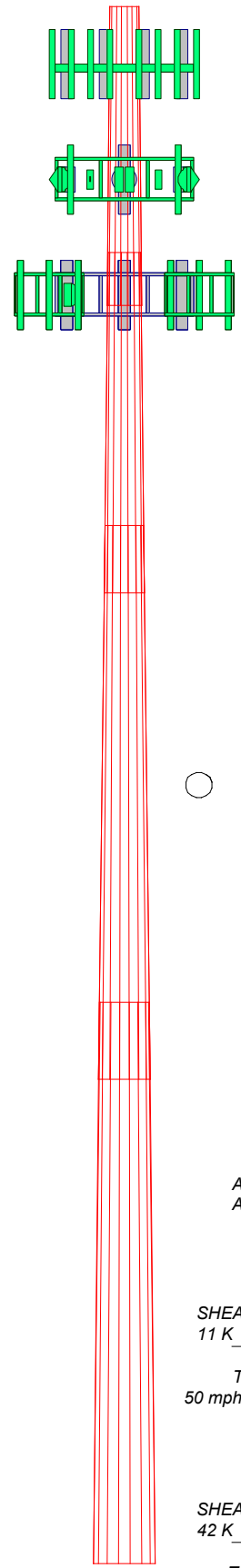
FAX: 678.990.8701

Job:	***CT-5020 Bridgeport - Evergreen St.***		
Project:	***Monopole Structural Analysis***		
Client: Blue Sky Towers	Drawn by: Chunhui Song		App'd:
Code: TIA-222-G	Date: 09/07/18		Scale: NTS
Path:			Dwg No. E-1

Section	1	2	3	4
Length (ft)	25.920	29.500	48.000	48.660
Number of Sides	18	18	18	18
Thickness (in)	0.2500	0.3125	0.5000	0.6250
Socket Length (ft)	4.580	5.833	6.667	
Top Dia (in)	29.5200	34.9231	40.6656	50.9844
Bot Dia (in)	36.6900	42.8600	53.8100	64.0000
Grade	A572-65			
Weight (K)	2.3	3.8	12.1	18.7



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) CCI HPA-65R-BUU-H8 (ATT)	130	APXVSPP18-C-A20 w/ Mount Pipe (Sprint)	120
(2) CCI HPA-65R-BUU-H8 (ATT)	130	APXVTM14-C-120 w/ Mount Pipe (Sprint)	120
(2) CCI HPA-65R-BUU-H8 (ATT)	130	(2) 1900MHZ 2*40W (Sprint)	120
CCI OPA-65R-LCUU-H8 (ATT)	130	800 MHz RRH (Sprint)	120
CCI OPA-65R-LCUU-H8 (ATT)	130	TD-RRH8x20-25 (Sprint)	120
CCI OPA-65R-LCUU-H8 (ATT)	130	FWHR 2500 MHz (Sprint)	120
Kathrein 800 10966 (ATT)	130	IBC1900HG-2A (Sprint)	120
Kathrein 800 10966 (ATT)	130	IBC1900-BB-1 (Sprint)	120
Kathrein 800 10966 (ATT)	130	NEMA 4X Enclosure (Sprint)	120
RRUS 32 (ATT)	130	ODU (15 lbs, 1.5 CaAa) (Sprint)	120
RRUS 32 (ATT)	130	ODU (15 lbs, 1.5 CaAa) (Sprint)	120
RRUS 32 (ATT)	130	ODU (15 lbs, 1.5 CaAa) (Sprint)	120
(2) RRUS-11 (ATT)	130	ODU (15 lbs, 1.5 CaAa) (Sprint)	120
(2) RRUS-11 (ATT)	130	GPS-TMG-HR-26NCM (Sprint)	120
(2) RRUS-11 (ATT)	130	Sector Frame Mount (Sprint)	120
RRUS 12 (ATT)	130	VHLP2-18 (Sprint)	120
RRUS 12 (ATT)	130	VHLP2-18 (Sprint)	120
RRUS 12 (ATT)	130	VHLP2-18 (Sprint)	120
Ericsson RRUS32 B66 (ATT)	130	MT-485025 (Sprint)	120
Ericsson RRUS32 B66 (ATT)	130	RFS APXVFWW24X-C-NA20 (T-Mobile)	110
Ericsson RRUS32 B66 (ATT)	130	RFS APXVFWW24X-C-NA20 (T-Mobile)	110
Ericsson RRUS 4478 B14 (ATT)	130	RFS APXVFWW24X-C-NA20 (T-Mobile)	110
Ericsson RRUS 4478 B14 (ATT)	130	RFS APXVFWW24X-C-NA20 (T-Mobile)	110
Ericsson RRUS 4478 B14 (ATT)	130	Andrew DBXNH-6565B-A2M (T-Mobile)	110
Ericsson RRUS 32 B2 (ATT)	130	Andrew DBXNH-6565B-A2M (T-Mobile)	110
Ericsson RRUS 32 B2 (ATT)	130	Andrew DBXNH-6565B-A2M (T-Mobile)	110
Ericsson RRUS 32 B2 (ATT)	130	Andrew DBXNH-6565B-A2M (T-Mobile)	110
Ericsson RBS 6601 (ATT)	130	RRUS 11 B12 (T-Mobile)	110
Ericsson RBS 6601 (ATT)	130	RRUS 11 B12 (T-Mobile)	110
Ericsson RBS 6601 (ATT)	130	RRUS 11 B12 (T-Mobile)	110
(2) RRUS A2 MODULE (ATT)	130	RRUS 11 B12 (T-Mobile)	110
(2) RRUS A2 MODULE (ATT)	130	RRUS 4478 B14 (T-Mobile)	110
(2) RRUS A2 MODULE (ATT)	130	RRUS 4478 B14 (T-Mobile)	110
DC6-48-60-18-8F (ATT)	130	RRUS 4478 B14 (T-Mobile)	110
DC6-48-60-18-8F (ATT)	130	RRUS 4478 B14 (T-Mobile)	110
DC6-48-60-18-8F (ATT)	130	RRUS 11 (T-Mobile)	110
DC6-48-60-18-8F (ATT)	130	RRUS 11 (T-Mobile)	110
12' Low Profile Platform (ATT)	130	RRUS 11 (T-Mobile)	110
APXVSPP18-C-A20 w/ Mount Pipe (Sprint)	120	RRUS 11 (T-Mobile)	110
APXVTM14-C-120 w/ Mount Pipe (Sprint)	120	F4P-10W (T-Mobile)	110
(2) 1900MHZ 2*40W (Sprint)	120	(2) Diplexer (T-Mobile)	110
800 MHz RRH (Sprint)	120	(2) Diplexer (T-Mobile)	110
TD-RRH8x20-25 (Sprint)	120	(2) Diplexer (T-Mobile)	110
FWHR 2500 MHz (Sprint)	120	(2) Diplexer (T-Mobile)	110
IBC1900HG-2A (Sprint)	120	Ericsson AIR32 B66AaB2a (T-Mobile)	110
IBC1900-BB-1 (Sprint)	120	Ericsson AIR32 B66AaB2a (T-Mobile)	110
NEMA 4X Enclosure (Sprint)	120	Ericsson AIR32 B66AaB2a (T-Mobile)	110
APXVSPP18-C-A20 w/ Mount Pipe (Sprint)	120	Ericsson AIR32 B66AaB2a (T-Mobile)	110
APXVTM14-C-120 w/ Mount Pipe (Sprint)	120	SHP2-13-3WH/B (T-Mobile)	110
(2) 1900MHZ 2*40W (Sprint)	120		
800 MHz RRH (Sprint)	120		
TD-RRH8x20-25 (Sprint)	120		
FWHR 2500 MHz (Sprint)	120		
IBC1900HG-2A (Sprint)	120		
IBC1900-BB-1 (Sprint)	120		
NEMA 4X Enclosure (Sprint)	120		

ALL REAC
ARE FACT

AXIAL
92 K

SHEAR
11 K

TORQUE 3
50 mph WIND - 0

AXIAL
59 K

SHEAR
42 K

TORQUE 1
REACTIONS - 97

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C 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 in 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 0.000 ft
8. Weld together tower sections have flange connections.
9. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
10. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
11. [illegible]

bennett&pless
Experience Structural Expertise
Bennett and Pless
750 Park of Commerce Drive
Boca Raton, Florida 33487
Phone: 678.990.8700
FAX: 678.990.8701

Job:	***CT-5020 Bridgeport - Evergreen St.***		
Project:	***Monopole Structural Analysis***		
Client: Blue Sky Towers	Drawn by: Chunhui Song	App'd:	
Code: TIA-222-G	Date: 09/07/18	Scale: NTS	
Path:		Dwg No. E-1	

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Basic wind speed of 97 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.000 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 60 mph.
Weld together tower sections have flange connections..
Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications..
Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards..
Welds are fabricated with ER-70S-6 electrodes..
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned	√	Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios	√	Use Clear Spans For KL/r	√	All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys	√	Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice		Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-G Bracing Resist. Exemption
√	Include Bolts In Member Capacity	√	Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
√	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
√	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component		Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)	√	Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

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
L1	135.000-109.080	25.920	4.580	18	29.5200	36.6900	0.2500	1.0000	A572-65 (65 ksi)
L2	109.080-84.160	29.500	5.833	18	34.9231	42.8600	0.3125	1.2500	A572-65 (65 ksi)
L3	84.160-41.993	48.000	6.667	18	40.6656	53.8100	0.5000	2.0000	A572-65 (65 ksi)
L4	41.993-0.000	48.660		18	50.9844	64.0000	0.6250	2.5000	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	It/Q in^2	w in	w/t
L1	29.9368	23.2257	2513.9263	10.3909	14.9962	167.6380	5031.1606	11.6151	4.7555	19.022
	37.2174	28.9151	4850.8683	12.9362	18.6385	260.2604	9708.1196	14.4603	6.0174	24.07
L2	36.6649	34.3294	5195.4239	12.2868	17.7409	292.8497	10397.6841	17.1679	5.5965	17.909
	43.4730	42.2018	9651.9827	15.1044	21.7729	443.3030	19316.6657	21.1049	6.9934	22.379
L3	42.8378	63.7427	12991.9963	14.2588	20.6581	628.9055	26001.0878	31.8774	6.2771	12.554
	54.5630	84.6030	30376.6883	18.9250	27.3355	1111.2550	60793.3470	42.3095	8.5906	17.181
L4	53.4852	99.9004	32008.5027	17.8776	25.9001	1235.8466	64059.1229	49.9597	7.8732	12.597
	64.8909	125.7202	63793.7757	22.4981	32.5120	1962.1609	127671.4929	62.8720	10.1640	16.262

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 135.000-109.080				1	1	1			
L2 109.080-84.160				1	1	1			
L3 84.160-41.993				1	1	1			
L4 41.993-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
2" Flex Conduit (AT&T)	C	No	No	Inside Pole	130.000 - 4.000	4	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
RET Cable	C	No	No	Inside Pole	130.000 - 4.000	3	No Ice	0.000	0.000

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
(AT&T)							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
***									
1 1/4" Hybriflex (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	4	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
5/16" Coax (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	6	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
1" Conduit (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	2	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
Gray Telephone Line (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
FIber OTPO (0.44in 0.08lb/ft) (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
12 AWG (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
1/2" Coax (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
Gray Telephone Line (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	4	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
***									
1 5/8 Hybrid Flex (1.98" 1.3lbs) (T-Mobile)	C	No	No	Inside Pole	110.000 - 4.000	4	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
1/2" Coax (T-Mobile)	C	No	No	Inside Pole	110.000 - 4.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	135.000-109.080	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.081
L2	109.080-84.160	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.286
L3	84.160-41.993	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.484
L4	41.993-0.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.436

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_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	135.000-109.080	A	1.709	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.081
L2	109.080-84.160	A	1.670	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.286
L3	84.160-41.993	A	1.599	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.484
L4	41.993-0.000	A	1.435	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.436

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	135.000-109.080	0.0000	0.0000	0.0000	0.0000
L2	109.080-84.160	0.0000	0.0000	0.0000	0.0000
L3	84.160-41.993	0.0000	0.0000	0.0000	0.0000
L4	41.993-0.000	0.0000	0.0000	0.0000	0.0000

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) CCI HPA-65R-BUU-H8 (ATT)	A	From Leg	3.000 0.000 0.000	0.0000	130.000	No Ice 1/2" Ice 1" Ice	12.976 13.558 14.147	7.516 8.087 8.666	0.068 0.142 0.223
(2) CCI HPA-65R-BUU-H8 (ATT)	B	From Leg	3.000 0.000	0.0000	130.000	No Ice 1/2" Ice	12.976 13.558	7.516 8.087	0.068 0.142

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.000			1" Ice	14.147	8.666	0.223
(2) CCI HPA-65R-BUU-H8	C	From Leg	3.000	0.0000	130.000	No Ice	12.976	7.516	0.068
(ATT)			0.000			1/2" Ice	13.558	8.087	0.142
			0.000			1" Ice	14.147	8.666	0.223
CCI OPA-65R-LCUU-H8	A	From Leg	3.000	0.0000	130.000	No Ice	12.746	7.246	0.073
(ATT)			0.000			1/2" Ice	13.328	7.817	0.144
			0.000			1" Ice	13.916	8.396	0.223
CCI OPA-65R-LCUU-H8	B	From Leg	3.000	0.0000	130.000	No Ice	12.746	7.246	0.073
(ATT)			0.000			1/2" Ice	13.328	7.817	0.144
			0.000			1" Ice	13.916	8.396	0.223
CCI OPA-65R-LCUU-H8	C	From Leg	3.000	0.0000	130.000	No Ice	12.746	7.246	0.073
(ATT)			0.000			1/2" Ice	13.328	7.817	0.144
			0.000			1" Ice	13.916	8.396	0.223
Kathrein 800 10966	A	From Leg	3.000	0.0000	130.000	No Ice	17.363	7.500	0.115
(ATT)			0.000			1/2" Ice	17.991	8.089	0.207
			0.000			1" Ice	18.626	8.686	0.307
Kathrein 800 10966	B	From Leg	3.000	0.0000	130.000	No Ice	17.363	7.500	0.115
(ATT)			0.000			1/2" Ice	17.991	8.089	0.207
			0.000			1" Ice	18.626	8.686	0.307
Kathrein 800 10966	C	From Leg	3.000	0.0000	130.000	No Ice	17.363	7.500	0.115
(ATT)			0.000			1/2" Ice	17.991	8.089	0.207
			0.000			1" Ice	18.626	8.686	0.307
RRUS 32	A	From Leg	3.000	0.0000	130.000	No Ice	2.743	1.668	0.060
(ATT)			0.000			1/2" Ice	2.965	1.855	0.081
			0.000			1" Ice	3.194	2.049	0.105
RRUS 32	B	From Leg	3.000	0.0000	130.000	No Ice	2.743	1.668	0.060
(ATT)			0.000			1/2" Ice	2.965	1.855	0.081
			0.000			1" Ice	3.194	2.049	0.105
RRUS 32	C	From Leg	3.000	0.0000	130.000	No Ice	2.743	1.668	0.060
(ATT)			0.000			1/2" Ice	2.965	1.855	0.081
			0.000			1" Ice	3.194	2.049	0.105
(2) RRUS-11	A	From Leg	3.000	0.0000	130.000	No Ice	2.940	1.250	0.055
(ATT)			0.000			1/2" Ice	3.170	1.410	0.074
			0.000			1" Ice	3.400	1.570	0.094
(2) RRUS-11	B	From Leg	3.000	0.0000	130.000	No Ice	2.940	1.250	0.055
(ATT)			0.000			1/2" Ice	3.170	1.410	0.074
			0.000			1" Ice	3.400	1.570	0.094
(2) RRUS-11	C	From Leg	3.000	0.0000	130.000	No Ice	2.940	1.250	0.055
(ATT)			0.000			1/2" Ice	3.170	1.410	0.074
			0.000			1" Ice	3.400	1.570	0.094
RRUS 12	A	From Leg	3.000	0.0000	130.000	No Ice	3.145	1.285	0.058
(ATT)			0.000			1/2" Ice	3.365	1.438	0.081
			0.000			1" Ice	3.592	1.600	0.108
RRUS 12	B	From Leg	3.000	0.0000	130.000	No Ice	3.145	1.285	0.058
(ATT)			0.000			1/2" Ice	3.365	1.438	0.081
			0.000			1" Ice	3.592	1.600	0.108
RRUS 12	C	From Leg	3.000	0.0000	130.000	No Ice	3.145	1.285	0.058
(ATT)			0.000			1/2" Ice	3.365	1.438	0.081
			0.000			1" Ice	3.592	1.600	0.108
Ericsson RRUS32 B66	A	From Leg	3.000	0.0000	130.000	No Ice	2.743	1.668	0.053
(ATT)			0.000			1/2" Ice	2.965	1.855	0.074
			0.000			1" Ice	3.194	2.049	0.098
Ericsson RRUS32 B66	B	From Leg	3.000	0.0000	130.000	No Ice	2.743	1.668	0.053
(ATT)			0.000			1/2" Ice	2.965	1.855	0.074
			0.000			1" Ice	3.194	2.049	0.098
Ericsson RRUS32 B66	C	From Leg	3.000	0.0000	130.000	No Ice	2.743	1.668	0.053
(ATT)			0.000			1/2" Ice	2.965	1.855	0.074

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.000			1" Ice	3.194	2.049	0.098
Ericsson RRUS 4478 B14	A	From Leg	3.000	0.0000	130.000	No Ice	2.021	1.246	0.059
(ATT)			0.000			1/2" Ice	2.200	1.396	0.077
			0.000			1" Ice	2.386	1.554	0.097
Ericsson RRUS 4478 B14	B	From Leg	3.000	0.0000	130.000	No Ice	2.021	1.246	0.059
(ATT)			0.000			1/2" Ice	2.200	1.396	0.077
			0.000			1" Ice	2.386	1.554	0.097
Ericsson RRUS 4478 B14	C	From Leg	3.000	0.0000	130.000	No Ice	2.021	1.246	0.059
(ATT)			0.000			1/2" Ice	2.200	1.396	0.077
			0.000			1" Ice	2.386	1.554	0.097
Ericsson RRUS 32 B2	A	From Leg	3.000	0.0000	130.000	No Ice	2.743	1.668	0.053
(ATT)			0.000			1/2" Ice	2.965	1.855	0.074
			0.000			1" Ice	3.194	2.049	0.098
Ericsson RRUS 32 B2	B	From Leg	3.000	0.0000	130.000	No Ice	2.743	1.668	0.053
(ATT)			0.000			1/2" Ice	2.965	1.855	0.074
			0.000			1" Ice	3.194	2.049	0.098
Ericsson RRUS 32 B2	C	From Leg	3.000	0.0000	130.000	No Ice	2.743	1.668	0.053
(ATT)			0.000			1/2" Ice	2.965	1.855	0.074
			0.000			1" Ice	3.194	2.049	0.098
Ericsson RBS 6601	A	From Leg	3.000	0.0000	130.000	No Ice	2.714	0.957	0.044
(ATT)			0.000			1/2" Ice	2.925	1.111	0.061
			0.000			1" Ice	3.144	1.273	0.081
Ericsson RBS 6601	B	From Leg	3.000	0.0000	130.000	No Ice	2.714	0.957	0.044
(ATT)			0.000			1/2" Ice	2.925	1.111	0.061
			0.000			1" Ice	3.144	1.273	0.081
Ericsson RBS 6601	C	From Leg	3.000	0.0000	130.000	No Ice	2.714	0.957	0.044
(ATT)			0.000			1/2" Ice	2.925	1.111	0.061
			0.000			1" Ice	3.144	1.273	0.081
(2) RRUS A2 MODULE	A	From Leg	3.000	0.0000	130.000	No Ice	1.600	0.380	0.021
(ATT)			0.000			1/2" Ice	1.758	0.470	0.031
			0.000			1" Ice	1.924	0.568	0.044
(2) RRUS A2 MODULE	B	From Leg	3.000	0.0000	130.000	No Ice	1.600	0.380	0.021
(ATT)			0.000			1/2" Ice	1.758	0.470	0.031
			0.000			1" Ice	1.924	0.568	0.044
(2) RRUS A2 MODULE	C	From Leg	3.000	0.0000	130.000	No Ice	1.600	0.380	0.021
(ATT)			0.000			1/2" Ice	1.758	0.470	0.031
			0.000			1" Ice	1.924	0.568	0.044
DC6-48-60-18-8F	A	From Leg	3.000	0.0000	130.000	No Ice	2.045	2.045	0.020
(ATT)			0.000			1/2" Ice	3.111	3.111	0.061
			0.000			1" Ice	3.369	3.369	0.106
DC6-48-60-18-8F	B	From Leg	3.000	0.0000	130.000	No Ice	2.045	2.045	0.020
(ATT)			0.000			1/2" Ice	3.111	3.111	0.061
			0.000			1" Ice	3.369	3.369	0.106
DC6-48-60-18-8F	C	From Leg	3.000	0.0000	130.000	No Ice	2.045	2.045	0.020
(ATT)			0.000			1/2" Ice	3.111	3.111	0.061
			0.000			1" Ice	3.369	3.369	0.106
DC6-48-60-18-8F	C	From Leg	3.000	0.0000	130.000	No Ice	2.045	2.045	0.020
(ATT)			0.000			1/2" Ice	3.111	3.111	0.061
			0.000			1" Ice	3.369	3.369	0.106
12' Low Profile Platform	C	None		0.0000	130.000	No Ice	23.100	23.100	2.100
(ATT)						1/2" Ice	26.800	26.800	2.500
						1" Ice	30.500	30.500	2.900
***									
APXVSPP18-C-A20 w/	A	From Leg	4.000	0.0000	120.000	No Ice	8.262	6.946	0.083
Mount Pipe			0.000			1/2" Ice	8.822	8.127	0.151
(Sprint)			0.000			1" Ice	9.346	9.021	0.227
APXVTM14-C-120 w/	A	From Leg	4.000	0.0000	120.000	No Ice	6.580	4.959	0.077

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Mount Pipe			0.000			1/2" Ice	7.031	5.754	0.132
(Sprint)			0.000			1" Ice	7.473	6.472	0.193
(2) 1900MHZ 2*40W	A	From Leg	2.000	0.0000	120.000	No Ice	4.045	1.533	0.070
(Sprint)			0.000			1/2" Ice	4.298	1.712	0.097
			0.000			1" Ice	4.557	1.899	0.128
800 MHz RRH	A	From Leg	2.000	0.0000	120.000	No Ice	2.134	1.773	0.053
(Sprint)			0.000			1/2" Ice	2.320	1.946	0.074
			0.000			1" Ice	2.512	2.127	0.098
TD-RRH8x20-25	A	From Leg	2.000	0.0000	120.000	No Ice	4.045	1.535	0.070
(Sprint)			0.000			1/2" Ice	4.298	1.714	0.097
			0.000			1" Ice	4.557	1.901	0.128
FWHR 2500 MHz	A	From Leg	2.000	0.0000	120.000	No Ice	1.043	0.509	0.025
(Sprint)			0.000			1/2" Ice	1.172	0.602	0.034
			0.000			1" Ice	1.309	0.702	0.046
IBC1900HG-2A	A	From Leg	2.000	0.0000	120.000	No Ice	1.090	0.531	0.022
(Sprint)			0.000			1/2" Ice	1.224	0.635	0.030
			0.000			1" Ice	1.365	0.745	0.041
IBC1900-BB-1	A	From Leg	2.000	0.0000	120.000	No Ice	1.230	0.512	0.040
(Sprint)			0.000			1/2" Ice	1.379	0.603	0.052
			0.000			1" Ice	1.536	0.702	0.067
NEMA 4X Enclosure	A	From Leg	2.000	0.0000	120.000	No Ice	0.583	0.417	0.001
(Sprint)			0.000			1/2" Ice	0.681	0.504	0.007
			0.000			1" Ice	0.787	0.598	0.014
APXVSPP18-C-A20 w/	B	From Leg	4.000	0.0000	120.000	No Ice	8.262	6.946	0.083
Mount Pipe			0.000			1/2" Ice	8.822	8.127	0.151
(Sprint)			0.000			1" Ice	9.346	9.021	0.227
APXVTM14-C-120 w/	B	From Leg	4.000	0.0000	120.000	No Ice	6.580	4.959	0.077
Mount Pipe			0.000			1/2" Ice	7.031	5.754	0.132
(Sprint)			0.000			1" Ice	7.473	6.472	0.193
(2) 1900MHZ 2*40W	B	From Leg	2.000	0.0000	120.000	No Ice	4.045	1.533	0.070
(Sprint)			0.000			1/2" Ice	4.298	1.712	0.097
			0.000			1" Ice	4.557	1.899	0.128
800 MHz RRH	B	From Leg	2.000	0.0000	120.000	No Ice	2.134	1.773	0.053
(Sprint)			0.000			1/2" Ice	2.320	1.946	0.074
			0.000			1" Ice	2.512	2.127	0.098
TD-RRH8x20-25	B	From Leg	2.000	0.0000	120.000	No Ice	4.045	1.535	0.070
(Sprint)			0.000			1/2" Ice	4.298	1.714	0.097
			0.000			1" Ice	4.557	1.901	0.128
FWHR 2500 MHz	B	From Leg	2.000	0.0000	120.000	No Ice	1.043	0.509	0.025
(Sprint)			0.000			1/2" Ice	1.172	0.602	0.034
			0.000			1" Ice	1.309	0.702	0.046
IBC1900HG-2A	B	From Leg	2.000	0.0000	120.000	No Ice	1.090	0.531	0.022
(Sprint)			0.000			1/2" Ice	1.224	0.635	0.030
			0.000			1" Ice	1.365	0.745	0.041
IBC1900-BB-1	B	From Leg	2.000	0.0000	120.000	No Ice	1.230	0.512	0.040
(Sprint)			0.000			1/2" Ice	1.379	0.603	0.052
			0.000			1" Ice	1.536	0.702	0.067
NEMA 4X Enclosure	B	From Leg	2.000	0.0000	120.000	No Ice	0.583	0.417	0.001
(Sprint)			0.000			1/2" Ice	0.681	0.504	0.007
			0.000			1" Ice	0.787	0.598	0.014
APXVSPP18-C-A20 w/	C	From Leg	4.000	0.0000	120.000	No Ice	8.262	6.946	0.083
Mount Pipe			0.000			1/2" Ice	8.822	8.127	0.151
(Sprint)			0.000			1" Ice	9.346	9.021	0.227
APXVTM14-C-120 w/	C	From Leg	4.000	0.0000	120.000	No Ice	6.580	4.959	0.077
Mount Pipe			0.000			1/2" Ice	7.031	5.754	0.132
(Sprint)			0.000			1" Ice	7.473	6.472	0.193
(2) 1900MHZ 2*40W	C	From Leg	2.000	0.0000	120.000	No Ice	4.045	1.533	0.070

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(Sprint)			0.000			1/2" Ice	4.298	1.712	0.097
			0.000			1" Ice	4.557	1.899	0.128
800 MHz RRH	C	From Leg	2.000	0.0000	120.000	No Ice	2.134	1.773	0.053
(Sprint)			0.000			1/2" Ice	2.320	1.946	0.074
			0.000			1" Ice	2.512	2.127	0.098
TD-RRH8x20-25	C	From Leg	2.000	0.0000	120.000	No Ice	4.045	1.535	0.070
(Sprint)			0.000			1/2" Ice	4.298	1.714	0.097
			0.000			1" Ice	4.557	1.901	0.128
FWHR 2500 MHz	C	From Leg	2.000	0.0000	120.000	No Ice	1.043	0.509	0.025
(Sprint)			0.000			1/2" Ice	1.172	0.602	0.034
			0.000			1" Ice	1.309	0.702	0.046
IBC1900HG-2A	C	From Leg	2.000	0.0000	120.000	No Ice	1.090	0.531	0.022
(Sprint)			0.000			1/2" Ice	1.224	0.635	0.030
			0.000			1" Ice	1.365	0.745	0.041
IBC1900-BB-1	C	From Leg	2.000	0.0000	120.000	No Ice	1.230	0.512	0.040
(Sprint)			0.000			1/2" Ice	1.379	0.603	0.052
			0.000			1" Ice	1.536	0.702	0.067
NEMA 4X Enclosure	C	From Leg	2.000	0.0000	120.000	No Ice	0.583	0.417	0.001
(Sprint)			0.000			1/2" Ice	0.681	0.504	0.007
			0.000			1" Ice	0.787	0.598	0.014
ODU (15 lbs, 1.5 CaAa)	A	From Leg	2.000	0.0000	120.000	No Ice	1.500	1.500	0.015
(Sprint)			0.000			1/2" Ice	2.000	2.000	0.020
			0.000			1" Ice	2.500	2.500	0.024
ODU (15 lbs, 1.5 CaAa)	B	From Leg	2.000	0.0000	120.000	No Ice	1.500	1.500	0.015
(Sprint)			0.000			1/2" Ice	2.000	2.000	0.020
			0.000			1" Ice	2.500	2.500	0.024
ODU (15 lbs, 1.5 CaAa)	C	From Leg	2.000	0.0000	120.000	No Ice	1.500	1.500	0.015
(Sprint)			0.000			1/2" Ice	2.000	2.000	0.020
			0.000			1" Ice	2.500	2.500	0.024
ODU (15 lbs, 1.5 CaAa)	C	From Leg	2.000	0.0000	120.000	No Ice	1.500	1.500	0.015
(Sprint)			0.000			1/2" Ice	2.000	2.000	0.020
			0.000			1" Ice	2.500	2.500	0.024
GPS-TMG-HR-26NCM	C	From Leg	2.000	0.0000	120.000	No Ice	0.073	0.073	0.001
(Sprint)			0.000			1/2" Ice	0.117	0.117	0.002
			0.000			1" Ice	0.170	0.170	0.004
Sector Frame Mount	C	None		0.0000	120.000	No Ice	15.000	15.000	0.500
(Sprint)						1/2" Ice	20.600	20.600	0.650
						1" Ice	26.200	26.200	0.800
***									
Ericsson AIR32 B66AaB2a	A	From Leg	4.000	0.0000	110.000	No Ice	6.510	4.712	0.132
(T-Mobile)			0.000			1/2" Ice	6.887	5.068	0.178
			0.000			1" Ice	7.271	5.431	0.229
Ericsson AIR32 B66AaB2a	B	From Leg	4.000	0.0000	110.000	No Ice	6.510	4.712	0.132
(T-Mobile)			0.000			1/2" Ice	6.887	5.068	0.178
			0.000			1" Ice	7.271	5.431	0.229
Ericsson AIR32 B66AaB2a	C	From Leg	4.000	0.0000	110.000	No Ice	6.510	4.712	0.132
(T-Mobile)			0.000			1/2" Ice	6.887	5.068	0.178
			0.000			1" Ice	7.271	5.431	0.229
Ericsson AIR32 B66AaB2a	C	From Leg	4.000	90.0000	110.000	No Ice	6.510	4.712	0.132
(T-Mobile)			0.000			1/2" Ice	6.887	5.068	0.178
			0.000			1" Ice	7.271	5.431	0.229
RFS	A	From Leg	4.000	0.0000	110.000	No Ice	11.311	8.278	0.073
APXVFWW24X-C-NA20			0.000			1/2" Ice	11.927	8.872	0.141
(T-Mobile)			0.000			1" Ice	12.550	9.474	0.217
RFS	B	From Leg	4.000	0.0000	110.000	No Ice	11.311	8.278	0.073
APXVFWW24X-C-NA20			0.000			1/2" Ice	11.927	8.872	0.141
(T-Mobile)			0.000			1" Ice	12.550	9.474	0.217

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RFS	C	From Leg	4.000	0.0000	110.000	No Ice	11.311	8.278	0.073
APXVFWW24X-C-NA20			0.000			1/2" Ice	11.927	8.872	0.141
(T-Mobile)			0.000			1" Ice	12.550	9.474	0.217
RFS	C	From Leg	4.000	90.0000	110.000	No Ice	11.311	8.278	0.073
APXVFWW24X-C-NA20			0.000			1/2" Ice	11.927	8.872	0.141
(T-Mobile)			0.000			1" Ice	12.550	9.474	0.217
Andrew	A	From Leg	4.000	0.0000	110.000	No Ice	12.613	9.619	0.074
DBXNH-6565B-A2M			0.000			1/2" Ice	13.162	10.171	0.160
(T-Mobile)			0.000			1" Ice	13.718	10.709	0.253
Andrew	B	From Leg	4.000	0.0000	110.000	No Ice	12.613	9.619	0.074
DBXNH-6565B-A2M			0.000			1/2" Ice	13.162	10.171	0.160
(T-Mobile)			0.000			1" Ice	13.718	10.709	0.253
Andrew	C	From Leg	4.000	0.0000	110.000	No Ice	12.613	9.619	0.074
DBXNH-6565B-A2M			0.000			1/2" Ice	13.162	10.171	0.160
(T-Mobile)			0.000			1" Ice	13.718	10.709	0.253
Andrew	C	From Leg	4.000	90.0000	110.000	No Ice	12.613	9.619	0.074
DBXNH-6565B-A2M			0.000			1/2" Ice	13.162	10.171	0.160
(T-Mobile)			0.000			1" Ice	13.718	10.709	0.253
RRUS 11 B12	A	From Leg	3.000	0.0000	110.000	No Ice	2.833	1.182	0.051
(T-Mobile)			0.000			1/2" Ice	3.043	1.330	0.072
			0.000			1" Ice	3.259	1.485	0.095
RRUS 11 B12	B	From Leg	3.000	0.0000	110.000	No Ice	2.833	1.182	0.051
(T-Mobile)			0.000			1/2" Ice	3.043	1.330	0.072
			0.000			1" Ice	3.259	1.485	0.095
RRUS 11 B12	C	From Leg	3.000	0.0000	110.000	No Ice	2.833	1.182	0.051
(T-Mobile)			0.000			1/2" Ice	3.043	1.330	0.072
			0.000			1" Ice	3.259	1.485	0.095
RRUS 11 B12	C	From Leg	3.000	90.0000	110.000	No Ice	2.833	1.182	0.051
(T-Mobile)			0.000			1/2" Ice	3.043	1.330	0.072
			0.000			1" Ice	3.259	1.485	0.095
RRUS 4478 B14	A	From Leg	3.000	0.0000	110.000	No Ice	2.358	1.454	0.059
(T-Mobile)			0.000			1/2" Ice	2.567	1.629	0.077
			0.000			1" Ice	2.784	1.813	0.097
RRUS 4478 B14	B	From Leg	3.000	0.0000	110.000	No Ice	2.358	1.454	0.059
(T-Mobile)			0.000			1/2" Ice	2.567	1.629	0.077
			0.000			1" Ice	2.784	1.813	0.097
RRUS 4478 B14	C	From Leg	3.000	0.0000	110.000	No Ice	2.358	1.454	0.059
(T-Mobile)			0.000			1/2" Ice	2.567	1.629	0.077
			0.000			1" Ice	2.784	1.813	0.097
RRUS 4478 B14	C	From Leg	3.000	90.0000	110.000	No Ice	2.358	1.454	0.059
(T-Mobile)			0.000			1/2" Ice	2.567	1.629	0.077
			0.000			1" Ice	2.784	1.813	0.097
RRUS 11	A	From Leg	3.000	0.0000	110.000	No Ice	2.784	1.187	0.051
(T-Mobile)			0.000			1/2" Ice	2.992	1.334	0.071
			0.000			1" Ice	3.207	1.490	0.095
RRUS 11	B	From Leg	3.000	0.0000	110.000	No Ice	2.784	1.187	0.051
(T-Mobile)			0.000			1/2" Ice	2.992	1.334	0.071
			0.000			1" Ice	3.207	1.490	0.095
RRUS 11	C	From Leg	3.000	0.0000	110.000	No Ice	2.784	1.187	0.051
(T-Mobile)			0.000			1/2" Ice	2.992	1.334	0.071
			0.000			1" Ice	3.207	1.490	0.095
RRUS 11	C	From Leg	3.000	90.0000	110.000	No Ice	2.784	1.187	0.051
(T-Mobile)			0.000			1/2" Ice	2.992	1.334	0.071
			0.000			1" Ice	3.207	1.490	0.095
F4P-10W	C	None		0.0000	110.000	No Ice	40.740	45.260	2.396
(T-Mobile)						1/2" Ice	52.240	56.430	3.087
						1" Ice	63.740	67.600	3.778

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) Diplexer (T-Mobile)	A	From Leg	3.000 0.000 0.000	0.0000	110.000	No Ice 1/2" Ice 1" Ice	0.388 0.469 0.557	0.175 0.234 0.303	0.007 0.010 0.014
(2) Diplexer (T-Mobile)	B	From Leg	3.000 0.000 0.000	0.0000	110.000	No Ice 1/2" Ice 1" Ice	0.388 0.469 0.557	0.175 0.234 0.303	0.007 0.010 0.014
(2) Diplexer (T-Mobile)	C	From Leg	3.000 0.000 0.000	0.0000	110.000	No Ice 1/2" Ice 1" Ice	0.388 0.469 0.557	0.175 0.234 0.303	0.007 0.010 0.014
(2) Diplexer (T-Mobile)	C	From Leg	3.000 0.000 0.000	0.0000	110.000	No Ice 1/2" Ice 1" Ice	0.388 0.469 0.557	0.175 0.234 0.303	0.007 0.010 0.014
***									

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
VHLP2-18 (Sprint)	A	Paraboloid w/Radome	From Leg	4.000 0.000 0.000	0.0000		120.000	2.175	No Ice 1/2" Ice 1" Ice	3.720 4.010 4.300	0.030 0.050 0.070
VHLP2-18 (Sprint)	B	Paraboloid w/Radome	From Leg	4.000 0.000 0.000	0.0000		120.000	2.175	No Ice 1/2" Ice 1" Ice	3.720 4.010 4.300	0.030 0.050 0.070
VHLP2-18 (Sprint)	C	Paraboloid w/Radome	From Leg	4.000 0.000 0.000	0.0000		120.000	2.175	No Ice 1/2" Ice 1" Ice	3.720 4.010 4.300	0.030 0.050 0.070
MT-485025 (Sprint)	C	Grid	From Leg	4.000 0.000 0.000	0.0000		120.000	1.167	No Ice 1/2" Ice 1" Ice	1.069 1.227 1.385	0.006 0.012 0.019
SHP2-13-3WH/B (T-Mobile)	C	Paraboloid w/Shroud (HP)	From Leg	3.000 0.000 0.000	0.0000		110.000	2.000	No Ice 1/2" Ice 1" Ice	6.250 6.500 6.800	0.024 0.030 0.036

Tower Pressures - No Ice

$G_H = 1.100$

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg % %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 135.000-109.0	121.572	1.319	0.030	72.527	A B	0.000 0.000	72.527 72.527	72.527	100.00 100.00	0.000 0.000	0.000 0.000

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
80					C	0.000	72.527		100.00	0.000	0.000
L2	96.268	1.256	0.029	83.210	A	0.000	83.210	83.210	100.00	0.000	0.000
109.080-84.16					B	0.000	83.210		100.00	0.000	0.000
0					C	0.000	83.210		100.00	0.000	0.000
L3	62.605	1.147	0.026	171.128	A	0.000	171.128	171.128	100.00	0.000	0.000
84.160-41.993					B	0.000	171.128		100.00	0.000	0.000
					C	0.000	171.128		100.00	0.000	0.000
L4	21.128	0.912	0.021	207.125	A	0.000	207.125	207.125	100.00	0.000	0.000
41.993-0.000					B	0.000	207.125		100.00	0.000	0.000
					C	0.000	207.125		100.00	0.000	0.000

Tower Pressure - With Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	121.572	1.319	0.008	1.7089	79.909	A	0.000	79.909	79.909	100.00	0.000	0.000
135.000-109.080						B	0.000	79.909		100.00	0.000	0.000
						C	0.000	79.909		100.00	0.000	0.000
L2	96.268	1.256	0.008	1.6695	90.308	A	0.000	90.308	90.308	100.00	0.000	0.000
109.080-84.160						B	0.000	90.308		100.00	0.000	0.000
						C	0.000	90.308		100.00	0.000	0.000
L3	62.605	1.147	0.007	1.5992	182.861	A	0.000	182.861	182.861	100.00	0.000	0.000
84.160-41.993						B	0.000	182.861		100.00	0.000	0.000
						C	0.000	182.861		100.00	0.000	0.000
L4 41.993-0.000	21.128	0.912	0.006	1.4346	218.318	A	0.000	218.318	218.318	100.00	0.000	0.000
						B	0.000	218.318		100.00	0.000	0.000
						C	0.000	218.318		100.00	0.000	0.000

Tower Pressure - Service

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	121.572	1.319	0.010	72.527	A	0.000	72.527	72.527	100.00	0.000	0.000
135.000-109.0					B	0.000	72.527		100.00	0.000	0.000
80					C	0.000	72.527		100.00	0.000	0.000
L2	96.268	1.256	0.010	83.210	A	0.000	83.210	83.210	100.00	0.000	0.000
109.080-84.16					B	0.000	83.210		100.00	0.000	0.000
0					C	0.000	83.210		100.00	0.000	0.000
L3	62.605	1.147	0.009	171.128	A	0.000	171.128	171.128	100.00	0.000	0.000
84.160-41.993					B	0.000	171.128		100.00	0.000	0.000
					C	0.000	171.128		100.00	0.000	0.000
L4	21.128	0.912	0.007	207.125	A	0.000	207.125	207.125	100.00	0.000	0.000
41.993-0.000					B	0.000	207.125		100.00	0.000	0.000
					C	0.000	207.125		100.00	0.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
L1	0.081	2.299	A	1	0.65	0.030	1	1	72.527	1.565	0.060	C
135.000-109.0			B	1	0.65		1	1	72.527			
80			C	1	0.65		1	1	72.527			
L2	0.286	3.841	A	1	0.65	0.029	1	1	83.210	1.709	0.069	C
109.080-84.16			B	1	0.65		1	1	83.210			
0			C	1	0.65		1	1	83.210			
L3	0.484	12.115	A	1	0.65	0.026	1	1	171.128	3.199	0.076	C
84.160-41.993			B	1	0.65		1	1	171.128			
			C	1	0.65		1	1	171.128			
L4	0.436	18.679	A	1	0.65	0.021	1	1	207.125	3.108	0.074	C
41.993-0.000			B	1	0.65		1	1	207.125			
			C	1	0.65		1	1	207.125			
Sum Weight:	1.288	36.935						OTM	620.743 kip-ft	9.581		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
L1	0.081	2.299	A	1	0.65	0.030	1	1	72.527	1.565	0.060	C
135.000-109.0			B	1	0.65		1	1	72.527			
80			C	1	0.65		1	1	72.527			
L2	0.286	3.841	A	1	0.65	0.029	1	1	83.210	1.709	0.069	C
109.080-84.16			B	1	0.65		1	1	83.210			
0			C	1	0.65		1	1	83.210			
L3	0.484	12.115	A	1	0.65	0.026	1	1	171.128	3.199	0.076	C
84.160-41.993			B	1	0.65		1	1	171.128			
			C	1	0.65		1	1	171.128			
L4	0.436	18.679	A	1	0.65	0.021	1	1	207.125	3.108	0.074	C
41.993-0.000			B	1	0.65		1	1	207.125			
			C	1	0.65		1	1	207.125			
Sum Weight:	1.288	36.935						OTM	620.743 kip-ft	9.581		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
L1	0.081	2.299	A	1	0.65	0.030	1	1	72.527	1.565	0.060	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
135.000-109.0			B	1	0.65		1	1	72.527			
80			C	1	0.65		1	1	72.527			
L2	0.286	3.841	A	1	0.65	0.029	1	1	83.210	1.709	0.069	C
109.080-84.16			B	1	0.65		1	1	83.210			
0			C	1	0.65		1	1	83.210			
L3	0.484	12.115	A	1	0.65	0.026	1	1	171.128	3.199	0.076	C
84.160-41.993			B	1	0.65		1	1	171.128			
			C	1	0.65		1	1	171.128			
L4	0.436	18.679	A	1	0.65	0.021	1	1	207.125	3.108	0.074	C
41.993-0.000			B	1	0.65		1	1	207.125			
			C	1	0.65		1	1	207.125			
Sum Weight:	1.288	36.935						OTM	620.743 kip-ft	9.581		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
L1	0.081	4.203	A	1	1.2	0.008	1	1	79.909	0.846	0.033	C
135.000-109.0			B	1	1.2		1	1	79.909			
80			C	1	1.2		1	1	79.909			
L2	0.286	5.956	A	1	1.2	0.008	1	1	90.308	0.910	0.037	C
109.080-84.16			B	1	1.2		1	1	90.308			
0			C	1	1.2		1	1	90.308			
L3	0.484	16.246	A	1	1.2	0.007	1	1	182.861	1.677	0.040	C
84.160-41.993			B	1	1.2		1	1	182.861			
			C	1	1.2		1	1	182.861			
L4	0.436	23.127	A	1	1.2	0.006	1	1	218.318	1.607	0.038	C
41.993-0.000			B	1	1.2		1	1	218.318			
			C	1	1.2		1	1	218.318			
Sum Weight:	1.288	49.532						OTM	329.353 kip-ft	5.040		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
L1	0.081	4.203	A	1	1.2	0.008	1	1	79.909	0.846	0.033	C
135.000-109.0			B	1	1.2		1	1	79.909			
80			C	1	1.2		1	1	79.909			
L2	0.286	5.956	A	1	1.2	0.008	1	1	90.308	0.910	0.037	C
109.080-84.16			B	1	1.2		1	1	90.308			
0			C	1	1.2		1	1	90.308			
L3	0.484	16.246	A	1	1.2	0.007	1	1	182.861	1.677	0.040	C
84.160-41.993			B	1	1.2		1	1	182.861			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
			C	1	1.2		1	1	182.861			
L4	0.436	23.127	A	1	1.2	0.006	1	1	218.318	1.607	0.038	C
41.993-0.000			B	1	1.2		1	1	218.318			
			C	1	1.2		1	1	218.318			
Sum Weight:	1.288	49.532						OTM	329.353 kip-ft	5.040		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.081	4.203	A	1	1.2	0.008	1	1	79.909	0.846	0.033	C
135.000-109.0			B	1	1.2		1	1	79.909			
80			C	1	1.2		1	1	79.909			
L2	0.286	5.956	A	1	1.2	0.008	1	1	90.308	0.910	0.037	C
109.080-84.16			B	1	1.2		1	1	90.308			
0			C	1	1.2		1	1	90.308			
L3	0.484	16.246	A	1	1.2	0.007	1	1	182.861	1.677	0.040	C
84.160-41.993			B	1	1.2		1	1	182.861			
			C	1	1.2		1	1	182.861			
L4	0.436	23.127	A	1	1.2	0.006	1	1	218.318	1.607	0.038	C
41.993-0.000			B	1	1.2		1	1	218.318			
			C	1	1.2		1	1	218.318			
Sum Weight:	1.288	49.532						OTM	329.353 kip-ft	5.040		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.081	2.299	A	1	0.65	0.010	1	1	72.527	0.536	0.021	C
135.000-109.0			B	1	0.65		1	1	72.527			
80			C	1	0.65		1	1	72.527			
L2	0.286	3.841	A	1	0.65	0.010	1	1	83.210	0.585	0.023	C
109.080-84.16			B	1	0.65		1	1	83.210			
0			C	1	0.65		1	1	83.210			
L3	0.484	12.115	A	1	0.65	0.009	1	1	171.128	1.095	0.026	C
84.160-41.993			B	1	0.65		1	1	171.128			
			C	1	0.65		1	1	171.128			
L4	0.436	18.679	A	1	0.65	0.007	1	1	207.125	1.064	0.025	C
41.993-0.000			B	1	0.65		1	1	207.125			
			C	1	0.65		1	1	207.125			
Sum Weight:	1.288	36.935						OTM	212.504 kip-ft	3.280		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
L1	0.081	2.299	A	1	0.65	0.010	1	1	72.527	0.536	0.021	C
135.000-109.0			B	1	0.65		1	1	72.527			
80			C	1	0.65		1	1	72.527			
L2	0.286	3.841	A	1	0.65	0.010	1	1	83.210	0.585	0.023	C
109.080-84.16			B	1	0.65		1	1	83.210			
0			C	1	0.65		1	1	83.210			
L3	0.484	12.115	A	1	0.65	0.009	1	1	171.128	1.095	0.026	C
84.160-41.993			B	1	0.65		1	1	171.128			
			C	1	0.65		1	1	171.128			
L4	0.436	18.679	A	1	0.65	0.007	1	1	207.125	1.064	0.025	C
41.993-0.000			B	1	0.65		1	1	207.125			
			C	1	0.65		1	1	207.125			
Sum Weight:	1.288	36.935						OTM	212.504 kip-ft	3.280		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
L1	0.081	2.299	A	1	0.65	0.010	1	1	72.527	0.536	0.021	C
135.000-109.0			B	1	0.65		1	1	72.527			
80			C	1	0.65		1	1	72.527			
L2	0.286	3.841	A	1	0.65	0.010	1	1	83.210	0.585	0.023	C
109.080-84.16			B	1	0.65		1	1	83.210			
0			C	1	0.65		1	1	83.210			
L3	0.484	12.115	A	1	0.65	0.009	1	1	171.128	1.095	0.026	C
84.160-41.993			B	1	0.65		1	1	171.128			
			C	1	0.65		1	1	171.128			
L4	0.436	18.679	A	1	0.65	0.007	1	1	207.125	1.064	0.025	C
41.993-0.000			B	1	0.65		1	1	207.125			
			C	1	0.65		1	1	207.125			
Sum Weight:	1.288	36.935						OTM	212.504 kip-ft	3.280		

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	36.935					
Bracing Weight	0.000					
Total Member Self-Weight	36.935			1.305	2.260	
Total Weight	49.237			1.305	2.260	
Wind 0 deg - No Ice		-0.031	-26.449	-2655.947	5.687	-6.584
Wind 30 deg - No Ice		13.081	-22.849	-2293.720	-1310.441	-3.945
Wind 60 deg - No Ice		22.713	-13.113	-1314.912	-2277.495	0.000
Wind 90 deg - No Ice		26.329	0.096	11.985	-2641.641	3.945
Wind 120 deg - No Ice		22.890	13.252	1332.898	-2297.274	6.584
Wind 150 deg - No Ice		13.238	22.946	2306.714	-1327.917	7.686
Wind 180 deg - No Ice		0.079	26.395	2652.240	-6.364	6.694
Wind 210 deg - No Ice		-13.071	22.796	2290.369	1314.149	3.932
Wind 240 deg - No Ice		-22.708	13.111	1317.453	2281.895	0.000
Wind 270 deg - No Ice		-26.278	-0.078	-7.099	2640.592	-3.932
Wind 300 deg - No Ice		-22.820	-13.266	-1331.631	2293.725	-6.694
Wind 330 deg - No Ice		-13.252	-22.938	-2303.367	1333.714	-7.686
Member Ice	12.598					
Total Weight Ice	80.222			4.530	7.846	
Wind 0 deg - Ice		0.012	-11.191	-1065.943	6.297	-2.181
Wind 30 deg - Ice		5.568	-9.673	-920.447	-524.424	-1.290
Wind 60 deg - Ice		9.643	-5.567	-527.572	-913.781	0.000
Wind 90 deg - Ice		11.161	0.014	6.059	-1059.343	1.290
Wind 120 deg - Ice		9.698	5.585	538.425	-919.986	2.181
Wind 150 deg - Ice		5.595	9.694	931.639	-527.287	2.553
Wind 180 deg - Ice		0.018	11.167	1072.206	5.845	2.234
Wind 210 deg - Ice		-5.553	9.656	927.611	538.437	1.322
Wind 240 deg - Ice		-9.636	5.563	536.235	928.787	0.000
Wind 270 deg - Ice		-11.139	-0.019	2.494	1072.553	-1.322
Wind 300 deg - Ice		-9.662	-5.600	-531.041	931.480	-2.234
Wind 330 deg - Ice		-5.597	-9.692	-922.463	543.180	-2.553
Total Weight	49.237			1.305	2.260	
Wind 0 deg - Service		-0.011	-9.055	-908.372	3.433	-2.254
Wind 30 deg - Service		4.478	-7.822	-784.368	-447.127	-1.350
Wind 60 deg - Service		7.776	-4.489	-449.285	-778.185	0.000
Wind 90 deg - Service		9.013	0.033	4.961	-902.846	1.350
Wind 120 deg - Service		7.836	4.537	457.159	-784.956	2.254
Wind 150 deg - Service		4.532	7.855	790.533	-453.109	2.631
Wind 180 deg - Service		0.027	9.036	908.819	-0.692	2.292
Wind 210 deg - Service		-4.475	7.804	784.937	451.369	1.346
Wind 240 deg - Service		-7.774	4.488	451.872	782.665	0.000
Wind 270 deg - Service		-8.996	-0.027	-1.572	905.460	-1.346
Wind 300 deg - Service		-7.812	-4.541	-455.009	786.714	-2.292
Wind 330 deg - Service		-4.537	-7.852	-787.670	458.067	-2.631

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

Comb. No.	Description
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
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 Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	135 - 109.08	Pole	Max Tension	45	0.000	-0.001	0.000
			Max. Compression	26	-23.864	1.007	-0.581
			Max. Mx	20	-9.630	252.515	-0.312
			Max. My	2	-9.627	0.238	252.345
			Max. Vy	20	-19.790	252.515	-0.312
			Max. Vx	2	-19.806	0.238	252.345
			Max. Torque	24			10.696
L2	109.08 - 84.16	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-42.259	8.520	-4.919
			Max. Mx	20	-18.934	944.934	0.769
			Max. My	14	-18.923	0.061	-947.092

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	31.984	-941.106	-4.875
			Max. Vx	2	-32.180	3.583	946.363
			Max. Torque	25			12.288
L3	84.16 - 41.9933	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-60.634	8.564	-4.944
			Max. Mx	20	-33.189	2364.328	5.921
			Max. My	2	-33.181	5.850	2377.226
			Max. Vy	8	36.850	-2363.846	-11.408
			Max. Vx	2	-37.046	5.850	2377.226
			Max. Torque	25			12.282
L4	41.9933 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-91.736	8.503	-4.909
			Max. Mx	8	-59.069	-4291.366	-18.946
			Max. My	2	-59.069	8.337	4314.236
			Max. Vy	8	42.147	-4291.366	-18.946
			Max. Vx	2	-42.341	8.337	4314.236
			Max. Torque	25			12.273

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	91.736	-0.001	0.001
	Max. H_x	21	44.313	42.044	0.125
	Max. H_z	2	59.085	0.050	42.319
	Max. M_x	2	4314.236	0.050	42.319
	Max. M_z	8	4291.366	-42.125	-0.153
	Max. Torsion	25	12.271	21.204	36.700
	Min. Vert	3	44.313	0.050	42.318
	Min. H_x	9	44.313	-42.125	-0.153
	Min. H_z	14	59.085	-0.126	-42.233
	Min. M_x	14	-4307.190	-0.126	-42.233
	Min. M_z	20	-4287.897	42.044	0.125
	Min. Torsion	13	-12.271	-21.181	-36.713

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	49.237	-0.000	0.000	1.305	2.260	0.000
1.2 Dead+1.6 Wind 0 deg - No Ice	59.085	-0.050	-42.319	-4314.236	8.336	-10.511
0.9 Dead+1.6 Wind 0 deg - No Ice	44.313	-0.050	-42.318	-4298.039	7.607	-10.512
1.2 Dead+1.6 Wind 30 deg - No Ice	59.085	20.930	-36.558	-3725.926	-2129.288	-6.299
0.9 Dead+1.6 Wind 30 deg - No Ice	44.313	20.930	-36.558	-3712.007	-2121.800	-6.299
1.2 Dead+1.6 Wind 60 deg - No Ice	59.085	36.341	-20.981	-2136.173	-3699.960	-0.000

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
0.9 Dead+1.6 Wind 60 deg - No Ice	44.313	36.341	-20.981	-2128.365	-3686.436	-0.000
1.2 Dead+1.6 Wind 90 deg - No Ice	59.085	42.125	0.153	18.946	-4291.366	6.299
0.9 Dead+1.6 Wind 90 deg - No Ice	44.313	42.125	0.153	18.471	-4275.575	6.299
1.2 Dead+1.6 Wind 120 deg - No Ice	59.085	36.624	21.203	2164.337	-3732.070	10.511
0.9 Dead+1.6 Wind 120 deg - No Ice	44.313	36.624	21.203	2155.616	-3718.422	10.512
1.2 Dead+1.6 Wind 150 deg - No Ice	59.085	21.181	36.713	3745.979	-2157.668	12.270
0.9 Dead+1.6 Wind 150 deg - No Ice	44.313	21.181	36.713	3731.178	-2150.070	12.271
1.2 Dead+1.6 Wind 180 deg - No Ice	59.085	0.126	42.233	4307.190	-11.232	10.683
0.9 Dead+1.6 Wind 180 deg - No Ice	44.313	0.126	42.233	4290.213	-11.886	10.684
1.2 Dead+1.6 Wind 210 deg - No Ice	59.085	-20.914	36.474	3719.469	2133.532	6.274
0.9 Dead+1.6 Wind 210 deg - No Ice	44.313	-20.914	36.474	3704.765	2124.629	6.274
1.2 Dead+1.6 Wind 240 deg - No Ice	59.085	-36.333	20.977	2139.279	3705.340	-0.000
0.9 Dead+1.6 Wind 240 deg - No Ice	44.313	-36.334	20.977	2130.650	3690.393	-0.000
1.2 Dead+1.6 Wind 270 deg - No Ice	59.085	-42.044	-0.125	-12.041	4287.897	-6.274
0.9 Dead+1.6 Wind 270 deg - No Ice	44.313	-42.044	-0.125	-12.399	4270.719	-6.274
1.2 Dead+1.6 Wind 300 deg - No Ice	59.085	-36.512	-21.225	-2163.322	3724.520	-10.683
0.9 Dead+1.6 Wind 300 deg - No Ice	44.313	-36.512	-21.225	-2155.409	3709.505	-10.684
1.2 Dead+1.6 Wind 330 deg - No Ice	59.085	-21.204	-36.700	-3741.584	2165.279	-12.270
0.9 Dead+1.6 Wind 330 deg - No Ice	44.313	-21.204	-36.700	-3727.604	2156.260	-12.271
1.2 Dead+1.0 Ice+1.0 Temp	91.736	0.001	-0.001	4.909	8.503	0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	91.736	0.012	-11.191	-1097.525	7.189	-2.178
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	91.736	5.568	-9.673	-947.661	-539.455	-1.288
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	91.736	9.643	-5.567	-542.994	-940.494	-0.000
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	91.736	11.161	0.014	6.648	-1090.426	1.288
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	91.736	9.698	5.585	554.989	-946.890	2.178
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	91.736	5.595	9.693	960.005	-542.402	2.550
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	91.736	0.018	11.167	1104.790	6.730	2.232
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	91.736	-5.553	9.656	955.859	555.307	1.320
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	91.736	-9.636	5.563	552.739	957.372	-0.000
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	91.736	-11.139	-0.019	2.980	1105.451	-1.320
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	91.736	-9.662	-5.600	-546.566	960.141	-2.232

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	91.736	-5.597	-9.692	-949.737	560.188	-2.550
Dead+Wind 0 deg - Service	49.237	-0.011	-9.054	-919.863	3.501	-2.254
Dead+Wind 30 deg - Service	49.237	4.478	-7.821	-794.289	-452.766	-1.350
Dead+Wind 60 deg - Service	49.237	7.775	-4.489	-454.962	-788.018	-0.000
Dead+Wind 90 deg - Service	49.237	9.012	0.033	5.038	-914.258	1.350
Dead+Wind 120 deg - Service	49.237	7.835	4.536	462.963	-794.875	2.254
Dead+Wind 150 deg - Service	49.237	4.532	7.854	800.558	-458.824	2.631
Dead+Wind 180 deg - Service	49.237	0.027	9.035	920.343	-0.676	2.291
Dead+Wind 210 deg - Service	49.237	-4.474	7.803	794.894	457.112	1.346
Dead+Wind 240 deg - Service	49.237	-7.773	4.488	457.610	792.604	-0.000
Dead+Wind 270 deg - Service	49.237	-8.995	-0.027	-1.576	916.954	-1.346
Dead+Wind 300 deg - Service	49.237	-7.811	-4.541	-460.757	796.703	-2.291
Dead+Wind 330 deg - Service	49.237	-4.537	-7.852	-797.701	463.931	-2.631

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.000	-49.237	0.000	0.000	49.237	-0.000	0.000%
2	-0.050	-59.085	-42.319	0.050	59.085	42.319	0.000%
3	-0.050	-44.313	-42.319	0.050	44.313	42.318	0.000%
4	20.930	-59.085	-36.558	-20.930	59.085	36.558	0.000%
5	20.930	-44.313	-36.558	-20.930	44.313	36.558	0.000%
6	36.341	-59.085	-20.981	-36.341	59.085	20.981	0.000%
7	36.341	-44.313	-20.981	-36.341	44.313	20.981	0.000%
8	42.126	-59.085	0.153	-42.125	59.085	-0.153	0.000%
9	42.126	-44.313	0.153	-42.125	44.313	-0.153	0.000%
10	36.624	-59.085	21.203	-36.624	59.085	-21.203	0.000%
11	36.624	-44.313	21.203	-36.624	44.313	-21.203	0.000%
12	21.181	-59.085	36.713	-21.181	59.085	-36.713	0.000%
13	21.181	-44.313	36.713	-21.181	44.313	-36.713	0.000%
14	0.126	-59.085	42.233	-0.126	59.085	-42.233	0.000%
15	0.126	-44.313	42.233	-0.126	44.313	-42.233	0.000%
16	-20.914	-59.085	36.474	20.914	59.085	-36.474	0.000%
17	-20.914	-44.313	36.474	20.914	44.313	-36.474	0.000%
18	-36.334	-59.085	20.977	36.333	59.085	-20.977	0.000%
19	-36.334	-44.313	20.977	36.334	44.313	-20.977	0.000%
20	-42.045	-59.085	-0.125	42.044	59.085	0.125	0.000%
21	-42.045	-44.313	-0.125	42.044	44.313	0.125	0.000%
22	-36.512	-59.085	-21.225	36.512	59.085	21.225	0.000%
23	-36.512	-44.313	-21.225	36.512	44.313	21.225	0.000%
24	-21.204	-59.085	-36.700	21.204	59.085	36.700	0.000%
25	-21.204	-44.313	-36.700	21.204	44.313	36.700	0.000%
26	0.000	-91.736	0.000	-0.001	91.736	0.001	0.001%
27	0.012	-91.736	-11.191	-0.012	91.736	11.191	0.000%
28	5.568	-91.736	-9.673	-5.568	91.736	9.673	0.000%
29	9.643	-91.736	-5.567	-9.643	91.736	5.567	0.000%
30	11.161	-91.736	0.014	-11.161	91.736	-0.014	0.000%
31	9.698	-91.736	5.585	-9.698	91.736	-5.585	0.000%
32	5.595	-91.736	9.694	-5.595	91.736	-9.693	0.000%
33	0.018	-91.736	11.167	-0.018	91.736	-11.167	0.000%
34	-5.553	-91.736	9.656	5.553	91.736	-9.656	0.000%
35	-9.636	-91.736	5.563	9.636	91.736	-5.563	0.000%
36	-11.139	-91.736	-0.019	11.139	91.736	0.019	0.000%
37	-9.662	-91.736	-5.600	9.662	91.736	5.600	0.000%
38	-5.597	-91.736	-9.692	5.597	91.736	9.692	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
39	-0.011	-49.237	-9.055	0.011	49.237	9.054	0.002%
40	4.478	-49.237	-7.822	-4.478	49.237	7.821	0.002%
41	7.776	-49.237	-4.489	-7.775	49.237	4.489	0.002%
42	9.013	-49.237	0.033	-9.012	49.237	-0.033	0.002%
43	7.836	-49.237	4.537	-7.835	49.237	-4.536	0.002%
44	4.532	-49.237	7.855	-4.532	49.237	-7.854	0.002%
45	0.027	-49.237	9.036	-0.027	49.237	-9.035	0.002%
46	-4.475	-49.237	7.804	4.474	49.237	-7.803	0.002%
47	-7.774	-49.237	4.488	7.773	49.237	-4.488	0.002%
48	-8.996	-49.237	-0.027	8.995	49.237	0.027	0.002%
49	-7.812	-49.237	-4.541	7.811	49.237	4.541	0.002%
50	-4.537	-49.237	-7.852	4.537	49.237	7.852	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	12	0.00000001	0.00004541
3	Yes	11	0.00000001	0.00014597
4	Yes	12	0.00000001	0.00007798
5	Yes	12	0.00000001	0.00006122
6	Yes	12	0.00000001	0.00008754
7	Yes	12	0.00000001	0.00006886
8	Yes	11	0.00000001	0.00011116
9	Yes	11	0.00000001	0.00009013
10	Yes	12	0.00000001	0.00011944
11	Yes	12	0.00000001	0.00009440
12	Yes	12	0.00000001	0.00007883
13	Yes	12	0.00000001	0.00006204
14	Yes	12	0.00000001	0.00004521
15	Yes	11	0.00000001	0.00014535
16	Yes	12	0.00000001	0.00010509
17	Yes	12	0.00000001	0.00008279
18	Yes	12	0.00000001	0.00008855
19	Yes	12	0.00000001	0.00006946
20	Yes	11	0.00000001	0.00010507
21	Yes	11	0.00000001	0.00008521
22	Yes	12	0.00000001	0.00007841
23	Yes	12	0.00000001	0.00006160
24	Yes	12	0.00000001	0.00012581
25	Yes	12	0.00000001	0.00009947
26	Yes	6	0.00000001	0.00001473
27	Yes	11	0.00000001	0.00010119
28	Yes	11	0.00000001	0.00010669
29	Yes	11	0.00000001	0.00010621
30	Yes	11	0.00000001	0.00009909
31	Yes	11	0.00000001	0.00011079
32	Yes	11	0.00000001	0.00011003
33	Yes	11	0.00000001	0.00010304
34	Yes	11	0.00000001	0.00011243
35	Yes	11	0.00000001	0.00011139
36	Yes	11	0.00000001	0.00010240
37	Yes	11	0.00000001	0.00011077
38	Yes	11	0.00000001	0.00011286
39	Yes	9	0.00000001	0.00012384

40	Yes	9	0.00000001	0.00007123
41	Yes	9	0.00000001	0.00006214
42	Yes	9	0.00000001	0.00008964
43	Yes	9	0.00000001	0.00014104
44	Yes	9	0.00000001	0.00011678
45	Yes	9	0.00000001	0.00012540
46	Yes	9	0.00000001	0.00010465
47	Yes	9	0.00000001	0.00006346
48	Yes	9	0.00000001	0.00009872
49	Yes	9	0.00000001	0.00010361
50	Yes	10	0.00000001	0.00005619

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	135 - 109.08	8.354	50	0.5380	0.0058
L2	113.66 - 84.16	5.986	50	0.5085	0.0057
L3	89.9933 - 41.9933	3.691	50	0.3967	0.0029
L4	48.66 - 0	1.053	50	0.1981	0.0010

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
130.000	(2) CCI HPA-65R-BUU-H8	50	7.788	0.5350	0.0059	76148
120.000	VHLP2-18	50	6.672	0.5236	0.0059	25383
110.000	SHP2-13-3WH/B	50	5.601	0.4959	0.0054	16441

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	135 - 109.08	39.143	12	2.5201	0.0273
L2	113.66 - 84.16	28.047	12	2.3824	0.0264
L3	89.9933 - 41.9933	17.296	12	1.8592	0.0137
L4	48.66 - 0	4.936	12	0.9282	0.0045

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
130.000	(2) CCI HPA-65R-BUU-H8	12	36.491	2.5061	0.0277	16504

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
120.000	VHLP2-18	12	31.260	2.4525	0.0277	5500
110.000	SHP2-13-3WH/B	12	26.246	2.3237	0.0250	3561

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	135 - 109.08 (1)	TP36.69x29.52x0.25	25.920	135.000	129.7	27.9098	-9.630	374.580	0.026
L2	109.08 - 84.16 (2)	TP42.86x34.9231x0.3125	29.500	135.000	111.4	40.6451	-18.915	740.419	0.026
L3	84.16 - 41.9933 (3)	TP53.81x40.6656x0.5	48.000	135.000	88.6	81.7057	-33.178	2350.470	0.014
L4	41.9933 - 0 (4)	TP64x50.9844x0.625	48.660	135.000	72.0	125.7200	-59.069	4988.760	0.012

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	135 - 109.08 (1)	TP36.69x29.52x0.25	252.713	1347.958	0.187	0.000	1347.958	0.000
L2	109.08 - 84.16 (2)	TP42.86x34.9231x0.3125	949.008	2346.867	0.404	0.000	2346.867	0.000
L3	84.16 - 41.9933 (3)	TP53.81x40.6656x0.5	2382.675	6368.033	0.374	0.000	6368.033	0.000
L4	41.9933 - 0 (4)	TP64x50.9844x0.625	4322.950	12107.500	0.357	0.000	12107.500	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	135 - 109.08 (1)	TP36.69x29.52x0.25	19.818	931.149	0.021	0.000	2702.108	0.000
L2	109.08 - 84.16 (2)	TP42.86x34.9231x0.3125	32.249	1392.240	0.023	12.283	4704.875	0.003
L3	84.16 - 41.9933 (3)	TP53.81x40.6656x0.5	37.114	3013.040	0.012	12.274	12770.333	0.001
L4	41.9933 - 0 (4)	TP64x50.9844x0.625	42.407	4654.520	0.009	12.270	24280.584	0.001

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	135 - 109.08 (1)	0.026	0.187	0.000	0.021	0.000	0.214 ✔	1.000	4.8.2 ✔
L2	109.08 - 84.16 (2)	0.026	0.404	0.000	0.023	0.003	0.431 ✔	1.000	4.8.2 ✔
L3	84.16 - 41.9933 (3)	0.014	0.374	0.000	0.012	0.001	0.388 ✔	1.000	4.8.2 ✔
L4	41.9933 - 0 (4)	0.012	0.357	0.000	0.009	0.001	0.369 ✔	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	135 - 109.08	Pole	TP36.69x29.52x0.25	1	-9.630	374.580	21.4	Pass
L2	109.08 - 84.16	Pole	TP42.86x34.9231x0.3125	2	-18.915	740.419	43.1	Pass
L3	84.16 - 41.9933	Pole	TP53.81x40.6656x0.5	3	-33.178	2350.470	38.8	Pass
L4	41.9933 - 0	Pole	TP64x50.9844x0.625	4	-59.069	4988.760	36.9	Pass
							Summary	
						Pole (L2)	43.1	Pass
						RATING =	**43.1**	**Pass**

Attachment 2:
Collocation Application

Collocation Application

Installation Type: Anchor ☐ Collocation ☑ Add to Existing ☐

BlueSky Towers, LLC Info

Contact:	James Burgess	Site Number:	CT-5020
Email	jamesb@blueskytower.com	Site Name:	Bridgeport-Evergreen St
Office:	508-530-3580	Submittal Date	6/13/2018
Fax:	508-530-3564	Revision Date(s)	

PLEASE SUBMIT THIS APPLICATION VIA E-MAIL

Applicant Information

Applicant Name:	New Cingular Wireless PCS, LLC	Primary Contact/Agent Name:	Nicole Caplan
Applicant Site Name:	Bridgeport HiHo Replacement	Contact/Agent Company Name:	Empire Telecom
Applicant Site Number:	CT 5100 / FA#10107972	Contact/Agent Number:	978-284-3906
Proposed ON AIR Date:	1/31/2016	Contact/Agent Fax:	N/A
Applicant Legal Entity:	New Cingular Wireless PCS, LLC	Contact Email:	ncaplan@empiretelecomm.com
Notice Address for Site License:	Attn: Network RE Admin. Re: Cell Site# 5100; Bridgeport-HiHo Relo FA# 10107972 575 Morosgo Dr., Atlanta, GA 30324		

Applicant Contact Information

Leasing Contact Name:	Nicole Caplan	Email:	ncaplan@empiretelecomm.com	Number:	978-284-3906
RF Contact Name:		Email:	-	Number:	
Construction Contact Name:		Email:		Number:	
Emergency Contact Name:	Network Operations	Email:	N/A	Number:	800-638-2822
Account Payable Contact Name:	Dierdre Day	Email:	dd3537@att.com	Number:	860-513-7791

Tower Information

Latitude:	41.197838 N	Structure Type:	Monopole
Longitude:	73.190772 W	Structure Height:	135
AMSL:	25 FT		
Site Address:	220 Evergreen St., Bridgeport, CT		

EQUIPMENT SPECIFICATIONS

Summary of Work to be Completed: Add 3 antenna; Add 9 RRUs; Add 1 Surge Arrestor
Antenna lease rights increase by 3; No change to remaining equipment lease rights.

Sector	SECTOR 1	SECTOR 2	SECTOR 3	SECTOR 4
Equipment Type	Panel	Panel	Panel	
Installation Status	Proposed	Proposed	Proposed	
Desired RAD Center (Ft AGL)	130	130	130	
Tower Mount Mounting Height	130	130	130	
Mount Type(Attach Specs)	Low Profile Platform	Low Profile Platform	Low Profile Platform	
Equipment Manufacturer	Katrien	Katrien	Katrien	
Equipment Model# (Attached Specs)	800-10966	800-10966	800-10966	
Equipment Dimensions (WxHxD)(Feet Or Inches)	96x20x6.9	96x20x6.9	96x20x6.9	
Equipment Weight (Per Item, In Lbs.)	114.6	114.6	114.6	
Equipment Quantity	1	1	1	
Orientation/Azimuth (Degrees)	30	150	270	
Transmit Frequency (Mhz)	716-28, 734-46, 880-93, 1930-40, 1965-75	same	same	
Receive Frequency (Mhz)	704-716, 835-848, 1850-60, 1885-95	same	same	
Antenna Gain (Db)	TBD	TBD	TBD	
Total# Of Lines For Equipment In Column				
Line Type				
Diameter Of Coax Cables (In)				
Removing Equipment (If Applicable)				
Transmitter/Receiver Type	RRU	RRU	RRU	Surge Arrestor
Qty Of Transmitters/Receivers	3	3	3	1
Manufacturer	Ericsson	Ericsson	Ericsson	Raycap
Type & Model	RRUS-12, B14 4478, RRUS-32 B66	RRUS-12, B14 4478, RRUS-32 B66	RRUS-12, B14 4478, RRUS-32 B66	DC6-48-60-18-8F
Type of Technology				
TX Power Output				
ERP (Watts)				
Electric Service Required (Amps/Volts)				

Will RRUs be located behind antennas: Yes

GROUND SPACE REQUIREMENTS

Exisiting Lease Area:	DIMS: L(ft)		W(ft)		OR		Square footage	
New/Add'l Lease Area being requested:	DIMS: L(ft)	20	W(ft)	12	OR		Square footage	
New/Add'l Rooftop Lease Area being requested (if space is needed on both ground and rooftop:	DIMS: L(ft)		W(ft)		OR		Square footage	
Shelter:	DIMS: L(ft)		W(ft)		H(ft)			
Concrete Pad for Shelter:	DIMS: L(ft)		W(ft)					
Cabinets:	DIMS: L(ft)		W(ft)		H(ft)			
Concrete Pad for Cabinets:	DIMS: L(ft)		W(ft)					

Cabinet/Shelter Manufacturer/Model:

POWER REQUIREMENTS

Power Provided by: Power Company Electrical Service Provider: CL&P Electrical Service Telephone Number:

Average Monthly Power Consumption: KWH units

Is a multi-tenant meter rack present: No How many, if any, empty meter banks are present:

Telco/Interconnect Requirements: POTS ☐ T1 ☐ MICROWAVE ☐ FIBER OPTICS ☑

Fiber Provider: Utility company

BACK-UP POWER INFORMATION

Generator Required: Yes Generation Location: Inside Lease Area

Generator Ground Space Requirement: DIMS: L(ft) 4 W(ft) 8 H(ft) Fuel Type: Diesel

BST Generator: Generator Owner: AT&T Shared Generator Peak Usage: KW

Generator Capacity: 50 KW Generator Make: Generac Generator Model: SD-050

Fuel Tank Location: Inside Lease Area Fuel Tank Size: DIMS: L(ft) W(ft) Fuel Tank Size: Gallons

Pad for Fuel Tank (if required) DIMS: L(ft) W(ft)

Comments:

Attach manufacturer's equipment specifications for antennas, mounts, cabinets, shelters if available

12 panels/21 RRU's / 6 A2 modules/4-surge arrestors ("squids") + 8 DC/2 fiber (within 4-2" conduit)/ 3 RET lines / 12x20 equip. shelter + 4'x 8' generator pad

Final Configuration after work is completed:

Total RRU breakout: (3) RRUS-32, (6) RRUS-11, (3) RRUS-12, (3) RRUS-32 B66, (3) RRUS(3) B14 4478, (3) RRUS-32 B2

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	CTL05100	DATE:	10/31/2017	RF DESIGN ENG:	MD Mateen
ISSUE:	Bronze Standard	Approved? (Y/N):	Yes	RF DESIGN PHONE:	5107767382
REVISION:	Preliminary	RF MANAGER:	John Benedetto	RF DESIGN EMAIL:	mm093q@att.com
INITIATIVE /PROJECT:	LTE 4C AWS J, LTE 5C 850, LTE 6C 700 DE				

RF PERF ENG:		RFDS PROGRAM TYPE:	2018 LTE Next Carrier		
RF PERF PHONE:		RFDS TECHNOLOGY:	LTE		
RF PERF EMAIL:		STATE/STATUS:	Final/Approved		
RFDS VERSION:	1.00	RFDS ID:	2053694		
GSM FREQUENCY:		Created By:	mm093q	Updated By:	rx855w
UMTS FREQUENCY:	850	Date Created:	10/31/2017 10:51:20 AM	Date Updated:	1/3/2018 4:27:00 PM
LTE FREQUENCY:	700, 850, 1900, AWS, WCS				
I-PLAN JOB # 1:	NER-RCTB-17-06991	IPLAN PRD GRP || SUB GRP #1:	LTE Next Carrier || LTE 4C		
I-PLAN JOB # 2:	NER-RCTB-17-07028	IPLAN PRD GRP || SUB GRP #2:	LTE Next Carrier || LTE 5C		
I-PLAN JOB # 3:	NER-RCTB-17-07078	IPLAN PRD GRP || SUB GRP #3:	LTE Next Carrier || LTE 6C		
I-PLAN JOB # 4:		IPLAN PRD GRP || SUB GRP #4:			
I-PLAN JOB # 5:		IPLAN PRD GRP || SUB GRP #5:			
I-PLAN JOB # 6:		IPLAN PRD GRP || SUB GRP #6:			
I-PLAN JOB # 7:		IPLAN PRD GRP || SUB GRP #7:			
I-PLAN JOB # 8:		IPLAN PRD GRP || SUB GRP #8:			

Section 2 - LOCATION INFORMATION

USID:	169187	FA LOCATION CODE:	10107972	LOCATION NAME:	BRIDGEPORT EVERGREEN ST
REGION:	NORTHEAST	MARKET CLUSTER:	NEW ENGLAND	MARKET:	CONNECTICUT
ADDRESS:	220 EVERGREEN STREET	CITY:	BRIDGEPORT	STATE:	CT
ZIP CODE:	06606	COUNTY:	FAIRFIELD	LONG (DEC. DEG.):	-73.1906920
LATITUDE (D-M-S):	41d 11m52.0008s	LONGITUDE (D-M-S):	-73d -11m-26.4912s	LAT (DEC. DEG.):	41.1977780
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	START OUT GOING WEST ON COCHITUATE RD/MA-30 TOWARD BURR ST. THEN 0.10 MILES MAKE A U-TURN AT BURR ST ONTO COCHITUATE RD/MA-30. IF YOU REACH WHITTIER ST YOU'VE GONE ABOUT 0.2 MILES TOO FAR. THEN 0.05 MILES MERGE ONTO I-90 W/MASSACHUSETTS TPKE W TOWARD SPRINGFIELD/BOSTON (PORTIONS TOLL). THEN 38.83 MILES MERGE ONTO I-84 W/WILBUR CROSS HWY S VIA EXIT 9 TOWARD US-20/HARTFORD/NEW YORK CITY (PORTIONS TOLL) (CROSSING INTO CONNECTICUT). THEN 41.73 MILES KEEP LEFT TO TAKE CT-15 S/WILBUR CROSS HWY S VIA EXIT 57 TOWARD I-91 S/CHARTER OAK BR/NY CITY. THEN 1.99 MILES MERGE ONTO I-91 S VIA EXIT 86 TOWARD NEW HAVEN/NY CITY. THEN 17.07 MILES MERGE ONTO CT-15 S VIA EXIT 17 TOWARD E MAIN ST. THEN 30.24 MILES MERGE ONTO CT-8 S VIA EXIT 52 TOWARD BRIDGEPORT. THEN 3.48 MILES TAKE EXIT 5 TOWARD NORTH AVE/BOSTON AVE/BEARDSLEY ZOOLOGICAL GARDENS/MOTOR VEH DEPT. THEN 0.34 MILES MERGE ONTO CHOPSEY HILL RD. THEN 0.29 MILES TURN RIGHT ONTO US-1 S/NORTH AVE. US-1 S IS 0.1 MILES PAST ISLANDBROOK AVENUE EXT IF YOU ARE ON BOSTON AVE AND REACH DEAN PL YOU'VE GONE A LITTLE TOO FAR THEN 0.40 MILES TURN LEFT ONTO RIVER ST. RIVER ST IS 0.1 MILES PAST FRONT ST. SCRUPLES LOUNGE IS ON THE LEFT. IF YOU REACH LINDLEY ST YOU'VE GONE ABOUT 0.1 MILES TOO FAR. THEN 0.08 MILES TAKE THE 1ST LEFT ONTO EVERGREEN ST. IF YOU REACH MERRIAM ST YOU'VE GONE A LITTLE TOO FAR. THEN 0.03 MILES 220 EVERGREEN ST IS ON THE RIGHT.				

ORACLE PTN # 1:	2051A0EFW6	PACE JOB # 1:	MRCTB027008		
ORACLE PTN # 2:	2051A0EFWV	PACE JOB # 2:	MRCTB027004		
ORACLE PTN # 3:	2051A0EFV7	PACE JOB # 3:	MRCTB027009		
ORACLE PTN # 4:		PACE JOB # 4:			
ORACLE PTN # 5:		PACE JOB # 5:			
ORACLE PTN # 6:		PACE JOB # 6:			
ORACLE PTN # 7:		PACE JOB # 7:			
ORACLE PTN # 8:		PACE JOB # 8:			
BORDER CELL WITH CONTOUR COORD:		SEARCH RING NAME:			
AM STUDY REQ'D (Y/N):	No	SEARCH_RING_ID:			
FREQ COORD:		BTA:		MSA / RSA:	
OPS DISTRICT:	CT-South	LAC(GSM):			
OPS ZONE:	NE_CT_S_FRFD_SE_CS	LAC(UMTS):	05991		
RF DISTRICT:	NPO Triage	BSC(GSM):			
RF ZONE:	Hotseat	RNC(UMTS):	BRPTCT04CR0R05		
PARENT NAME(GSM):		MME POOL ID(LTE):	FF01		
PARENT NAME(UMTS):	BRIDGEPORT RNC05				

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No):	No	CGSA LOSS:		PCS REDUCED - UPS ZIP:	
CGSA - MINOR FILING NEEDED (Yes/No):	No	CGSA EXT AGMT NEEDED:		PCS POPS REDUCED:	
CGSA - MAJOR FILING NEEDED (Yes/No):	Yes	CGSA SCORECARD UPDATED:			

CGSA CALL SIGNS:	

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	No	GROUND ELEVATION (ft):		STRUCTURE TYPE:	MONOPOLE
ADDITIONAL REGULATORY?:	No	HEIGHT OVERALL (ft):	135.00	FCC ASR NUMBER:	1298538
SUB-LEASE RIGHTS?:	No	STRUCTURE HEIGHT (ft):	135.00		
LIGHTING TYPE:	NOT REQUIRED				

MARKET LOCATION 700 MHz Band:			
MARKET LOCATION 850 MHz Band:			
MARKET LOCATION 1900 MHz Band:			
MARKET LOCATION AWS Band:			
MARKET LOCATION WCS Band:			
MARKET LOCATION Future Band:			

Section 5 - E-911 INFORMATION - existing

	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:		
SECTOR A E-911						0				
SECTOR B						0				
SECTOR C						0				
SECTOR D										
SECTOR E										
SECTOR F										
OMNI										

Section 5 - E-911 INFORMATION - final

	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:		
SECTOR A E-911						0				
SECTOR B						0				
SECTOR C						0				
SECTOR D										
SECTOR E										
SECTOR F										
OMNI										

Section 6 - RBS GENERAL INFORMATION - existing

	UMTS 1ST RBS	LTE 1ST RBS	LTE 2ND RBS									
RBS ID:	565743	565744										
CTS COMMON ID:	CTU5100	CTL05100										
CELL ID / BCF:	CTU5100	CTL05100										
BTA/TID:	321W	321L										
4-9 DIGIT SITE ID:	5100	05100										
COW OR TOY?:	No	No										
CELL SITE TYPE:	SECTORIZED	SECTORIZED										
SITE TYPE:	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL										
BTS LOCATION ID:	GROUND	INTERNAL										
BASE STATION TYPE:	BASE	BASE										
EQUIPMENT NAME:	BRIDGEPORT HIHO REPLACEMENT	BRIDGEPORT HIHO REPLACEMENT										
DISASTER PRIORITY:	0	0										

Section 6 - RBS GENERAL INFORMATION - final

	UMTS 1ST RBS	LTE 1ST RBS	LTE 2ND RBS									
RBS ID:	565743	565744	RFDS_32663561									
CTS COMMON ID:	CTU5100	CTL05100	CTL04100R									
CELL ID / BCF:	CTU5100	CTL05100	CTL04100R									
BTA/TID:	321W	321L	321L									
4-9 DIGIT SITE ID:	5100	05100	04100									
COW OR TOY?:	No	No	No									
CELL SITE TYPE:	SECTORIZED	SECTORIZED	SECTORIZED									
SITE TYPE:	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL									
BTS LOCATION ID:	GROUND	INTERNAL	INTERNAL									
BASE STATION TYPE:	BASE	BASE	BASE									
EQUIPMENT NAME:	BRIDGEPORT HIHO REPLACEMENT	BRIDGEPORT HIHO REPLACEMENT	BRIDGEPORT HIHO REPLACEMENT									
DISASTER PRIORITY:	0	0	0									

Section 7 - RBS SPECIFIC INFORMATION - existing

	UMTS 1ST RBS	LTE 1ST RBS	LTE 2ND RBS									
RAC:												
EQUIPMENT VENDOR:	ERICSSON	ERICSSON										
EQUIPMENT TYPE:	6601 MAIN UNIT UMTS	6601 INDOOR MU										
BASEBAND CONFIGURATION:												
LOCATION:												
CABINET LOCATION:												
MARKET STATE CODE:		CT										
AGPS:	Yes	Yes										
NODE B NUMBER:	0	5100										

Section 7 - RBS SPECIFIC INFORMATION - final

	UMTS 1ST RBS	LTE 1ST RBS	LTE 2ND RBS									
RAC:												
EQUIPMENT VENDOR:	ERICSSON	ERICSSON	ERICSSON									
EQUIPMENT TYPE:	6601 MAIN UNIT UMTS	6601 INDOOR MU	6601 INDOOR MU									
BASEBAND CONFIGURATION:		2x6601 / 2x5216 / 2xXMU03 + IDLe										
LOCATION:												
CABINET LOCATION:												
MARKET STATE CODE:		CT	CT									
AGPS:	Yes	Yes	Yes									
NODE B NUMBER:	0	5100	4100									

Section 8 - RBS/SECTOR ASSOCIATION - existing

	UMTS 1ST RBS	LTE 1ST RBS	LTE 2ND RBS
CTS Common ID	CTU5100	CTL05100	
Soft Sector IDs	CTV51001	CTL05100_3A_1	
	CTV51002	CTL05100_3B_1	
	CTV51003	CTL05100_3C_1	
		CTL05100_7A_1	
		CTL05100_7B_1	
		CTL05100_7C_1	
		CTL05100_9A_1	
		CTL05100_9A_2	
		CTL05100_9B_1	
		CTL05100_9B_2	
		CTL05100_9C_1	
		CTL05100_9C_2	

Section 8 - RBS/SECTOR ASSOCIATION - final

	UMTS 1ST RBS	LTE 1ST RBS	LTE 2ND RBS
CTS Common ID	CTU5100	CTL05100	CTL04100R
Soft Sector IDs	CTV51001	CTL05100_3A_1	CTL04100_2A_2
	CTV51002	CTL05100_3B_1	CTL04100_2B_2
	CTV51003	CTL05100_3C_1	CTL04100_2C_2
		CTL05100_7A_1	CTL04100_7A_3_F
		CTL05100_7B_1	CTL04100_7B_3_F
		CTL05100_7C_1	CTL04100_7C_3_F
		CTL05100_9A_1	CTL04100_8A_1
		CTL05100_9A_2	CTL04100_8B_1
		CTL05100_9B_1	CTL04100_8C_1
		CTL05100_9B_2	
		CTL05100_9C_1	
		CTL05100_9C_2	

Section 9 - SOFT SECTOR ID - existing

		UMTS 1ST 850	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH AWS	LTE 5TH 700																		
USEID (excluding Hard Sector)		169187.850.3 G.1																									
SECTOR A	SOFT SECTOR ID	CTV51001	CTL05100_7A_1		CTL05100_9A_1	CTL05100_3A_1	CTL05100_9A_2																				
SECTOR B		CTV51002	CTL05100_7B_1		CTL05100_9B_1	CTL05100_3B_1	CTL05100_9B_2																				
SECTOR C		CTV51003	CTL05100_7C_1		CTL05100_9C_1	CTL05100_3C_1	CTL05100_9C_2																				
SECTOR D																											
SECTOR E																											
SECTOR F																											
OMNI																											

Section 9 - SOFT SECTOR ID - final

		UMTS 1ST 850	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH AWS	LTE 5TH 700																		
USEID (excluding Hard Sector)		169187.850.3 G.1																									
SECTOR A	SOFT SECTOR ID	CTV51001	CTL05100_7A_1	CTL04100_8A_1	CTL05100_9A_1	CTL05100_3A_1	CTL05100_9A_2	CTL04100_2A_2	CTL04100_7A_3_F																		
SECTOR B		CTV51002	CTL05100_7B_1	CTL04100_8B_1	CTL05100_9B_1	CTL05100_3B_1	CTL05100_9B_2	CTL04100_2B_2	CTL04100_7B_3_F																		
SECTOR C		CTV51003	CTL05100_7C_1	CTL04100_8C_1	CTL05100_9C_1	CTL05100_3C_1	CTL05100_9C_2	CTL04100_2C_2	CTL04100_7C_3_F																		
SECTOR D																											
SECTOR E																											
SECTOR F																											
OMNI																											

Section 9 - Cell Number - existing

	UMTS 1ST 850	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH AWS	LTE 5TH 700																		
USEID (excluding Hard Sector)	169187.850.3 G.1																									
SECTOR A **CELL NUMBER**		15		8	149	178																				
SECTOR B		16		9	150	179																				
SECTOR C		17		10	151	180																				
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 9 - Cell Number - final

	UMTS 1ST 850	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH AWS	LTE 5TH 700																		
USEID (excluding Hard Sector)	169187.850.3 G.1																									
SECTOR A **CELL NUMBER**		15	1	8	149	178	192	171																		
SECTOR B		16	2	9	150	179	194	172																		
SECTOR C		17	3	10	151	180	193	173																		
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 10 - CID/SAC - existing

		UMTS 1ST 850	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH AWS	LTE 5TH 700																				
SECTOR A	CID/SAC	51001																											
SECTOR B		51002																											
SECTOR C		51003																											
SECTOR D																													
SECTOR E																													
SECTOR F																													
OMNI																													

Section 10 - CID/SAC - final

		UMTS 1ST 850	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH AWS	LTE 5TH 700																				
SECTOR A	CID/SAC	51001																											
SECTOR B		51002																											
SECTOR C		51003																											
SECTOR D																													
SECTOR E																													
SECTOR F																													
OMNI																													

Section 11 - CURRENT RADIO COUNTS existing

		UMTS 1ST 850	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND WCS																				
SECTOR A	RADIO COUNTS	1		1	1	1																							
SECTOR B		1		1	1	1																							
SECTOR C		1		1	1	1																							
SECTOR D																													
SECTOR E																													
SECTOR F																													
OMNI																													

Section 12 - CURRENT T1 COUNTS existing

	UMTS 1ST Cabinet	LTE 1ST Cabinet															
# T1s																	
LINK PROFILE																	
RF COMBINING																	
FIBER or ETHERNET?	ETHERNET	ETHERNET															
Tx Board Model																	
Tx Board QTY																	
RAX/ECU Board Model																	
RAX/ECU Board QTY																	
BBU Board Model																	
BBU Board QTY																	
RRU - location	Top	Top															
FIBER JUMPER	FIBER	FIBER															
DC CABLE	DC	DC															
DC/Fiber Dem. Box	RAYCAP	RAYCAP															
Bundled Fiber Cable	YES	YES															
Bundled DC Cable	YES	YES															

Section 13 - NEW/PROPOSED RADIO COUNTS

	UMTS 1ST 850	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND WCS																		
SECTOR A RADIO COUNTS	1		1	1	1																					
SECTOR B	1		1	1	1																					
SECTOR C	1		1	1	1																					
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 14 - NEW/PROPOSED T1 COUNTS

	UMTS 1ST Cabinet	LTE 1ST Cabinet															
# T1s																	
LINK PROFILE																	
RF COMBINING																	
FIBER or ETHERNET?	ETHERNET	ETHERNET															
Tx Board Model																	
Tx Board QTY																	
RAX/ECU Board Model																	
RAX/ECU Board QTY																	
BBU Board Model																	
BBU Board QTY																	
RRU - location	Top	Top															
FIBER JUMPER	FIBER	FIBER															
DC CABLE	DC	DC															
DC/Fiber Dem. Box	RAYCAP	RAYCAP															
Bundled Fiber Cable	YES	YES															
Bundled DC Cable	YES	YES															

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

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	HPA-65R-BUU-H8		OPA-65R-LCUU-H8				HPA-65R-BUU-H8							
ANTENNA VENDOR	CCI Products		CCI Products				CCI Products							
ANTENNA SIZE (H x W x D)	93X15X7		92.7X14.4X7				93X15X7							
ANTENNA WEIGHT	68		88				68							
AZIMUTH	20		20				20							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	130		130				130							
ANTENNA TIP HEIGHT	134		134				134							
MECHANICAL DOWNTILT	0		0				0							
FEEDER AMOUNT														
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)		Buit In		Buit In				Buit In						
SURGE ARRESTOR (QTY/MODEL)	1	FIBER DC SQUID	1	SQUID			1	FIBER DC SQUID						
DIPLEXER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)	1	Kathrein 860 10006		RRH Controlled				RRH Controlled						
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)														
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)							1	RRUS-11						
RRH - 850 band (QTY/MODEL)	1	RRUS-11												
RRH - 1900 band (QTY/MODEL)							1	RRUS-32 B2						
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)			1	RRUS-32										
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1														
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		169187.A.850.3G.tmp1	CTV51001	CTV51001	TxRx/ TxRx	UMTS 850	HPA-65R-BUU-H8_849MHz_02DT	16.2	20	2	TOP	FIBER	0								1	
ANTENNA POSITION 2	PORT 3			CTL05100_3A_1	CTL05100_3A_1	TxRx/ TxRx	LTE WCS	OPA-65R-LCUU-H8_2350MHz_02DT	17.7	20	2	TOP	FIBER	0						1285.2866		4	
ANTENNA POSITION 4	PORT 1		169187.A.700.4G.tmp1	CTL05100_7A_1	CTL05100_7A_1	TxRx/ TxRx	LTE 700	HPA-65R-BUU-H8_719MHz_02DT	15.3	20	2	TOP	FIBER	0						1475.7065		5	
	PORT 3		169187.A.1900.4G.tmp1	CTL05100_9A_1	CTL05100_9A_1	TxRx/ TxRx	LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	16.9	20	3	TOP	FIBER	0						2421.029		5	
	PORT 4			CTL05100_9A_2	CTL05100_9A_2	TxRx/	LTE 1900	HPA-65R-BUU-	16.9	20	3	TOP	FIBER	0						2421.029		5	

						TxRx		H8_1948MHz_06DT																	

Section 15B - CURRENT TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	HPA-65R-BUU-H8	OPA-65R-LCUU-H8		HPA-65R-BUU-H8			
ANTENNA VENDOR	CCI Products	CCI Products		CCI Products			
ANTENNA SIZE (H x W x D)	93X15X7	92.7X14.4X7		93X15X7			
ANTENNA WEIGHT	68	88		68			
AZIMUTH	150	150		150			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	130	130		130			
ANTENNA TIP HEIGHT	134	134		134			
MECHANICAL DOWNTILT	0	0		0			
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	Buit In	Buit In		Buit In			
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH Controlled		RRH Controlled			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1	RRUS-11		
RRH - 850 band (QTY/MODEL)	1 RRUS-11						
RRH - 1900 band (QTY/MODEL)				1	RRUS-32 B2		
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)		1 RRUS-32					
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		169187.B.850.3G.tmp1	CTV51002	CTV51002	TxRx/ TxRx	UMTS 850	HPA-65R-BUU-H8_849MHz_02DT	16.2	150	2	TOP	FIBER	0								9	
ANTENNA POSITION 2	PORT 3			CTL05100_3B_1	CTL05100_3B_1	TxRx/ TxRx	LTE WCS	OPA-65R-LCUU-H8_2350MHz_02DT	17.7	150	2	TOP	FIBER	0						1285.2866		12	
ANTENNA POSITION 4	PORT 1		169187.B.700.4G.tmp1	CTL05100_7B_1	CTL05100_7B_1	TxRx/ TxRx	LTE 700	HPA-65R-BUU-H8_719MHz_02DT	15.3	150	2	TOP	FIBER	0						1475.7065		13	
	PORT 3		169187.B.1900.4G.tmp1	CTL05100_9B_1	CTL05100_9B_1	TxRx/ TxRx	LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	16.9	150	6	TOP	FIBER	0						2421.029		13	
	PORT 4			CTL05100_9B_2	CTL05100_9B_2	TxRx/	LTE 1900	HPA-65R-BUU-	16.9	150	6	TOP	FIBER	0						2421.029		13	

						TxRx		H8_1948MHz_06DT																	

Section 15C - CURRENT TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	HPA-65R-BUU-H8	OPA-65R-LCUU-H8		HPA-65R-BUU-H8			
ANTENNA VENDOR	CCI Products	CCI Products		CCI Products			
ANTENNA SIZE (H x W x D)	93X15X7	92.7X14.4X7		93X15X7			
ANTENNA WEIGHT	68	88		68			
AZIMUTH	270	270		270			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	130	130		130			
ANTENNA TIP HEIGHT	134	134		134			
MECHANICAL DOWNTILT	0	0		0			
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	Buit In	Buit In		Buit In			
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH Controlled		RRH Controlled			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1	RRUS-11		
RRH - 850 band (QTY/MODEL)	1 RRUS-11						
RRH - 1900 band (QTY/MODEL)				1	RRUS-32 B2		
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)		1 RRUS-32					
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		169187.C.850.3G.tmp1	CTV51003	CTV51003	TxRx/TxRx	UMTS 850	HPA-65R-BUU-H8_849MHz_02DT	16.2	270	2	TOP	FIBER	0								17	
ANTENNA POSITION 2	PORT 3			CTL05100_3C_1	CTL05100_3C_1	TxRx/TxRx	LTE WCS	OPA-65R-LCUU-H8_2350MHz_02DT	17.7	270	2	TOP	FIBER	0						1285.2866		20	
ANTENNA POSITION 4	PORT 1		169187.C.700.4G.tmp1	CTL05100_7C_1	CTL05100_7C_1	TxRx/TxRx	LTE 700	HPA-65R-BUU-H8_719MHz_02DT	15.3	270	2	TOP	FIBER	0						1475.7065		21	
	PORT 3		169187.C.1900.4G.tmp1	CTL05100_9C_1	CTL05100_9C_1	TxRx/TxRx	LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	16.9	270	6	TOP	FIBER	0						2421.029		21	
	PORT 4			CTL05100_9C_2	CTL05100_9C_2	TxRx/	LTE 1900	HPA-65R-BUU-	16.9	270	6	TOP	FIBER	0						2421.029		21	

						TxRx		H8_1948MHz_06DT																	

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

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL			800-10966				
ANTENNA VENDOR			Kathrien				
ANTENNA SIZE (H x W x D)			96X20X6.9				
ANTENNA WEIGHT			114.6				
AZIMUTH			20				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)			130				
ANTENNA TIP HEIGHT			134				
MECHANICAL DOWNTILT			0				
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Buit In	Buit In				
SURGE ARRESTOR (QTY/MODEL)			1 DC Fiber Squid				
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH Controlled	RRH Controlled				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1 B14 4478				
RRH - 850 band (QTY/MODEL)		1 RRUS-12					
RRH - 1900 band (QTY/MODEL)							
RRH - AWS band (QTY/MODEL)			1 RRUS-32 B66				
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	LTE 4C AWS J, LTE 5C 850, LTE 6C 700 DEAdd a B14 Octo port Antenna on POs3, Add B14 4478, Add RRUS-32 B66,ADD RRUS-12 for 850 on existing octoport on pos2, Add 1 DC Fiber Squid,Replace Dus with 5216 and IDL2 with IDLe,						
Local Market Note 2							
Local Market Note 3	2*5216+2*XMU+IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 2	PORT 1			CTL04100_8A_1	CTL04100_8A_1	TxRx/TxRx	LTE 850	OPA-65R-LCUU-H8_849MHz_02DT	15.4	20	2	TOP	FIBER	0						1000		3	
ANTENNA POSITION 3	PORT 1		169187.A.700.4G.tmp1	CTL04100_7A_3_F	CTL04100_7A_3_F	TxRx/TxRx	LTE 700	80010966_777MHz_02DT	15.7	20	2	TOP	FIBER	0						1475.7065		5	
	PORT 3		169187.A.1900.4G.tmp1	CTL04100_2A_2	CTL04100_2A_2	TxRx/TxRx	LTE AWS	80010966_2133MHz_03DT	18.7	20	3	TOP	FIBER	0						3837.0724		6	

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

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL			800-10966				
ANTENNA VENDOR			Kathrien				
ANTENNA SIZE (H x W x D)			96X20X6.9				
ANTENNA WEIGHT			114.6				
AZIMUTH			150				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)			130				
ANTENNA TIP HEIGHT			134				
MECHANICAL DOWNTILT			0				
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Buit In	Buit In				
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH Controlled		RRH Controlled			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1	B14 4478			
RRH - 850 band (QTY/MODEL)		1	RRUS-12				
RRH - 1900 band (QTY/MODEL)							
RRH - AWS band (QTY/MODEL)			1	RRUS-32 B66			
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	LTE 4C AWS J, LTE 5C 850, LTE 6C 700 DEAdd a B14 Octo port Antenna on POs3, Add B14 4478, Add RRUS-32 B66,ADD RRUS-12 for 850 on existing octoport on pos2, Add 1 DC Fiber Squid,Replace Dus with 5216 and IDL2 with IDLe,						
Local Market Note 2							
Local Market Note 3	2*5216+2*XMU+IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 2	PORT 1			CTL04100_8B_1	CTL04100_8B_1	TxRx/ TxRx	LTE 850	OPA-65R-LCUU-H8_849MHz_02DT	15.4	150	2	TOP	FIBER	0						1000		11	
ANTENNA POSITION 3	PORT 1		169187.B.700.4G.tmp1	CTL04100_7B_3_F	CTL04100_7B_3_F	TxRx/ TxRx	LTE 700	80010966_777MHz_02DT	15.7	150	2	TOP	FIBER	0						1475.7065		13	
	PORT 3		169187.B.1900.4G.tmp1	CTL04100_2B_2	CTL04100_2B_2	TxRx/ TxRx	LTE AWS	80010966_2133MHz_06DT	18.5	150	6	TOP	FIBER	0						3837.0724		14	

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

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL			800-10966				
ANTENNA VENDOR			Kathrien				
ANTENNA SIZE (H x W x D)			96X20X6.9				
ANTENNA WEIGHT			114.6				
AZIMUTH			270				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)			130				
ANTENNA TIP HEIGHT			134				
MECHANICAL DOWNTILT			0				
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Buit In	Buit In				
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH Controlled		RRH Controlled			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1	B14 4478			
RRH - 850 band (QTY/MODEL)		1 RRUS-12					
RRH - 1900 band (QTY/MODEL)							
RRH - AWS band (QTY/MODEL)			1	RRUS-32 B66			
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	LTE 4C AWS J, LTE 5C 850, LTE 6C 700 DEAdd a B14 Octo port Antenna on POs3, Add B14 4478, Add RRUS-32 B66,ADD RRUS-12 for 850 on existing octoport on pos2, Add 1 DC Fiber Squid,Replace Dus with 5216 and IDL2 with IDLe,						
Local Market Note 2							
Local Market Note 3	2*5216+2*XMU+IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 2	PORT 1			CTL04100_8C_1	CTL04100_8C_1	TxRx/ TxRx	LTE 850	OPA-65R-LCUU-H8_849MHz_02DT	15.4	270	2	TOP	FIBER	0						1000		19	
ANTENNA POSITION 3	PORT 1		169187.C.700.4G.tmp1	CTL04100_7C_3_F	CTL04100_7C_3_F	TxRx/ TxRx	LTE 700	80010966_777MHz_02DT	15.7	270	2	TOP	FIBER	0						1475.7065		21	
	PORT 3		169187.C.1900.4G.tmp1	CTL04100_2C_2	CTL04100_2C_2	TxRx/ TxRx	LTE AWS	80010966_2133MHz_06DT	18.5	270	6	TOP	FIBER	0						3837.0724		22	

Section 17A - FINAL TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	HPA-65R-BUU-H8		OPA-65R-LCUU-H8		800-10966		HPA-65R-BUU-H8							
ANTENNA VENDOR	CCI Products		CCI Products		Kathrien		CCI Products							
ANTENNA SIZE (H x W x D)	93X15X7		92.7X14.4X7		96X20X6.9		93X15X7							
ANTENNA WEIGHT	68		88		114.6		68							
AZIMUTH	20		20		20		20							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	130		130		130		130							
ANTENNA TIP HEIGHT	134		134		134		134							
MECHANICAL DOWNTILT	0		0		0		0							
FEEDER AMOUNT														
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)		Buit In		Buit In		Buit In		Buit In						
SURGE ARRESTOR (QTY/MODEL)	1	FIBER DC SQUID	1	SQUID	1	DC Fiber Squid	1	FIBER DC SQUID						
DIPLEXER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)	1	Kathrein 860 10006		RRH Controlled		RRH Controlled		RRH Controlled						
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)														
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)					1	B14 4478	1	RRUS-11						
RRH - 850 band (QTY/MODEL)	1	RRUS-11	1	RRUS-12										
RRH - 1900 band (QTY/MODEL)							1	RRUS-32 B2						
RRH - AWS band (QTY/MODEL)					1	RRUS-32 B66								
RRH - WCS band (QTY/MODEL)			1	RRUS-32										
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	LTE 4C AWS J, LTE 5C 850, LTE 6C 700 DEAdd a B14 Octo port Antenna on POs3, Add B14 4478, Add RRUS-32 B66,ADD RRUS-12 for 850 on existing octoport on pos2, Add 1 DC Fiber Squid,Replace Dus with 5216 and IDL2 with IDLe,													
Local Market Note 2														
Local Market Note 3	2*5216+2*XMU+IDLe													

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	169187.A.850.3G.1	169187.A.850.3G.tmp1	CTV51001	CTV51001	TxRx/TxRx	UMTS 850	HPA-65R-BUU-H8_849MHz_02DT	16.2	20	2	TOP	FIBER	0								1	
ANTENNA POSITION 2	PORT 1	169187.A.850.4G.tmp1		CTL04100_8A_1	CTL04100_8A_1	TxRx/TxRx	LTE 850	OPA-65R-LCUU-H8_849MHz_02DT	15.4	20	2	TOP	FIBER	0						1000		3	
	PORT 3	169187.A.WCS.4G.1	169187.A.WCS.4G.tmp1	CTL05100_3A_1	CTL05100_3A_1	TxRx/TxRx	LTE WCS	OPA-65R-LCUU-H8_2350MHz_02DT	17.7	20	2	TOP	FIBER	0						1285.2866		4	
ANTENNA POSITION 3	PORT 1	169187.A.700.4G.tmp5	169187.A.700.4G.tmp1	CTL04100_7A_3_F	CTL04100_7A_3_F	TxRx/TxRx	LTE 700	80010966_777MHz_02DT	15.7	20	2	TOP	FIBER	0						1475.7065		5	
	PORT 3	169187.A.AWS.4G.tmp4	169187.A.1900.4G.tm	CTL04100_2A_2	CTL04100_2A_2	TxRx/	LTE AWS	80010966_2133MHz_	18.7	20	3	TOP	FIBER	0						3837.0724		6	

			p1			TxRx		03DT														
ANTENNA POSITION 4	**PORT 1**	169187.A.700.4G.1	169187.A.700.4G.tmp1	CTL05100_7A_1	CTL05100_7A_1	TxRx/ TxRx	LTE 700	HPA-65R-BUU-H8_719MHz_02DT	15.3	20	2	TOP	FIBER	0						1475.7065		7	
	PORT 3	169187.A.1900.4G.1	169187.A.1900.4G.tmp1	CTL05100_9A_1	CTL05100_9A_1	TxRx/ TxRx	LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	16.9	20	3	TOP	FIBER	0						2421.029		8	
	PORT 4	169187.A.1900.4G.2		CTL05100_9A_2	CTL05100_9A_2	TxRx/ TxRx	LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	16.9	20	3	TOP	FIBER	0						2421.029		8	

Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	HPA-65R-BUU-H8	OPA-65R-LCUU-H8	800-10966	HPA-65R-BUU-H8			
ANTENNA VENDOR	CCI Products	CCI Products	Kathrien	CCI Products			
ANTENNA SIZE (H x W x D)	93X15X7	92.7X14.4X7	96X20X6.9	93X15X7			
ANTENNA WEIGHT	68	88	114.6	68			
AZIMUTH	150	150	150	150			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	130	130	130	130			
ANTENNA TIP HEIGHT	134	134	134	134			
MECHANICAL DOWNTILT	0	0	0	0			
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	Buit In	Buit In	Buit In	Buit In			
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)	RRH Controlled	RRH Controlled	RRH Controlled	RRH Controlled			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1 B14 4478	1 RRUS-11			
RRH - 850 band (QTY/MODEL)	1 RRUS-11	1 RRUS-12					
RRH - 1900 band (QTY/MODEL)				1 RRUS-32 B2			
RRH - AWS band (QTY/MODEL)			1 RRUS-32 B66				
RRH - WCS band (QTY/MODEL)		1 RRUS-32					
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	LTE 4C AWS J, LTE 5C 850, LTE 6C 700 DEAdd a B14 Octo port Antenna on POs3, Add B14 4478, Add RRUS-32 B66,ADD RRUS-12 for 850 on existing octoport on pos2, Add 1 DC Fiber Squid,Replace Dus with 5216 and IDL2 with IDLe,						
Local Market Note 2							
Local Market Note 3	2*5216+2*XMU+IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	169187.B.850.3G.1	169187.B.850.3G.tmp1	CTV51002	CTV51002	TxRx/TxRx	UMTS 850	HPA-65R-BUU-H8_849MHz_02DT	16.2	150	2	TOP	FIBER	0								9	
ANTENNA POSITION 2	PORT 1	169187.B.850.4G.tmp1		CTL04100_8B_1	CTL04100_8B_1	TxRx/TxRx	LTE 850	OPA-65R-LCUU-H8_849MHz_02DT	15.4	150	2	TOP	FIBER	0						1000		11	
	PORT 3	169187.B.WCS.4G.1	169187.B.WCS.4G.tmp1	CTL05100_3B_1	CTL05100_3B_1	TxRx/TxRx	LTE WCS	OPA-65R-LCUU-H8_2350MHz_02DT	17.7	150	2	TOP	FIBER	0						1285.2866		12	
ANTENNA POSITION 3	PORT 1	169187.B.700.4G.tmp5	169187.B.700.4G.tmp1	CTL04100_7B_3_F	CTL04100_7B_3_F	TxRx/TxRx	LTE 700	80010966_777MHz_02DT	15.7	150	2	TOP	FIBER	0						1475.7065		13	
	PORT 3	169187.B.AWS.4G.tmp4	169187.B.1900.4G.tm	CTL04100_2B_2	CTL04100_2B_2	TxRx/	LTE AWS	80010966_2133MHz_	18.5	150	6	TOP	FIBER	0						3837.0724		14	

			p1			TxRx		06DT															
ANTENNA POSITION 4	**PORT 1**	169187.B.700.4G.1	169187.B.700.4G.tmp1	CTL05100_7B_1	CTL05100_7B_1	TxRx/ TxRx	LTE 700	HPA-65R-BUU-H8_719MHz_02DT	15.3	150	2	TOP	FIBER	0						1475.7065		15	
	PORT 3	169187.B.1900.4G.1	169187.B.1900.4G.tmp1	CTL05100_9B_1	CTL05100_9B_1	TxRx/ TxRx	LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	16.9	150	6	TOP	FIBER	0						2421.029		16	
	PORT 4	169187.B.1900.4G.2		CTL05100_9B_2	CTL05100_9B_2	TxRx/ TxRx	LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	16.9	150	6	TOP	FIBER	0						2421.029		16	

Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	HPA-65R-BUU-H8	OPA-65R-LCUU-H8	800-10966	HPA-65R-BUU-H8			
ANTENNA VENDOR	CCI Products	CCI Products	Kathrien	CCI Products			
ANTENNA SIZE (H x W x D)	93X15X7	92.7X14.4X7	96X20X6.9	93X15X7			
ANTENNA WEIGHT	68	88	114.6	68			
AZIMUTH	270	270	270	270			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	130	130	130	130			
ANTENNA TIP HEIGHT	134	134	134	134			
MECHANICAL DOWNTILT	0	0	0	0			
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	Buit In	Buit In	Buit In	Buit In			
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)	RRH Controlled	RRH Controlled	RRH Controlled	RRH Controlled			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1 B14 4478	1 RRUS-11			
RRH - 850 band (QTY/MODEL)	1 RRUS-11	1 RRUS-12					
RRH - 1900 band (QTY/MODEL)				1 RRUS-32 B2			
RRH - AWS band (QTY/MODEL)			1 RRUS-32 B66				
RRH - WCS band (QTY/MODEL)		1 RRUS-32					
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	LTE 4C AWS J, LTE 5C 850, LTE 6C 700 DEAdd a B14 Octo port Antenna on POs3, Add B14 4478, Add RRUS-32 B66,ADD RRUS-12 for 850 on existing octoport on pos2, Add 1 DC Fiber Squid,Replace Dus with 5216 and IDL2 with IDLe,						
Local Market Note 2							
Local Market Note 3	2*5216+2*XMU+IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	169187.C.850.3G.1	169187.C.850.3G.tmp1	CTV51003	CTV51003	TxRx/TxRx	UMTS 850	HPA-65R-BUU-H8_849MHz_02DT	16.2	270	2	TOP	FIBER	0								17	
ANTENNA POSITION 2	PORT 1	169187.C.850.4G.tmp1		CTL04100_8C_1	CTL04100_8C_1	TxRx/TxRx	LTE 850	OPA-65R-LCUU-H8_849MHz_02DT	15.4	270	2	TOP	FIBER	0						1000		19	
	PORT 3	169187.C.WCS.4G.1	169187.C.WCS.4G.tmp1	CTL05100_3C_1	CTL05100_3C_1	TxRx/TxRx	LTE WCS	OPA-65R-LCUU-H8_2350MHz_02DT	17.7	270	2	TOP	FIBER	0						1285.2866		20	
ANTENNA POSITION 3	PORT 1	169187.C.700.4G.tmp5	169187.C.700.4G.tmp1	CTL04100_7C_3_F	CTL04100_7C_3_F	TxRx/TxRx	LTE 700	80010966_777MHz_02DT	15.7	270	2	TOP	FIBER	0						1475.7065		21	
	PORT 3	169187.C.AWS.4G.tmp4	169187.C.1900.4G.tm	CTL04100_2C_2	CTL04100_2C_2	TxRx/	LTE AWS	80010966_2133MHz_	18.5	270	6	TOP	FIBER	0						3837.0724		22	

			p1			TxRx		06DT														
ANTENNA POSITION 4	**PORT 1**	169187.C.700.4G.1	169187.C.700.4G.tmp1	CTL05100_7C_1	CTL05100_7C_1	TxRx/ TxRx	LTE 700	HPA-65R-BUU-H8_719MHz_02DT	15.3	270	2	TOP	FIBER	0						1475.7065		23	
	PORT 3	169187.C.1900.4G.1	169187.C.1900.4G.tmp1	CTL05100_9C_1	CTL05100_9C_1	TxRx/ TxRx	LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	16.9	270	6	TOP	FIBER	0						2421.029		24	
	PORT 4	169187.C.1900.4G.2		CTL05100_9C_2	CTL05100_9C_2	TxRx/ TxRx	LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	16.9	270	6	TOP	FIBER	0						2421.029		24	

Diagram - Sector	A	Diagram File Name - CT5100_A_B_C_AWSJ_B14_850_Rev1.vsd					
Atoll Site Name -	CTL05100	Location Name -	BRIDGEPORT EVERGREEN ST	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/ radio Port connections Field Notice (RF-HW-2016-265)

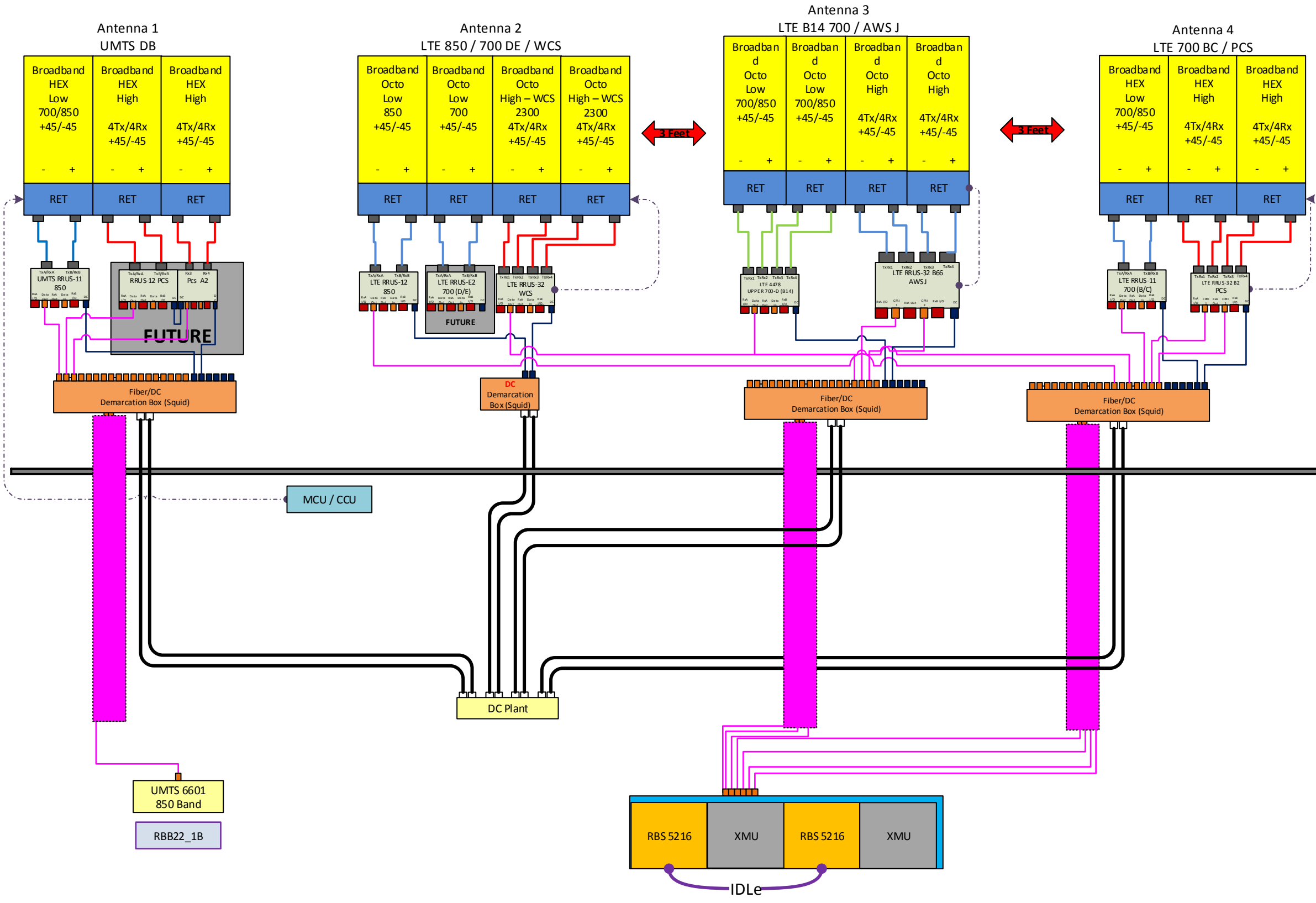


Diagram - Sector	B	Diagram File Name - CT5100_A_B_C_AWSJ_B14_850_Rev1.vsd					
Atoll Site Name -	CTL05100	Location Name -	BRIDGEPORT EVERGREEN ST	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/ radio Port connections Field Notice (RF-HW-2016-265)

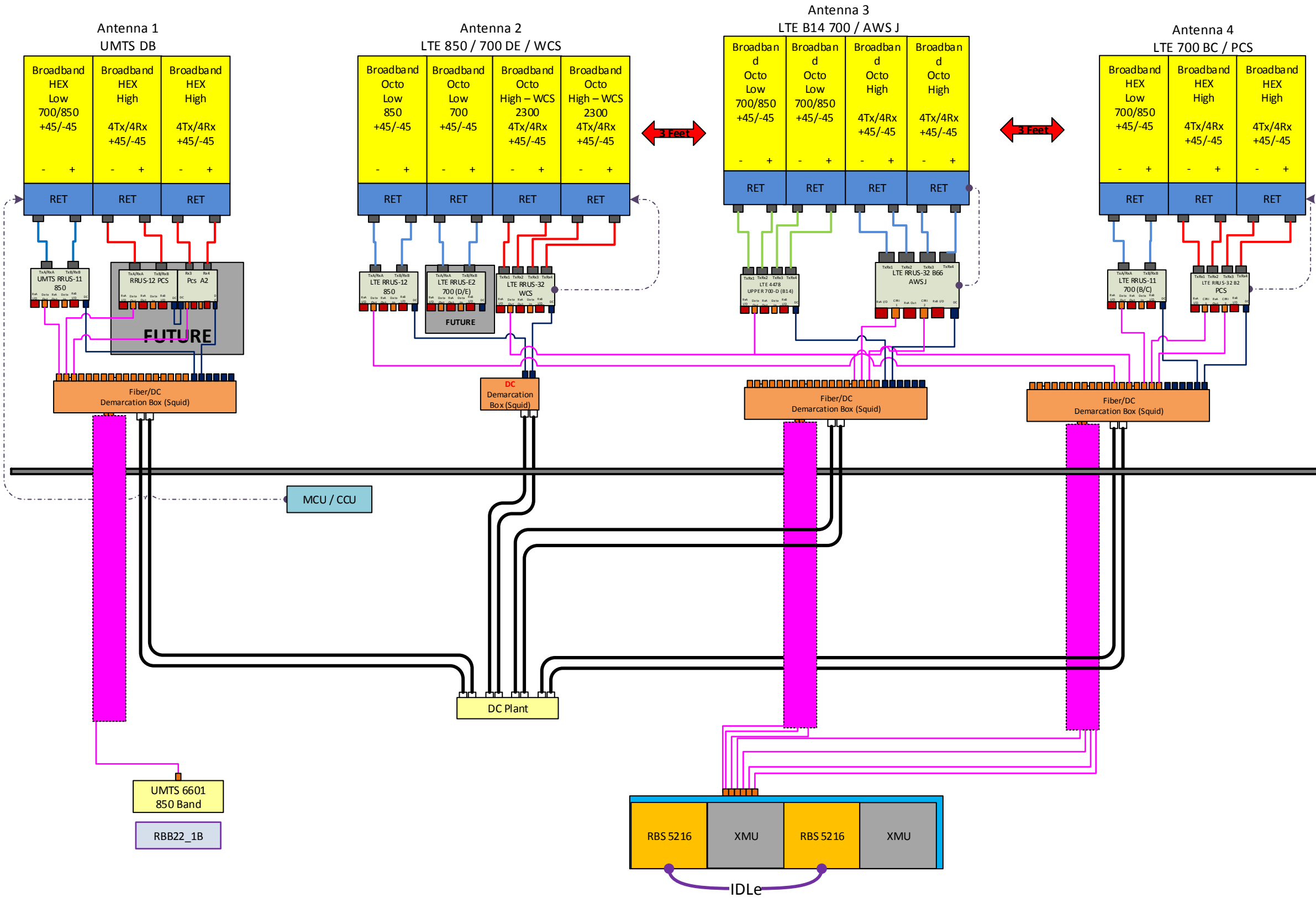
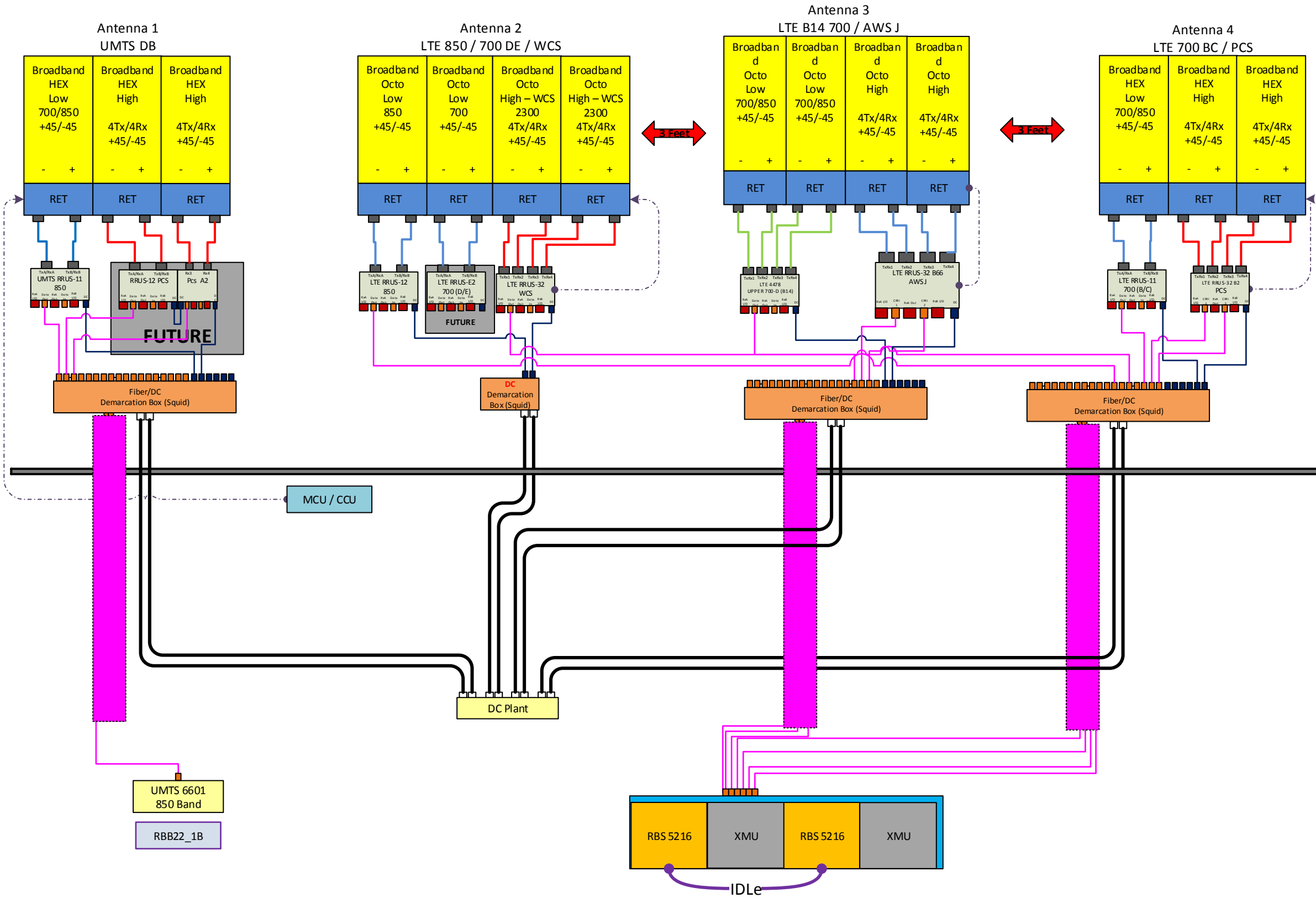


Diagram - Sector	C	Diagram File Name - CT5100_A_B_C_AWSJ_B14_850_Rev1.vsd					
Atoll Site Name -	CTL05100	Location Name -	BRIDGEPORT EVERGREEN ST	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/ radio Port connections Field Notice (RF-HW-2016-265)



NOTES			
Date Time (Eastern)	Version	ATTUID	Note
1/3/2018 3:38:45 PM	1.00	rx855w	LMN notes updated to show proposed b14 octo.

WORKFLOW SUMMARY							
Date	FROM State / Status	FROM ATTUID	TO State / Status	TO ATTUID	Operation	Comments	PACE Status
10/31/2017	Preliminary In Progress	mm093q	Preliminary Submitted for Approval	RC475S	Promote	Prelim	NER-RCTB-17-06991 MRCTB027008 SUCCESS 10/31/2017 12:52:14 PM NER-RCTB-17-07028 MRCTB027004 SUCCESS 10/31/2017 12:52:14 PM NER-RCTB-17-07078 MRCTB027009 SUCCESS 10/31/2017 12:52:14 PM
11/15/2017	Preliminary Submitted for Approval	RC475S	Preliminary Approved	DC5778	Promote		
12/29/2017	Preliminary Approved	DC5778	Final RF Approval	OM636A	Promote	Please promote to final	
01/03/2018	Final RF Approval	OM636A	Final RF Approval	RX855W	Reassign	Update RFDS as per promotion comments and RAN tracker.	
01/03/2018	Final RF Approval	RX855W	Final Approved	DC5778	Promote	Final RFDS .	NER-RCTB-17-06991 MRCTB027008 SUCCESS 01/03/2018 4:32:10 PM NER-RCTB-17-07028 MRCTB027004 SUCCESS 01/03/2018 4:32:10 PM NER-RCTB-17-07078 MRCTB027009 SUCCESS 01/03/2018 4:32:10 PM

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5100

FA#: 10107972

Bridgeport Evergreen Street
220 Evergreen Street
Bridgeport, CT 06606

May 23, 2018

Centerline Communications Project Number: 950006-120

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**17.02 %**

May 23, 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: **CT5100 – Bridgeport Evergreen Street**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **220 Evergreen Street, Bridgeport, 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 $\mu W/cm^2$. 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 **220 Evergreen Street, Bridgeport, 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)
UMTS	850 MHz	2	30
LTE	850 MHz	2	40
LTE	2300 MHz (WCS)	4	30
LTE	700 MHz (Band 14)	4	40
LTE	2100 MHz (AWS)	4	30
LTE	700 MHz	2	40
LTE	1900 MHz (PCS)	4	40

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-H8	130
A	2	CCI OPA-65R-LCUU-H8	130
A	3	Kathrein 800-10966	130
A	4	CCI HPA-65R-BUU-H8	130
B	1	CCI HPA-65R-BUU-H8	130
B	2	CCI OPA-65R-LCUU-H8	130
B	3	Kathrein 800-10966	130
B	4	CCI HPA-65R-BUU-H8	130
C	1	CCI HPA-65R-BUU-H8	130
C	2	CCI OPA-65R-LCUU-H8	130
C	3	Kathrein 800-10966	130
C	4	CCI HPA-65R-BUU-H8	130

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-H8	850 MHz	14.05	2	60	1,524.58	0.63
Antenna A2	CCI OPA-65R-LCUU-H8	850 MHz / 2300 MHz (WCS)	13.35 / 14.95	6	240	6,731.90	1.88
Antenna A3	Kathrein 800-10966	700 MHz (Band 14) / 2100 MHz (AWS)	13.55 / 15.95	8	280	8,346.03	2.92
Antenna A4	CCI HPA-65R-BUU-H8	700 MHz / 1900 MHz (PCS)	13.15 / 14.95	6	240	6,654.03	2.00
						Sector A Composite MPE%	**7.43**
Antenna B1	CCI HPA-65R-BUU-H8	850 MHz	14.05	2	60	1,524.58	0.63
Antenna B2	CCI OPA-65R-LCUU-H8	850 MHz / 2300 MHz (WCS)	13.35 / 14.95	6	240	6,731.90	1.88
Antenna B3	Kathrein 800-10966	700 MHz (Band 14) / 2100 MHz (AWS)	13.55 / 15.95	8	280	8,346.03	2.92
Antenna B4	CCI HPA-65R-BUU-H8	700 MHz / 1900 MHz (PCS)	13.15 / 14.95	6	240	6,654.03	2.00
						Sector B Composite MPE%	**7.43**
Antenna C1	CCI HPA-65R-BUU-H8	850 MHz	14.05	2	60	1,524.58	0.63
Antenna C2	CCI OPA-65R-LCUU-H8	850 MHz / 2300 MHz (WCS)	13.35 / 14.95	6	240	6,731.90	1.88
Antenna C3	Kathrein 800-10966	700 MHz (Band 14) / 2100 MHz (AWS)	13.55 / 15.95	8	280	8,346.03	2.92
Antenna C4	CCI HPA-65R-BUU-H8	700 MHz / 1900 MHz (PCS)	13.15 / 14.95	6	240	6,654.03	2.00
						Sector C Composite MPE%	**7.43**

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	**7.43 %**
T-Mobile	5.10 %
Sprint	4.49 %
Site Total MPE %:	**17.02 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	7.43 %
AT&T Sector B Total:	7.43 %
AT&T Sector C Total:	7.43 %
Site Total:	17.02 %

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 (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS – Antenna 1	2	762.29	130	3.56	850 MHz	567	0.63%
AT&T 850 MHz LTE – Antenna 2	2	865.09	130	4.05	850 MHz	567	0.71%
AT&T 2300 MHz (WCS) LTE – Antenna 2	4	1,250.43	130	11.69	2300 MHz (WCS)	1000	1.17%
AT&T 700 MHz LTE (Band 14) – Antenna 3	4	905.86	130	8.47	700 MHz	467	1.81%
AT&T 2100 MHz (AWS) LTE – Antenna 3	4	1,180.65	130	11.04	2100 MHz (AWS)	1000	1.10%
AT&T 700 MHz LTE – Antenna 4	2	826.15	130	3.86	700 MHz	467	0.83%
AT&T 1900 MHz (PCS) LTE – Antenna 4	4	1,250.43	130	11.69	1900 MHz (PCS)	1000	1.17%
						Total:	**7.43%**

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:	7.43 %
Sector B:	7.43 %
Sector C:	7.43 %
AT&T Maximum Total (per sector):	7.43 %
Site Total:	17.02 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **17.02 %** 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.

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

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Scott Pike

From: James Burgess <JamesB@blueskytower.com>
Sent: Friday, November 16, 2018 4:06 PM
To: Scott Pike
Subject: RE: CT5100 BRIDGEPORT EVERGREEN ST. LTE 4C/5C/6C FIRSTNET - Rev2 CDs

Hello Scott;

Yes, Blue Sky received a copy of the CSC package that you reference in the subject line. Thanks.

James Burgess
m: 617-549-2800
o: 508-530-3580 ext. 1010

From: Scott Pike <spike@empiretelecomm.com>
Sent: Friday, November 16, 2018 1:30 PM
To: James Burgess <JamesB@blueskytower.com>
Subject: CT5100 BRIDGEPORT EVERGREEN ST. LTE 4C/5C/6C FIRSTNET - Rev2 CDs

Hi James, I sent you a CSC package on 8/4. Could you confirm if you have received the package?

Thanks,

Scott Pike
Site Acquisition Specialist
Phone- 339-223-9828
Empire Telecom
16 Esquire Road
Billerica, MA 01862
spike@empiretelecomm.com

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Delivered

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Tracking Number: 70180360000162905264

Remove X

Your item was delivered to the front desk, reception area, or mail room at 1:04 pm on October 9, 2018 in BRIDGEPORT, CT 06604.

Delivered

October 9, 2018 at 1:04 pm
Delivered, Front Desk/Reception/Mail Room
BRIDGEPORT, CT 06604

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