EMPIRE telecom

December 18, 2017

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

Regarding:	Notice of Exempt Modification – Swap of 3 Remote Radio Heads
Property Address:	104 Prospect Hill Road, Windsor, CT (the "Property", AT&T Site # CT5192)
Applicant:	AT&T Mobility ("AT&T")

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 110 foot, Water Tank ("tower") at the above-referenced address, latitude 41.92612778, longitude -72.6046417. AT&T's facility consists of six (6) wireless telecommunications antennas at 88 feet. The tower is controlled and owned by Connecticut Water Company. Assessor's information is attached hereto.

AT&T desires to modify its existing telecommunications facility by swapping three (3) remote radios heads for (3) newer remote radio head models. The centerline height of said antennas is and will remain at 88 feet.

Please accept this application as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72 (b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the First Selectman of the Town of East Windsor, the Building Inspector of the Town of East Windsor and the Town Planner of the Town of East Windsor. A copy of this letter is also being sent to Connecticut Water company, the owner of the structure that 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 88 foot level of the 110 foot water tank.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore will not require an extension of the site boundary.
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.

16 Esquire Road, Billerica, MA 01862 Phone 978-284-3906 Email: ncaplan@empiretelecomm.com

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 Centek Engineering December 21, 2016).

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

Sincerely,

Nicole Caplan
Site Acquisition Specialist
Empire Telecom

CC: The Honorable Robert Maynard, First Selectman, Town of East Windsor
Rand Stanely, Building Inspector, Town of East Windsor
Laurie P. Whitten, CZEO, AICP, Town Planner, Town of East Windsor
Connecticut Water Company, c/o Cindy F. Gaudino

16 Esquire Road, Billerica, MA 01862 Phone 978-284-3906 Email: ncaplan@empiretelecomm.com

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2012.

East Windsor
CONNECTICUT

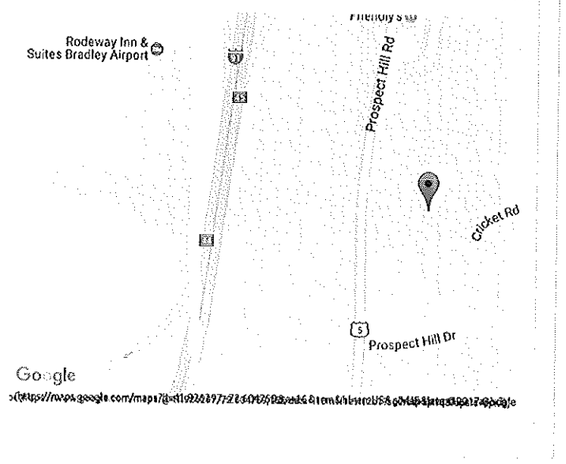
Information on the Property Records for the Municipality of East Windsor was last updated on 1/25/2017.

Property Summary Information

Parcel Data And Values | Outbuildings | Sales | Google Map

Google Map

Unique Id:	01232500
Location:	104 PROSPI
MBL:	102 17 038
Primary Use:	Commercial
Zone:	B-1
Acres:	0.65
Appraised Value:	$1,700,000
Assessed Value:	$1,190,000



Back To Search (JavaScript:window.history.back(1);)

Print View (PrintPage.aspx?towncode=047&uniqueid=01232500)

Information Published With Permission From The Assessor

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2012.

Information on the Property Records for the Municipality of East Windsor was last updated on 1/25/2017.

Parcel Information

Location:	104 PROSPECT HILL RD	Property Use:	Vacant Land	Primary Use:	Commercial Vacant Land
Unique ID:	01232500	Map Block Lot:	102 17 038	Acres:	0.65
490 Acres:	0.00	Zone:	B-1	Volume / Page:	0073/0029
Developers Map / Lot:		Census:	4841000		

Value Information

	Appraised Value	70% Assessed Value
Land	0	0

	Appraised Value	70% Assessed Value
Buildings	0	0
Detached Outbuildings	1,700,000	1,190,000
Total	1,700,000	1,190,000

Owner's Information

Owner's Data

CONN WATER CO
93 W MAIN ST
CLINTON, CT 06413

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Cell Tower Cell Tower	1990			1

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
CONN WATER CO	0073	0029	05/22/1958		No	$0

Information Published With Permission From The Assessor

WIRELESS COMMUNICATIONS FACILITY
CT5192 - LTE 4T4R RETROFIT
WINDSOR LOCKS NORTH
104 PROSPECT HILL RD
EAST WINDSOR, CT 06088

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

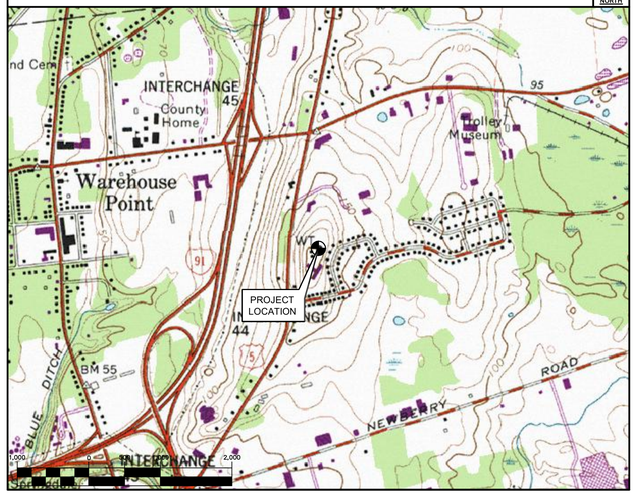
TO: 104 PROSPECT HILL RD, EAST WINDSOR, CONNECTICUT

1.	HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD	0.3 MI
2.	TURN LEFT ONTO CAPITAL BLVD	0.2 MI
3.	USE THE LEFT LANE TO TURN LEFT ONTO CT–411	0.2 MI
4.	TURN LEFT TO MERGE ONTO I–91 N	21.2 MI
5.	TAKE EXIT 44 FOR US–5 S TOWARD E. WINDSOR	0.3 MI
6.	USE THE LEFT 2 LANES TO TURN LEFT ONTO US–5 N	0.7 MI

VICINITY MAP

SCALE: 1" = 1000'

NORTH



PROJECT SUMMARY

1. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
   A. INSTALL (3) NEW RRUS–32 B2 TO REPLACE (3) RRUS–12+A2 ON EXISTING WATER TANK MOUNT.
   B. EXISTING AT&T OSM EQUIPMENT CABINET TO BE DECOMMISSIONED.

PROJECT INFORMATION

AT&T SITE NUMBER:	CTV5192
AT&T SITE NAME:	WINDSOR LOCKS NORTH
SITE ADDRESS:	104 PROSPECT HILL RD EAST WINDSOR, CT 06088
LESSEE/APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
ENGINEER:	CENTEK ENGINEERING, INC. 63–2 NORTH BRANFORD RD. BRANFORD, CT 06405
PROJECT COORDINATES:	LATITUDE: 41°–55'–34.18" N LONGITUDE: 72°–36'–16.49" W GROUND ELEVATION: ±204' AMSL GROUND ELEVATION REFERENCED FROM GOOGLE EARTH. COORDINATES REFERENCED FROM RFDS DOCUMENTS.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T–1	TITLE SHEET	0
N–1	NOTES AND SPECIFICATIONS	0
C–1	PLANS AND ELEVATION	0
C–2	LTE EQUIPMENT DETAILS	0
E–1	ELECTRICAL DETAILS AND NOTES	0

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	12/04/17	LGL	CAG	CONSTRUCTION DOCUMENTS – ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

STATE OF CONNECTICUT · CHRISTOPHER A. GRONDIN · 16004 · LICENSED PROFESSIONAL ENGINEER

at&t

EMPIRE telecom

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

WINDSOR LOCKS NORTH
CT5192 - LTE 4T4R RETROFIT
104 PROSPECT HILL ROAD
EAST WINDSOR, CT 06088

DATE: 11/29/17
SCALE: AS NOTED
JOB NO. 17004.62

TITLE SHEET

T–1

Sheet No. 1 of 5

NOTES AND SPECIFICATIONS

DESIGN BASIS

1. GOVERNING CODE: 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2016 CT STATE SUPPLEMENT.
2. TIA/EIA-222 REVISION "G", ASCE MANUAL NO. 72 – "DESIGN OF STEEL TRANSMISSION POLE STRUCTURES SECOND EDITION".
3. DESIGN CRITERIA:

   WIND LOAD: (TOWER & FOUNDATION)
   NOMINAL DESIGN WIND SPEED (V) = 97 MPH (2016 CSBC: APPENDIX 'N')

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 CL&P 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.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	12/04/17	LGL	CAG	CONSTRUCTION DOCUMENTS – ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

STATE OF CONNECTICUT – CHRISTOPHER A. GAUDIO – No. 19684 – PROFESSIONAL ENGINEER

at&t

EMPIRE telecom

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

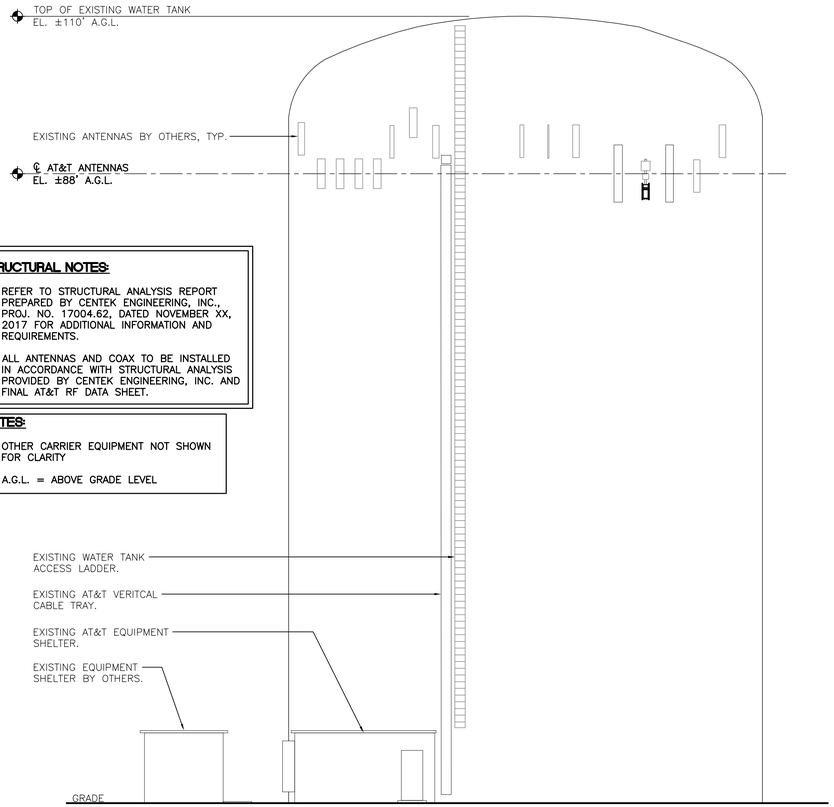
WINDSOR LOCKS NORTH
CT5192 - LTE 4T4R RETROFIT
104 PROSPECT HILL ROAD
EAST WINDSOR, CT 06088

DATE: 11/29/17
SCALE: AS NOTED
JOB NO. 17004.62

NOTES AND SPECIFICATIONS

N-1

Sheet No. 2 of 5



STRUCTURAL NOTES:

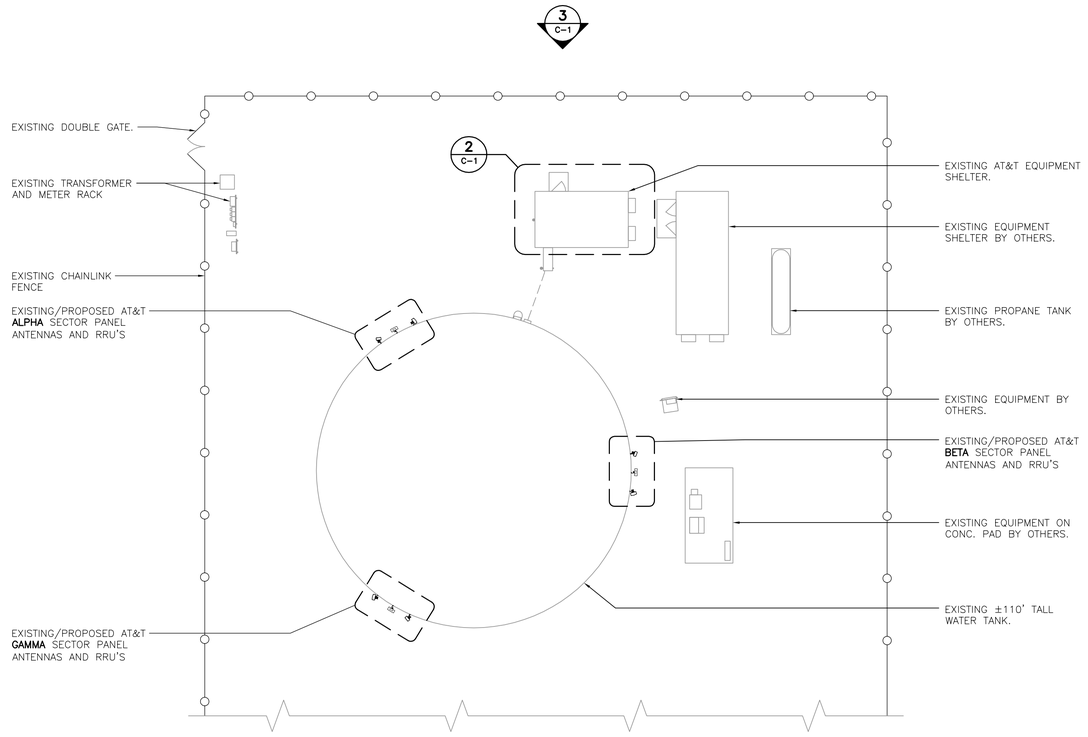
1. REFER TO STRUCTURAL ANALYSIS REPORT PREPARED BY CENTEK ENGINEERING, INC., PROJ. NO. 17004.62, DATED NOVEMBER XX, 2017 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY CENTEK ENGINEERING, INC. AND FINAL AT&T RF DATA SHEET.

NOTES:

1. OTHER CARRIER EQUIPMENT NOT SHOWN FOR CLARITY
2. A.G.L. = ABOVE GRADE LEVEL

3 / C-1 **WATER TANK ELEVATION**
SCALE: 1/8" = 1'-0"

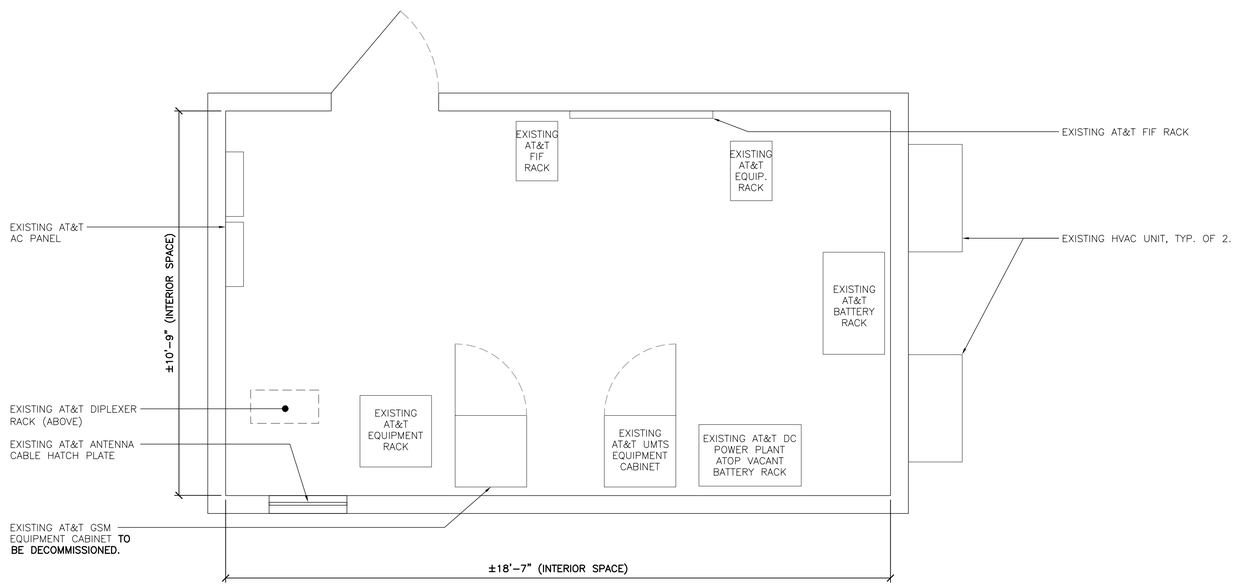
GRAPHIC SCALE
8 0 4 8 16 32
(IN FEET)
1 inch = 8 ft.



1 / C-1 **COMPOUND PLAN**
SCALE: 1" = 15'-0"

TRUE NORTH

GRAPHIC SCALE
15 0 7.5 15 30 60
(IN FEET)
1 inch = 15 ft.



2 / C-1 **EQUIPMENT LAYOUT PLAN**
SCALE: 1/2" = 1'-0"

TRUE NORTH

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	12/04/17	LGL	CAG	CONSTRUCTION DOCUMENTS – ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

STATE OF CONNECTICUT · DONALD F. CENTEK · No. 16694 · PROFESSIONAL ENGINEER

at&t

EMPIRE telecom

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

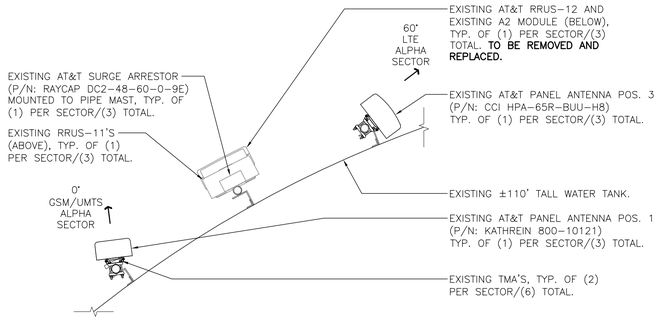
AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY

WINDSOR LOCKS NORTH
CT5192 - LTE 4T4R RETROFIT
104 PROSPECT HILL ROAD
EAST WINDSOR, CT 06088

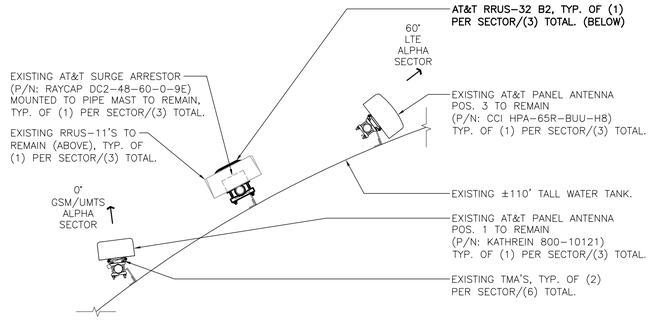
DATE: 11/29/17
SCALE: AS NOTED
JOB NO. 17004.62

PLANS AND ELEVATION

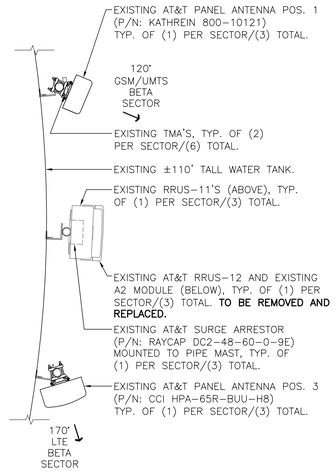
C-1
Sheet No. 3 of 5



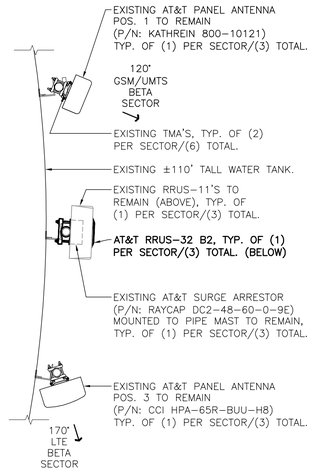
1 C-2 **EXISTING ANTENNA PLAN**
SCALE: 1/2" = 1'-0" (ALPHA SECTOR) NORTH



2 C-2 **PROPOSED ANTENNA PLAN**
SCALE: 1/2" = 1'-0" (ALPHA SECTOR) NORTH



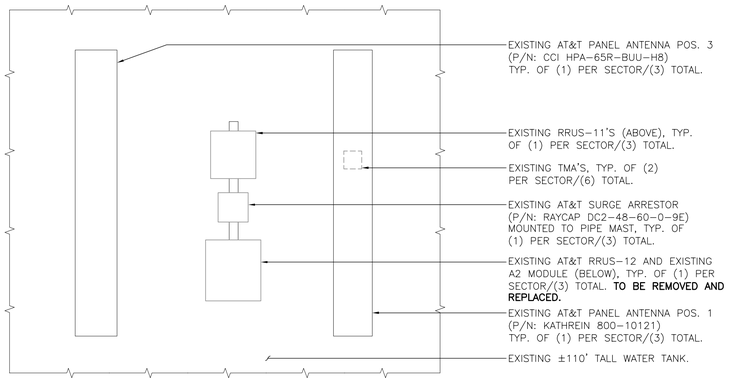
3 C-2 **EXISTING ANTENNA PLAN**
SCALE: 1/2" = 1'-0" (BETA SECTOR) NORTH



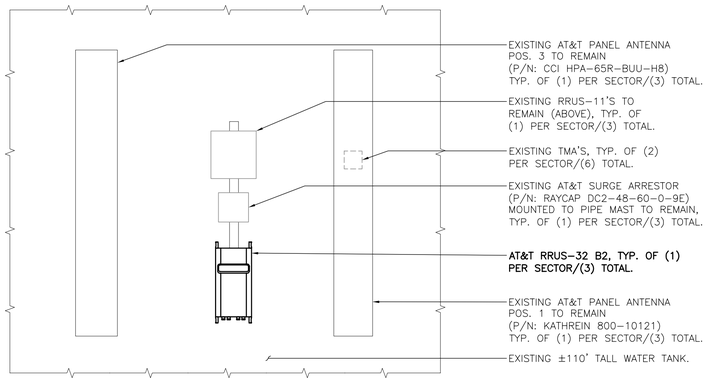
4 C-2 **PROPOSED ANTENNA PLAN**
SCALE: 1/2" = 1'-0" (BETA SECTOR) NORTH

5 C-2 **EXISTING ANTENNA PLAN**
SCALE: 1/2" = 1'-0" (GAMMA SECTOR) NORTH

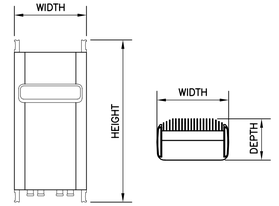
6 C-2 **PROPOSED ANTENNA PLAN**
SCALE: 1/2" = 1'-0" (GAMMA SECTOR) NORTH



7 C-2 **EXISTING ANTENNA ELEVATION**
SCALE: 1/2" = 1'-0"



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

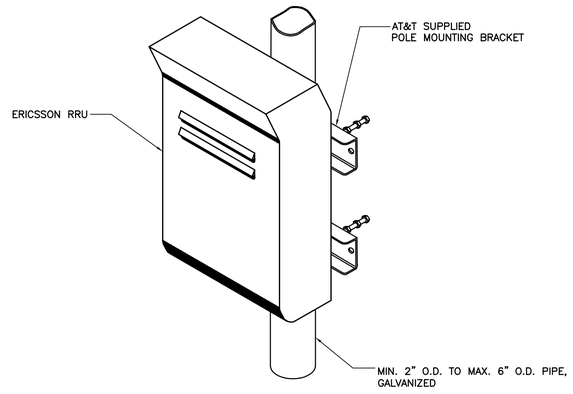


FRONT VIEW BOTTOM VIEW

RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS 32 B2	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.

9 C-2 **ERICSSON RRUS 32 B2 DETAIL**
SCALE: 1" = 1'-0"



ISOMETRIC VIEW

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

10 C-2 **TYPICAL RRUS MOUNTING DETAILS**
SCALE: NTS

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	12/04/17	LGL	CAG	CONSTRUCTION DOCUMENTS – 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

WINDSOR LOCKS NORTH
CT5192 - LTE 4T4R RETROFIT
104 PROSPECT HILL ROAD
EAST WINDSOR, CT 06088

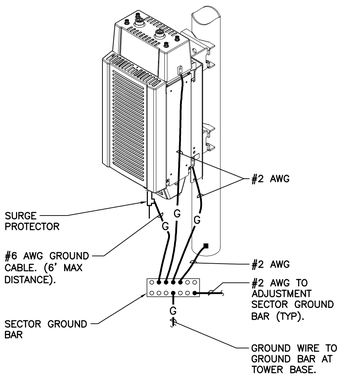
DATE: 11/29/17
SCALE: AS NOTED
JOB NO. 17004.62

LTE EQUIPMENT DETAILS

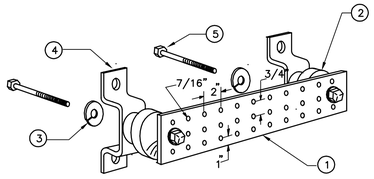
C-2

EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:

1. AT TOP OF THE CABINET
2. AT RIGHT SIDE OF THE CABINET.



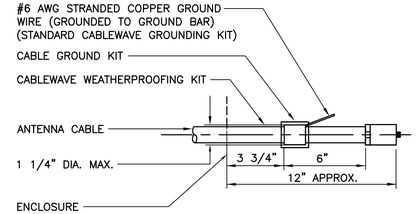
1 E-1 **RRU POLE MOUNT GROUNDING**
NOT TO SCALE



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.

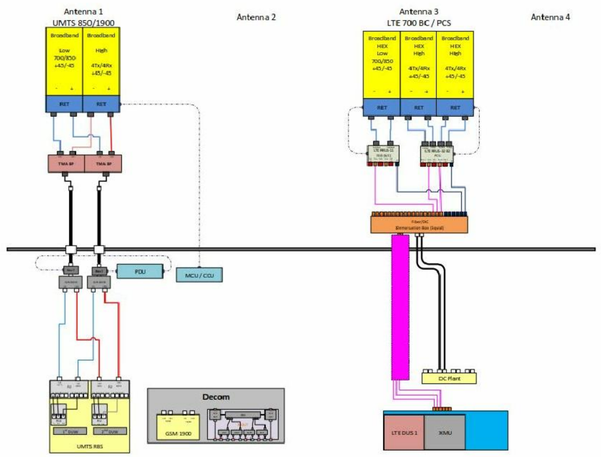
2 E-1 **GROUND BAR DETAIL**
NOT TO SCALE



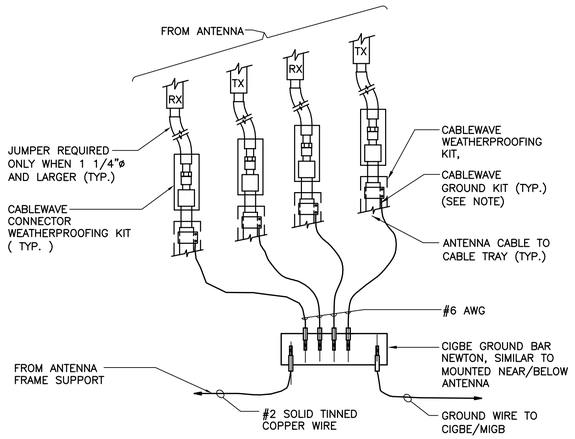
NOTE:

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

3 E-1 **ANTENNA CABLE GROUNDING DETAIL**
NOT TO SCALE



5 E-1 **RF PLUMBING DIAGRAM**
NOT TO SCALE



NOTE:

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

4 E-1 **CONNECTION OF GROUND WIRES TO GROUND BAR**
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
0	12/04/17	LGL	CAG	CONSTRUCTION DOCUMENTS – ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

STATE OF CONNECTICUT — CHRISTOPHER A. GOULET — No. 16694 — LICENSED PROFESSIONAL ENGINEER

at&t

EMPIRE telecom

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

WINDSOR LOCKS NORTH
CT5192 - LTE 4T4R RETROFIT
104 PROSPECT HILL ROAD
EAST WINDSOR, CT 06088

DATE: 11/29/17
SCALE: AS NOTED
JOB NO. 17004.62

ELECTRICAL DETAILS AND NOTES

E-1

Sheet No. 5 of 5

CENTEK engineering

Centered on Solutions℠

Structural Analysis Report

110-ft Tall Existing Host Water Tank

AT&T Site #: CT5192

AT&T Site Name: Windsor Locks North

Project: LTE 4T4R Retrofit

PACE #: MRCTB022142

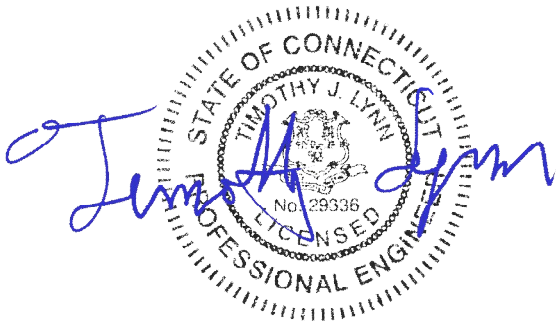
PT #: 2051A09FYB

FA #: 10071335

104 Prospect Hill Road
East Windsor, CT 06088

Centek Project No. 17004.62

Date: December 6, 2017



Prepared for:

AT&T Mobility
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

Table of Contents

Introduction

The purpose of this report is to summarize the results of the non-linear, P-Δ structural analysis of the equipment upgrade proposed by AT&T Mobility on the existing host water tank located in East Windsor, Connecticut.

The host structure is a ±110-ft tall water tank with AT&T's existing/proposed equipment mounted to the façade.

Antenna and appurtenance information was taken from a RF data sheet.

Antenna and Appurtenance Summary

The loads considered in this analysis consist of the following:

- AT&T MOBILITY (EXISTING TO REMAIN):
  Appurtenances: Three (3) Kathrein 800-10121 panel antennas, three (3) CCI HPA-65R-BUU-H8 panel antenna, six (6) Powerwave LGP21401 TMAs, three (3) Ericsson RRUS-11 remote radio units and three (3) Raycap DC2 surge arrestors pipe mounted to the water tank façade with a RAD center elevation of +/-88-ft.
- AT&T MOBILITY (EXISTING TO Remove):
  Appurtenances: Three (3) Ericsson RRUS-12 remote radio units and three (3) A2 units pipe mounted to the water tank façade with a RAD center elevation of +/-88-ft.
- **AT&T MOBILITY (PROPOSED):**
  Appurtenances: Three (3) Ericsson RRUS-32 B2 remote radio units pipe mounted to the water tank façade with a RAD center elevation of +/-88-ft.

Analysis

The existing appurtenance support mounts were analyzed using a comprehensive computer program titled Risa3D. The program analyzes the equipment mounts, considering the worst case loading condition. The equipment support mounts were considered to be loaded by concentric forces along the pipe masts, and the model assumes that the members are subjected to bending, axial, and shear forces.

Structure Loading

Loading was determined per the requirements of the 2012 International Building Code as modified by the 2016 CT State Building Code and ASCE 7-10 "Minimum Design Loads for Buildings and Other Structures".

Wind Speed: East Windsor; v = 125 mph (Risk Cat 2) *[Appendix N of the 2016 CSBC]*

Results

Frame stresses were calculated utilizing the structural analysis software Risa-3D.

- Calculated stresses were found to be within allowable limits.

Component	Stress Ratio (percentage of capacity)	Result
Mount	51.1%	**PASS**

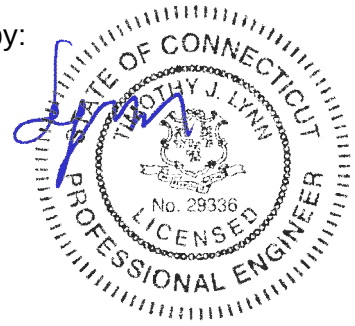
Conclusion

This analysis shows that the subject antenna mount **is adequate** to support the proposed modified equipment configuration.

The analysis is based, in part, on the information provided to this office by AT&T. If the existing conditions are different than the information in this report, Centek Engineering, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:



Timothy J. Lynn, PE
Structural Engineer

Standard Conditions for Furnishing of Professional Engineering Services on Existing Structures

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

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of Centek Engineering, 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 Centek Engineering, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the “as new” condition.
- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222
- All services performed, results obtained, and recommendations made are in accordance with generally accepted engineering principles and practices. Centek Engineering, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM ~ RISA-3D

- RISA-3D Structural Analysis Program is an integrated structural analysis and design software package for buildings, bridges, tower structures, etc.

Modeling Features:

- Comprehensive CAD-like graphic drawing/editing capabilities that let you draw, modify and load elements as well as snap, move, rotate, copy, mirror, scale, split, merge, mesh, delete, apply, etc.
- Versatile drawing grids (orthogonal, radial, skewed)
- Universal snaps and object snaps allow drawing without grids
- Versatile general truss generator
- Powerful graphic select/unselect tools including box, line, polygon, invert, criteria, spreadsheet selection, with locking
- Saved selections to quickly recall desired selections
- Modification tools that modify single items or entire selections
- Real spreadsheets with cut, paste, fill, math, sort, find, etc.
- Dynamic synchronization between spreadsheets and views so you can edit or view any data in the plotted views or in the spreadsheets
- Simultaneous view of multiple spreadsheets
- Constant in-stream error checking and data validation
- Unlimited undo/redo capability
- Generation templates for grids, disks, cylinders, cones, arcs, trusses, tanks, hydrostatic loads, etc.
- Support for all units systems & conversions at any time
- Automatic interaction with RISASection libraries
- Import DXF, RISA-2D, STAAD and ProSteel 3D files
- Export DXF, SDNF and ProSteel 3D files

Analysis Features:

- Static analysis and P-Delta effects
- Multiple simultaneous dynamic and response spectra analysis using Gupta, CQC or SRSS mode combinations
- Automatic inclusion of mass offset (5% or user defined) for dynamic analysis
- Physical member modeling that does not require members to be broken up at intermediate joints
- State of the art 3 or 4 node plate/shell elements
- High-end automatic mesh generation — draw a polygon with any number of sides to create a mesh of well-formed quadrilateral (NOT triangular) elements.
- Accurate analysis of tapered wide flanges - web, top and bottom flanges may all taper independently
- Automatic rigid diaphragm modeling
- Area loads with one-way or two-way distributions
- Multiple simultaneous moving loads with standard AASHTO loads and custom moving loads for bridges, cranes, etc.
- Torsional warping calculations for stiffness, stress and design
- Automatic Top of Member offset modeling
- Member end releases & rigid end offsets
- Joint master-slave assignments
- Joints detachable from diaphragms
- Enforced joint displacements

- 1-Way members, for tension only bracing, slipping, etc.
- 1-Way springs, for modeling soils and other effects
- Euler members that take compression up to their buckling load, then turn off.
- Stress calculations on any arbitrary shape
- Inactive members, plates, and diaphragms allows you to quickly remove parts of structures from consideration
- Story drift calculations provide relative drift and ratio to height
- Automatic self-weight calculations for members and plates
- Automatic subgrade soil spring generator

Graphics Features:

- Unlimited simultaneous model view windows
- Extraordinary “true to scale” rendering, even when drawing
- High-speed redraw algorithm for instant refreshing
- Dynamic scrolling stops right where you want
- Plot & print virtually everything with color coding & labeling
- Rotate, zoom, pan, scroll and snap views
- Saved views to quickly restore frequent or desired views
- Full render or wire-frame animations of deflected model and dynamic mode shapes with frame and speed control
- Animation of moving loads with speed control
- High quality customizable graphics printing

Design Features:

- Designs concrete, hot rolled steel, cold formed steel and wood
- ACI 1999/2002, BS 8110-97, CSA A23.3-94, IS456:2000,EC 2-1992 with consistent bar sizes through adjacent spans
- Exact integration of concrete stress distributions using parabolic or rectangular stress blocks
- Concrete beam detailing (Rectangular, T and L)
- Concrete column interaction diagrams
- Steel Design Codes: AISC ASD 9th, LRFD 2nd & 3rd, HSS Specification, CAN/CSA-S16.1-1994 & 2004, BS 5950-1-2000, IS 800-1984, Euro 3-1993 including local shape databases
- AISI 1999 cold formed steel design
- NDS 1991/1997/2001 wood design, including Structural Composite Lumber, multi-ply, full sawn
- Automatic spectra generation for UBC 1997, IBC 2000/2003
- Generation of load combinations: ASCE, UBC, IBC, BOCA, SBC, ACI
- Unbraced lengths for physical members that recognize connecting elements and full lengths of members
- Automatic approximation of K factors
- Tapered wide flange design with either ASD or LRFD codes
- Optimization of member sizes for all materials and all design codes, controlled by standard or user-defined lists of available sizes and criteria such as maximum depths
- Automatic calculation of custom shape properties
- Steel Shapes: AISC, HSS, CAN, ARBED, British, Euro, Indian, Chilean
- Light Gage Shapes: AISI, SSMA, Dale / Incor, Dietrich, Marino\WARE
- Wood Shapes: Complete NDS species/grade database
- Full seamless integration with RISAFoot (Ver 2 or better) for advanced footing design and detailing
- Plate force summation tool

Results Features:

- Graphic presentation of color-coded results and plotted designs
- Color contours of plate stresses and forces with quadratic smoothing, the contours may also be animated
- Spreadsheet results with sorting and filtering of: reactions, member & joint deflections, beam & plate forces/stresses, optimized sizes, code designs, concrete reinforcing, material takeoffs, frequencies and mode shapes
- Standard and user-defined reports
- Graphic member detail reports with force/stress/deflection diagrams and detailed design calculations and expanded diagrams that display magnitudes at any dialed location
- Saved solutions quickly restore analysis and design results.

CENTEK engineering
Centered on Solutions℠ www.centekeng.com
63-2 North Branford Road P: (203) 488-0580
Branford, CT 06405 F: (203) 488-8587

Subject: Wind Load on Equipment per ASCE 7-10

Location: East Windsor, CT

Rev. 0: 12/5/17

Prepared by: T.J.L; Checked by: C.F.C.
Job No. 17004.62

Design Wind Load on Other Structures: (Based on IBC 2012, CSBC 2016 and ASCE 7-10)

Wind Speed =	$V := 125$ mph	(User Input)	(CSBC Appendix-N)
Risk Category =	$BC := II$	(User Input)	(IBC Table 1604.5)
Exposure Category =	$Exp := C$	(User Input)	
Height Above Grade =	$Z := 88$ ft	(User Input)	
Structure Type =	$Structuretype := Square\_Chimney$	(User Input)	
Structure Height =	$Height := 6$ ft	(User Input)	
Horizontal Dimension of Structure =	$Width := 1$ ft	(User Input)	

Terrain Exposure Constants:

Nominal Height of the Atmospheric Boundary Layer =

$$zg := \begin{cases} 1200 & \text{if } Exp = B = 900 \\ 900 & \text{if } Exp = C \\ 700 & \text{if } Exp = D \end{cases}$$ (Table 26.9-1)

3-Sec Gust Speed Power Law Exponent =

$$\alpha := \begin{cases} 7 & \text{if } Exp = B = 9.5 \\ 9.5 & \text{if } Exp = C \\ 11.5 & \text{if } Exp = D \end{cases}$$ (Table 26.9-1)

Integral Length Scale Factor =

$$l := \begin{cases} 320 & \text{if } Exp = B = 500 \\ 500 & \text{if } Exp = C \\ 650 & \text{if } Exp = D \end{cases}$$ (Table 26.9-1)

Integral Length Scale Power Law Exponent =

$$E := \begin{cases} \frac{1}{3} & \text{if } Exp = B = 0.2 \\ \frac{1}{5} & \text{if } Exp = C \\ \frac{1}{8} & \text{if } Exp = D \end{cases}$$ (Table 26.9-1)

Turbulence Intensity Factor =

$$c := \begin{cases} 0.3 & \text{if } Exp = B = 0.2 \\ 0.2 & \text{if } Exp = C \\ 0.15 & \text{if } Exp = D \end{cases}$$ (Table 26.9-1)

Exposure Constant =

$$Z_{min} := \begin{cases} 30 & \text{if } Exp = B = 15 \\ 15 & \text{if } Exp = C \\ 7 & \text{if } Exp = D \end{cases}$$ (Table 26.9-1)

Exposure Coefficient =

$$K_z := \begin{cases} 2.01\left(\frac{Z}{zg}\right)^{\left(\frac{2}{\alpha}\right)} & \text{if } 15 \le Z \le zg = 1.23 \\ 2.01\left(\frac{15}{zg}\right)^{\left(\frac{2}{\alpha}\right)} & \text{if } Z < 15 \end{cases}$$ (Table 29.3-1)

CENTEK engineering
Centered on Solutions℠ www.centekeng.com
63-2 North Branford Road P: (203) 488-0580
Branford, CT 06405 F: (203) 488-8587

Subject: Wind Load on Equipment per ASCE 7-10

Location: East Windsor, CT

Rev. 0: 12/5/17

Prepared by: T.J.L; Checked by: C.F.C.
Job No. 17004.62

Topographic Factor =	$K_{zt} := 1$	(Eq. 26.8-2)
Wind Directionality Factor =	$K_d = 0.9$	(Table 26.6-1)
Velocity Pressure =	$q_z := 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot V^2 = 44.35$	(Eq. 29.3-1)
Peak Factor for Background Response =	$g_Q := 3.4$	(Sec 26.9.4)
Peak Factor for Wind Response =	$g_v := 3.4$	(Sec 26.9.4)
Equivalent Height of Structure =	$z := \begin{cases} Z_{min} & \text{if } Z_{min} > 0.6 \cdot Height \\ 0.6 \cdot Height & \text{otherwise} \end{cases} = 15$	(Sec 26.9.4)
Intensity of Turbulence =	$I_z := c \cdot \left(\frac{33}{z}\right)^{\left(\frac{1}{6}\right)} = 0.228$	(Eq. 26.9-7)
Integral Length Scale of Turbulence =	$L_Z := l \cdot \left(\frac{z}{33}\right)^{E} = 427.057$	(Eq. 26.9-9)
Background Response Factor =	$Q := \sqrt{\frac{1}{1 + 0.63\left(\frac{Width + Height}{L_Z}\right)^{0.63}}} = 0.977$	(Eq. 26.9-8)
Gust Response Factor =	$G := 0.925 \cdot \left[\frac{\left(1 + 1.7 \cdot g_Q \cdot I_z \cdot Q\right)}{1 + 1.7 \cdot g_v \cdot I_z}\right] = 0.913$	(Eq. 26.9-6)
Force Coefficient =	$C_f = 1.383$	(Fig 29.5-1 - 29.5-3)
Wind Force =	$F := q_z \cdot G \cdot C_f = 56$	psf

CENTEK engineering
Centered on Solutions℠ www.centekeng.com
63-2 North Branford Road P: (203) 488-0580
Branford, CT 06405 F: (203) 488-8587

Subject: Wind Load on Equipment per ASCE 7-10

Location: East Windsor, CT

Rev. 0: 12/5/17

Prepared by: T.J.L; Checked by: C.F.C.
Job No. 17004.62

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	Kathrein 800-10121		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 54.5$	in	(User Input)
Antenna Width =	$W_{ant} := 10.3$	in	(User Input)
Antenna Thickness =	$T_{ant} := 5.9$	in	(User Input)
Antenna Weight =	$WT_{ant} := 46$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 1$		(User Input)

Wind Load (Front)

Surface Area for One Antenna = $SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 3.9$ sf

Antenna Projected Surface Area = $A_{ant} := SA_{ant} \cdot N_{ant} = 3.9$ sf

Total Antenna Wind Force = $Ff_{ant1} := F \cdot A_{ant} = 218$ lbs

Wind Load (Side)

Surface Area for One Antenna = $SA_{ant} := \frac{L_{ant} \cdot T_{ant}}{144} = 2.2$ sf

Antenna Projected Surface Area = $A_{ant} := SA_{ant} \cdot N_{ant} = 2.2$ sf

Total Antenna Wind Force = $Fs_{ant1} := F \cdot A_{ant} = 125$ lbs

Gravity Load (without ice)

Weight of All Antennas = $Wgt_{ant1} := \left(WT_{ant} \cdot N_{ant}\right) = 46$ lbs

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	CCI HPA-65R-BUU-H8		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 92.4$	in	(User Input)
Antenna Width =	$W_{ant} := 14.8$	in	(User Input)
Antenna Thickness =	$T_{ant} := 7.4$	in	(User Input)
Antenna Weight =	$WT_{ant} := 68$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 1$		(User Input)

Wind Load (Front)

Surface Area for One Antenna =	$SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 9.5$	sf
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 9.5$	sf
Total Antenna Wind Force =	$Ff_{ant2} := F \cdot A_{ant} = 532$	lbs

Wind Load (Side)

Surface Area for One Antenna =	$SA_{ant} := \frac{L_{ant} \cdot T_{ant}}{144} = 4.7$	sf
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 4.7$	sf
Total Antenna Wind Force =	$Fs_{ant2} := F \cdot A_{ant} = 266$	lbs

Gravity Load (without ice)

Weight of All Antennas =	$Wgt_{ant2} := \left(WT_{ant} \cdot N_{ant}\right) = 68$	lbs

Development of Wind & Ice Load on TMAs

TMA Data:

TMA Model =	Powerwave LGP214-01		
TMA Shape =	Flat		(User Input)
TMA Height =	$L_{TMA} := 14.4$	in	(User Input)
TMA Width =	$W_{TMA} := 9.2$	in	(User Input)
TMA Thickness =	$T_{TMA} := 2.6$	in	(User Input)
TMA Weight =	$WT_{TMA} := 14.1$	lbs	(User Input)
Number of TMAs =	$N_{TMA} := 2$		(User Input)

Wind Load (Front)

Surface Area for One TMA =	$SA_{TMA} := \frac{L_{TMA} \cdot W_{TMA}}{144} = 0.9$	sf
TMA Projected Surface Area =	$A_{TMA} := SA_{TMA} \cdot N_{TMA} = 1.8$	sf
Total TMA Wind Force =	$Ff_{TMA1} := F \cdot A_{TMA} = 103$	lbs

Wind Load (Side)

Surface Area for One TMA =	$SA_{TMA} := \frac{L_{TMA} \cdot T_{TMA}}{144} = 0.3$	sf
TMA Projected Surface Area =	$A_{TMA} := SA_{TMA} \cdot N_{TMA} = 0.5$	sf
Total TMA Wind Force =	$Fs_{TMA1} := F \cdot A_{TMA} = 29$	lbs

Gravity Load (without ice)

Weight of All TMAs =	$Wgt_{TMA1} := (WT_{TMA} \cdot N_{TMA}) = 28.2$	lbs

Development of Wind & Ice Load on RRHs

RRH Data:

RRH Model =	Ericsson RRUS-11		
RRH Shape =	Flat		(User Input)
RRH Height =	$L_{RRH} := 17.8$	in	(User Input)
RRH Width =	$W_{RRH} := 17.3$	in	(User Input)
RRH Thickness =	$T_{RRH} := 7.2$	in	(User Input)
RRH Weight =	$WT_{RRH} := 50$	lbs	(User Input)
Number of RRHs =	$N_{RRH} := 1$		(User Input)

Wind Load (Front)

Surface Area for One RRH =	$SA_{RRH} := \frac{L_{RRH} \cdot W_{RRH}}{144} = 2.1$	sf
RRH Projected Surface Area =	$A_{RRH} := SA_{RRH} \cdot N_{RRH} = 2.1$	sf
Total RRH Wind Force =	$Ff_{RRH1} := F \cdot A_{RRH} = 120$	lbs

Wind Load (Side)

Surface Area for One RRH =	$SA_{RRH} := \frac{L_{RRH} \cdot T_{RRH}}{144} = 0.9$	sf
RRH Projected Surface Area =	$A_{RRH} := SA_{RRH} \cdot N_{RRH} = 0.9$	sf
Total RRH Wind Force =	$Fs_{RRH1} := F \cdot A_{RRH} = 50$	lbs

Gravity Load (without ice)

Weight of All RRHs =	$Wgt_{RRH1} := \left(WT_{RRH} \cdot N_{RRH}\right) = 50$	lbs

Development of Wind & Ice Load on RRHs

RRH Data:

RRH Model =	Ericsson RRUS-32		
RRH Shape =	Flat		(User Input)
RRH Height =	$L_{RRH} := 26.7$	in	(User Input)
RRH Width =	$W_{RRH} := 12.1$	in	(User Input)
RRH Thickness =	$T_{RRH} := 6.7$	in	(User Input)
RRH Weight =	$WT_{RRH} := 60$	lbs	(User Input)
Number of RRHs =	$N_{RRH} := 1$		(User Input)

Wind Load (Front)

Surface Area for One RRH =	$SA_{RRH} := \frac{L_{RRH} \cdot W_{RRH}}{144} = 2.2$	sf
RRH Projected Surface Area =	$A_{RRH} := SA_{RRH} \cdot N_{RRH} = 2.2$	sf
Total RRH Wind Force =	$Ff_{RRH2} := F \cdot A_{RRH} = 126$	lbs

Wind Load (Side)

Surface Area for One RRH =	$SA_{RRH} := \frac{L_{RRH} \cdot T_{RRH}}{144} = 1.2$	sf
RRH Projected Surface Area =	$A_{RRH} := SA_{RRH} \cdot N_{RRH} = 1.2$	sf
Total RRH Wind Force =	$Fs_{RRH2} := F \cdot A_{RRH} = 70$	lbs

Gravity Load (without ice)

Weight of All RRHs =	$Wgt_{RRH2} := \left(WT_{RRH} \cdot N_{RRH}\right) = 60$	lbs

Development of Wind & Ice Load on SAs

SA Data:

SA Model =	Raycap DC2		
SA Shape =	Flat		(User Input)
SA Height =	$L_{SA} := 11.64$	in	(User Input)
SA Width =	$W_{SA} := 13.22$	in	(User Input)
SA Thickness =	$T_{SA} := 6.27$	in	(User Input)
SA Weight =	$WT_{SA} := 16$	lbs	(User Input)
Number of SAs =	$N_{SA} := 1$		(User Input)

Wind Load (Front)

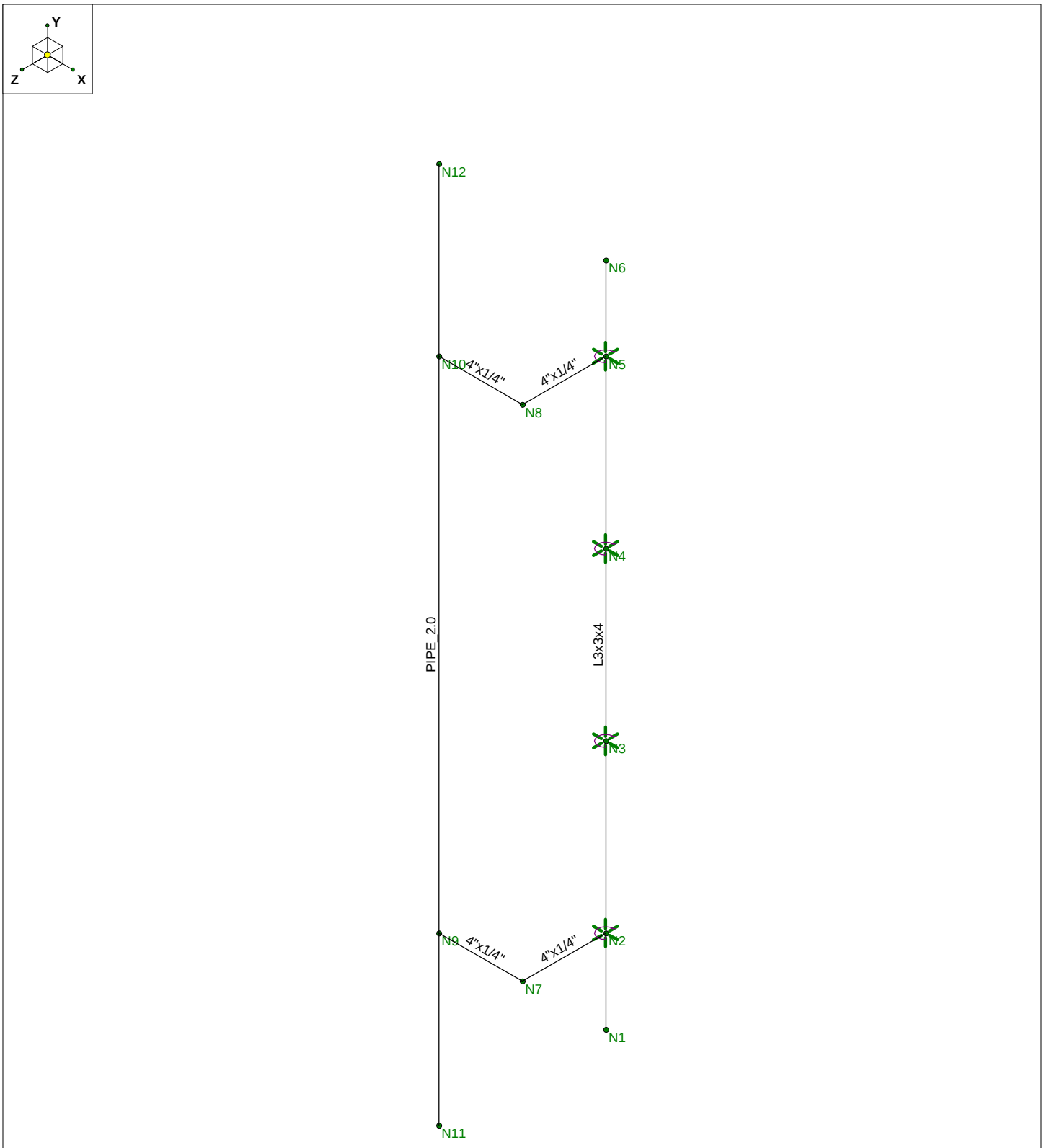
Surface Area for One SA =	$SA_{SA} := \frac{L_{SA} \cdot W_{SA}}{144} = 1.1$	sf
SA Projected Surface Area =	$A_{SA} := SA_{SA} \cdot N_{SA} = 1.1$	sf
Total SA Wind Force =	$Ff_{SA1} := F \cdot A_{SA} = 60$	lbs

Wind Load (Side)

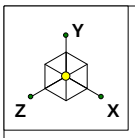
Surface Area for One SA =	$SA_{SA} := \frac{L_{SA} \cdot T_{SA}}{144} = 0.5$	sf
SA Projected Surface Area =	$A_{SA} := SA_{SA} \cdot N_{SA} = 0.5$	sf
Total SA Wind Force =	$Fs_{SA1} := F \cdot A_{SA} = 28$	lbs

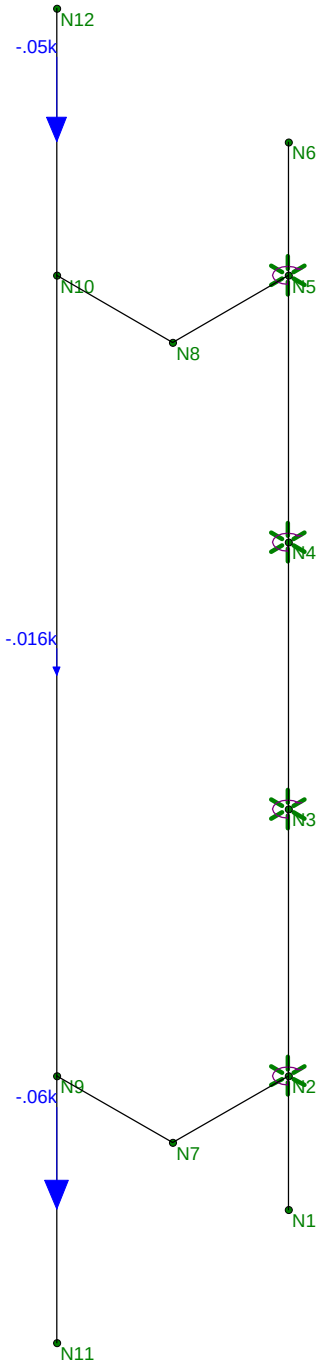
Gravity Load (without ice)

Weight of All SAs =	$Wgt_{SA1} := (WT_{SA} \cdot N_{SA}) = 16$	lbs



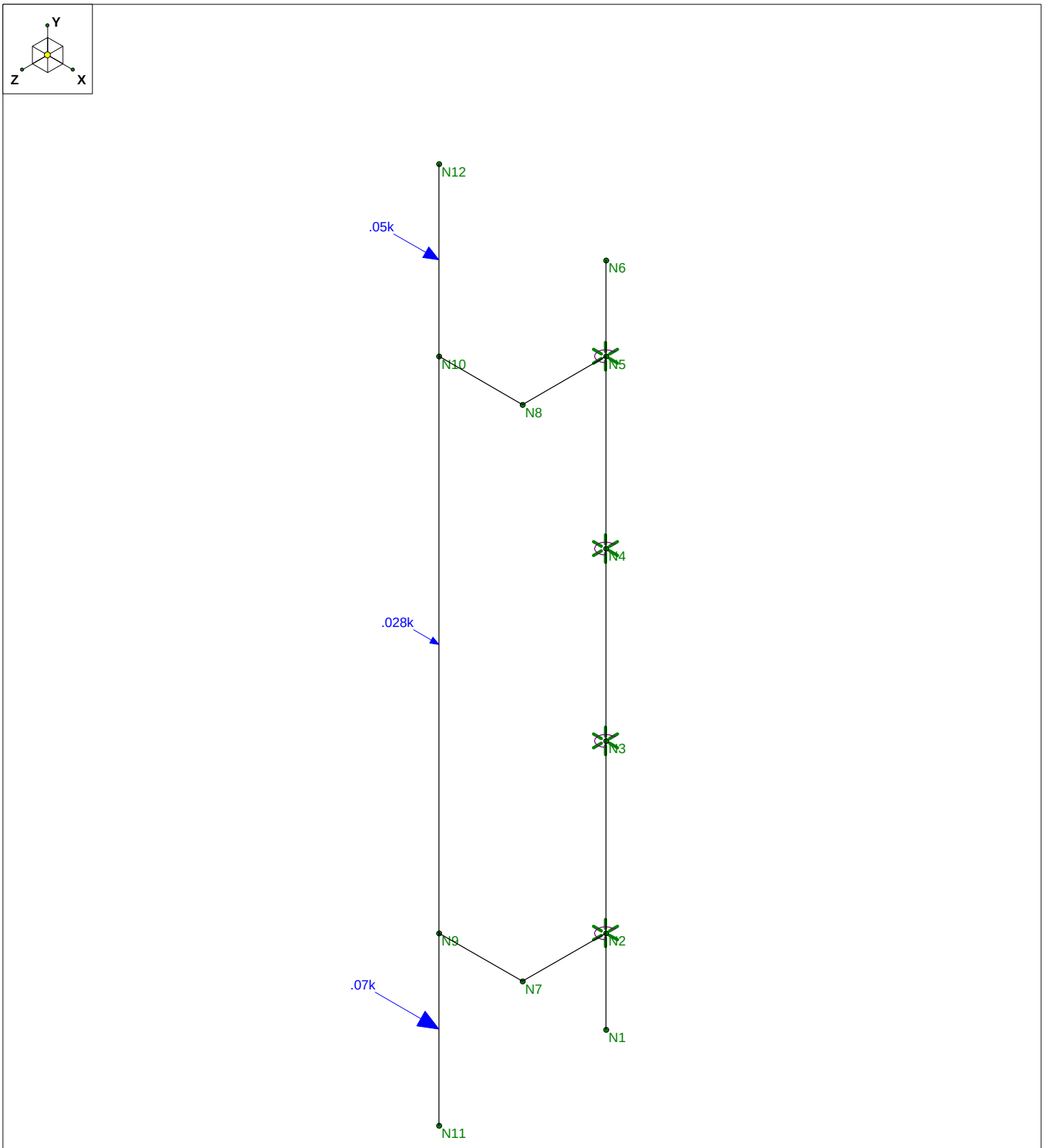
Centek Engineering		
TJL	Antenna Mount	Dec 6, 2017 at 5:35 PM
17004.62	Member Framing	Antenna Mount.r3d





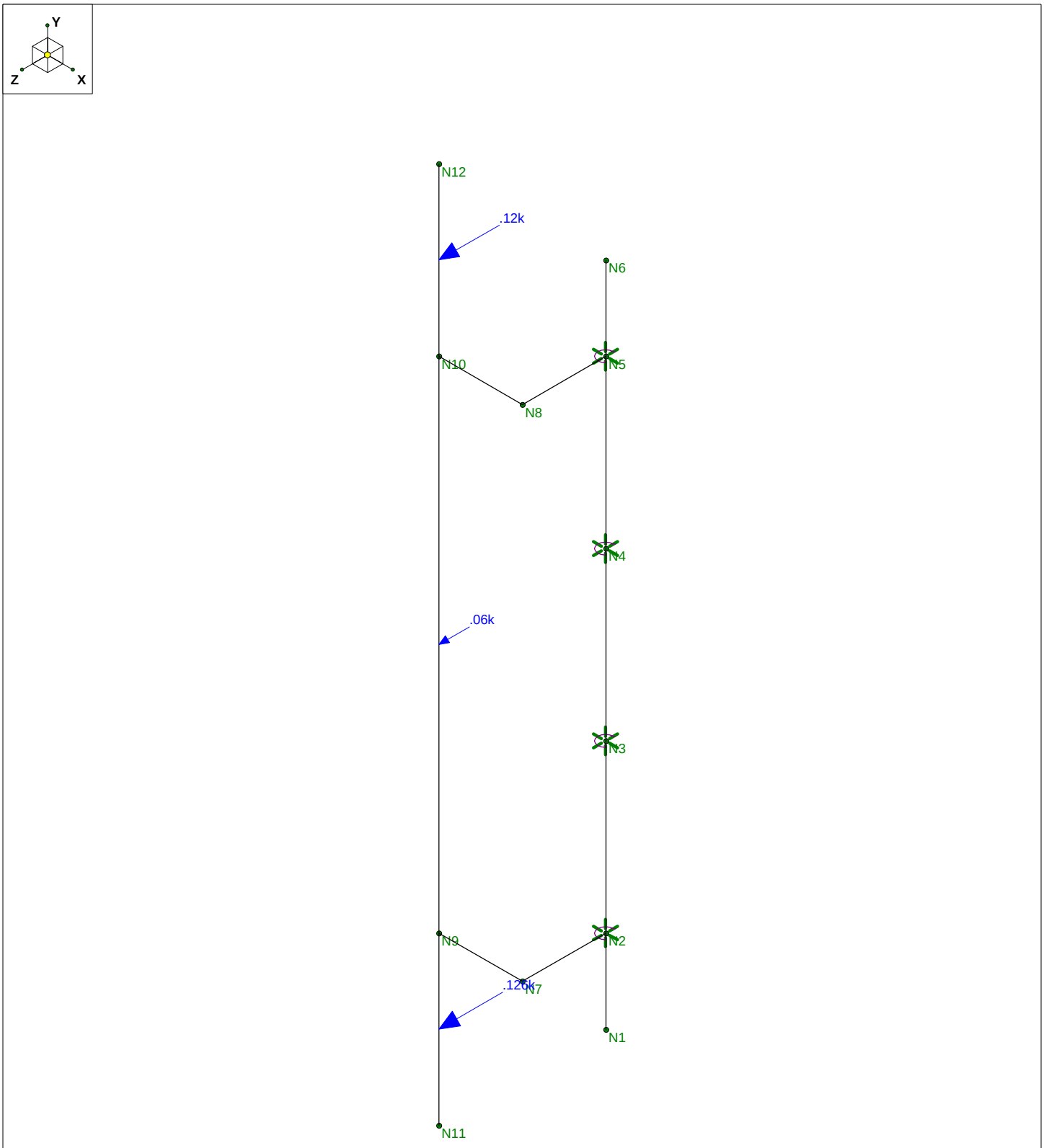
Loads: BLC 2, Weight of Equipment

Centek Engineering		
TJL	Antenna Mount	Dec 6, 2017 at 5:35 PM
17004.62	BLC # 2 Equipment Weights	Antenna Mount.r3d



Loads: BLC 3, Wind X-Direction

Centek Engineering		
TJL	Antenna Mount	Dec 6, 2017 at 5:36 PM
17004.62	BLC #3 Wind X-Direction	Antenna Mount.r3d



Loads: BLC 4, Wind Z-Direction

Centek Engineering		
TJL	Antenna Mount	Dec 6, 2017 at 5:36 PM
17004.62	BLC #4 Wind Z-Direction	Antenna Mount.r3d

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 14th(360-10): ASD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 14th(360-10): ASD
Cold Formed Steel Code	AISI S100-12: ASD
Wood Code	AWC NDS-15: ASD
Wood Temperature	< 100F
Concrete Code	ACI 318-14
Masonry Code	ACI 530-13: ASD
Aluminum Code	AA ADM1-15: ASD - Building
	AISC 14th(360-10): ASD

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	Yes
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1
Footing Overturning Safety Factor	1
Optimize for OTM/Sliding	No
Check Concrete Bearing	No
Footing Concrete Weight (k/ft^3)	.145
Footing Concrete f'c (ksi)	4
Footing Concrete Ec (ksi)	3644
Lambda	1
Footing Steel fy (ksi)	60
Minimum Steel	0.0018
Maximum Steel	0.0075
Footing Top Bar	#6
Footing Top Bar Cover (in)	1.5
Footing Bottom Bar	#6
Footing Bottom Bar Cover (in)	3
Pedestal Bar	#6
Pedestal Bar Cover (in)	1.5
Pedestal Ties	#4

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Mast	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	Outrigger	4"x1/4"	Beam	Tube	A36 Gr.36	Typical	1	.005	1.333	.02
3	L3x3x1/4	L3x3x4	Beam	Tube	A36 Gr.36	Typical	1.44	1.23	1.23	.031

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	L3x3x1/4	4			Lbyy						Lateral
2	M2	Outrigger	.5			Lbyy						Lateral
3	M3	Outrigger	.5			Lbyy						Lateral
4	M4	Outrigger	.5			Lbyy						Lateral
5	M5	Outrigger	.5			Lbyy						Lateral
6	M6	Mast	5			Lbyy						Lateral

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N1	N6			L3x3x1/4	Beam	Tube	A36 Gr.36	Typical
2	M2	N5	N8			Outrigger	Beam	Tube	A36 Gr.36	Typical
3	M3	N8	N10			Outrigger	Beam	Tube	A36 Gr.36	Typical
4	M4	N2	N7			Outrigger	Beam	Tube	A36 Gr.36	Typical
5	M5	N7	N9			Outrigger	Beam	Tube	A36 Gr.36	Typical
6	M6	N11	N12			Mast	Beam	Pipe	A53 Gr.B	Typical

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	0	0	
2	N2	0	.5	0	0	
3	N3	0	1.5	0	0	
4	N4	0	2.5	0	0	
5	N5	0	3.5	0	0	
6	N6	0	4	0	0	
7	N7	0	.5	.5	0	
8	N8	0	3.5	.5	0	
9	N9	-.5	.5	.5	0	
10	N10	-.5	3.5	.5	0	
11	N11	-.5	-.5	.5	0	
12	N12	-.5	4.5	.5	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N2	Reaction	Reaction	Reaction		S1	
2	N3	Reaction	Reaction	Reaction		S1	
3	N4	Reaction	Reaction	Reaction		S1	
4	N5	Reaction	Reaction	Reaction		S1	

Member Point Loads (BLC 2 : Weight of Equipment)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M6	Y	-.05	4.5
2	M6	Y	-.06	.5
3	M6	Y	-.016	%50

Member Point Loads (BLC 3 : Wind X-Direction)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M6	X	.05	4.5
2	M6	X	.07	.5
3	M6	X	.028	%50

Member Point Loads (BLC 4 : Wind Z-Direction)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M6	Z	.12	4.5
2	M6	Z	.126	.5
3	M6	Z	.06	%50

Member Distributed Loads

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
No Data to Print ...					

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Self Weight	DL		-1						
2	Weight of Equipment	DL					3			
3	Wind X-Direction	WLX					3			
4	Wind Z-Direction	WLZ					3			

Load Combinations

	Description	So...	P...	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	IBC 16-8	Yes	Y		DL	1																		
2	IBC 16-9	Yes	Y		DL	1	LL	1	LLS	1														
3	IBC 16-10 (a)	Yes	Y		DL	1	RLL	1																
4	IBC 16-11 (a)	Yes	Y		DL	1	LL	.75	LLS	.75	RLL	.75												
5	IBC 16-12 (a) (a)	Yes	Y		DL	1	W...	.6																
6	IBC 16-12 (a) (b)	Yes	Y		DL	1	W...	.6																
7	IBC 16-12 (a) (c)	Yes	Y		DL	1	W...	-.6																
8	IBC 16-12 (a) (d)	Yes	Y		DL	1	W...	-.6																
9	IBC 16-13 (a) (a)	Yes	Y		DL	1	W...	.45	LL	.75	LLS	.75	RLL	.75										
10	IBC 16-13 (a) (b)	Yes	Y		DL	1	W...	.45	LL	.75	LLS	.75	RLL	.75										
11	IBC 16-13 (a) (c)	Yes	Y		DL	1	W...	-.45	LL	.75	LLS	.75	RLL	.75										
12	IBC 16-13 (a) (d)	Yes	Y		DL	1	W...	-.45	LL	.75	LLS	.75	RLL	.75										
13	IBC 16-13 (b) (a)	Yes	Y		DL	1	W...	.45	LL	.75	LLS	.75												
14	IBC 16-13 (b) (b)	Yes	Y		DL	1	W...	.45	LL	.75	LLS	.75												
15	IBC 16-13 (b) (c)	Yes	Y		DL	1	W...	-.45	LL	.75	LLS	.75												
16	IBC 16-13 (b) (d)	Yes	Y		DL	1	W...	-.45	LL	.75	LLS	.75												

Load Combinations (Continued)

	Description	So...	P...	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
17	IBC 16-15 (a)	Yes	Y		DL	.6	W...	.6																
18	IBC 16-15 (b)	Yes	Y		DL	.6	W...	.6																
19	IBC 16-15 (c)	Yes	Y		DL	.6	W...	-.6																
20	IBC 16-15 (d)	Yes	Y		DL	.6	W...	-.6																

Envelope Joint Reactions

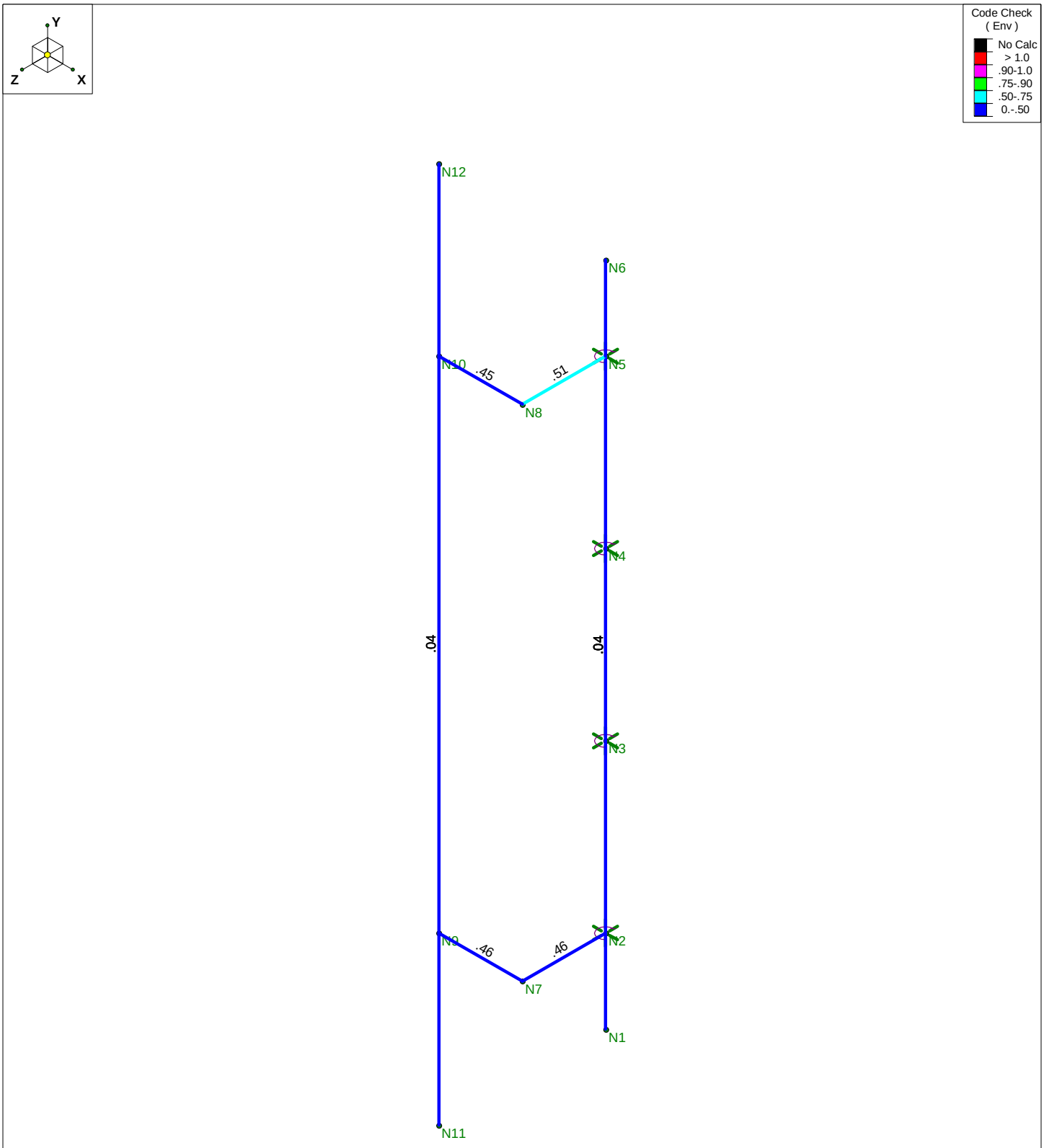
	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N2	max	.036	19	.098	7	.141	8	0	1	.027	20	0	1
2		min	-.081	5	.031	17	-.068	18	0	1	-.028	6	0	1
3	N3	max	.013	5	.005	7	-.026	17	0	1	.02	20	0	1
4		min	.005	19	.003	17	-.072	7	0	1	-.019	6	0	1
5	N4	max	-.005	19	.005	5	.071	5	0	1	.021	8	0	1
6		min	-.013	5	.003	19	.027	19	0	1	-.017	18	0	1
7	N5	max	.064	7	.097	5	.063	20	0	1	.031	8	0	1
8		min	-.019	17	.03	19	-.135	6	0	1	-.024	18	0	1
9	Totals:	max	.089	19	.17	7	.184	20						
10		min	-.089	5	.102	17	-.184	6						

Envelope Joint Displacements

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
1	N1	max	0	7	0	17	0	17	1.132e-04	7	2.76e-02	6	6.561e-05	7
2		min	0	17	0	7	0	7	3.301e-05	17	-2.746e-02	20	2.348e-05	17
3	N2	max	0	5	0	17	0	18	1.132e-04	7	2.76e-02	6	6.562e-05	7
4		min	0	19	0	7	0	8	3.301e-05	17	-2.746e-02	20	2.348e-05	17
5	N3	max	0	19	0	17	0	7	-3.775e-06	17	1.856e-02	6	-2.988e-06	17
6		min	0	5	0	7	0	17	-2.181e-05	7	-1.996e-02	20	-1.472e-05	7
7	N4	max	0	5	0	19	0	19	-3.568e-06	19	1.744e-02	18	-2.298e-06	19
8		min	0	19	0	5	0	5	-2.189e-05	5	-2.095e-02	8	-1.533e-05	5
9	N5	max	0	17	0	19	0	6	1.133e-04	5	2.38e-02	18	6.955e-05	5
10		min	0	7	0	5	0	20	3.24e-05	19	-3.085e-02	8	1.934e-05	19
11	N6	max	0	19	0	19	0	5	1.133e-04	5	2.38e-02	18	6.955e-05	5
12		min	0	5	0	5	0	19	3.24e-05	19	-3.085e-02	8	1.934e-05	19
13	N7	max	.25	6	0	17	0	18	1.633e-04	7	5.48e-02	6	1.61e-03	5
14		min	-.248	20	0	7	0	8	4.519e-05	17	-5.57e-02	20	3.439e-04	19
15	N8	max	.218	18	0	19	0	6	1.609e-04	5	4.986e-02	18	1.547e-03	5
16		min	-.275	8	0	5	0	20	4.684e-05	19	-5.929e-02	8	4.055e-04	19
17	N9	max	.25	6	-.003	19	.375	6	1.575e-04	20	6.555e-02	6	1.589e-03	5
18		min	-.248	20	-.01	5	-.393	20	-8.711e-04	6	-7.065e-02	20	3.104e-04	19
19	N10	max	.218	18	-.003	19	.359	18	-1.385e-05	18	6.537e-02	18	1.506e-03	5
20		min	-.275	8	-.01	5	-.403	8	-6.66e-04	8	-7.069e-02	20	3.931e-04	19
21	N11	max	.264	6	-.003	19	.387	6	2.51e-04	20	6.555e-02	6	1.641e-03	5
22		min	-.241	20	-.01	5	-.396	20	-9.644e-04	6	-7.065e-02	20	2.584e-04	19
23	N12	max	.209	18	-.003	19	.36	18	7.525e-05	18	6.537e-02	18	1.469e-03	5
24		min	-.288	8	-.01	5	-.412	8	-7.553e-04	8	-7.069e-02	20	4.303e-04	19

Envelope AISC 14th(360-10): ASD Steel Code Checks

	Member	Shape	Code Check	Loc...	LC	Shea...	Loc.....	L...	Pnc/o...	Pnt/om...	Mnyy/...	Mnzz/...	...	Eqn
1	M1	L3x3x4	.042	.5	7	.153	2.5	z	8	21.778	31.042	1.123	2.499	2...	H2-1
2	M2	4"x1/4"	.511	0	8	.064	0	y	5	14.961	21.557	.112	1.796	1...	H1-1b
3	M3	4"x1/4"	.449	0	6	.038	0	y	5	14.961	21.557	.112	1.796	1...	H1-1b
4	M4	4"x1/4"	.462	0	6	.063	0	y	5	14.961	21.557	.112	1.796	1...	H1-1b
5	M5	4"x1/4"	.458	0	8	.044	0	y	6	14.961	21.557	.112	1.796	1...	H1-1b
6	M6	PIPE_2.0	.040	1.042	8	.012	.521		8	15.841	21.377	1.245	1.245	1...	H1-1b



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Centek Engineering		
TJL	Antenna Mount	Dec 6, 2017 at 5:34 PM
17004.62	Unity Check	Antenna Mount.r3d

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	CTV5192	DATE:	03/13/2017	RF DESIGN ENG:	Mohammed Rahman
ISSUE:	1xBBU RRH ADD	Approved? (Y/N):	Yes	RF DESIGN PHONE:	8602586350
REVISION:	Final	RF MANAGER:	John Benedetto	RF DESIGN EMAIL:	mr673a@att.com
INITIATIVE /PROJECT:	LTE 4T4R Retrofit				

RF PERF ENG:		RFDS PROGRAM TYPE:	2017 LTE Multi Carrier		
RF PERF PHONE:		RFDS TECHNOLOGY:	4TXRX		
RF PERF EMAIL:		STATE/STATUS:	Preliminary/Approved		
RFDS VERSION:	1.00	RFDS ID:	1684113		
GSM FREQUENCY:		Created By:	mr673a	Updated By:	dc5778
UMTS FREQUENCY:	850, 1900	Date Created:	3/13/2017 6:13:07 PM	Date Updated:	3/23/2017 9:39:29 AM
LTE FREQUENCY:	700, 1900				
I-PLAN JOB # 1:	NER-RCTB-17-00651	IPLAN PRD GRP || SUB GRP #1:	Antenna Modifications || 4TXRX Antenna Retrofit		
I-PLAN JOB # 2:		IPLAN PRD GRP || SUB GRP #2:			
I-PLAN JOB # 3:		IPLAN PRD GRP || SUB GRP #3:			
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:	4566	FA LOCATION CODE:	10071335	LOCATION NAME:	WINDSOR LOCKS NORTH
REGION:	NORTHEAST	MARKET CLUSTER:	NEW ENGLAND	MARKET:	CONNECTICUT
ADDRESS:	104 PROSPECT HILL ROAD	CITY:	EAST WINDSOR	STATE:	CT
ZIP CODE:	06088	COUNTY:	HARTFORD	LONG (DEC. DEG.):	-72.6046989
LATITUDE (D-M-S):	41d 55m 36.09084s	LONGITUDE (D-M-S):	-72d -36m -16.91604s	LAT (DEC. DEG.):	41.9266919
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	I-91 NORTH TO EXIT 44,BEAR NORTH AT THE END OF THE EXIT,WHICH IS PROSPECT HILL ROAD.GO ABOUT 6/10TNTHS OF MILE,THE ACCESS ROAD IS ON THE RIGHT.THE ACCESS ROAD IS RIGHT AFTER YOU PASS THE KETTLE BROOK CARE CENTER. DEMARC IS IN THE TELCO BOX INSIDE OF GATE AREA.. GATE COMBO:9110,1452,2500SHELTER;GROUND LEVELCIPHER LOCK;3534 AND MASTER CODEON LTE ALARMS:7/6/14LTE RADIOS;ON WATER TANKADDRESS: 104 PROSPECT HILL ROAD,EAST WINDSOR,CT.ACCESS : WATER COMPANY ASKING FOR 48 HOUR NOTICE FOR ROUTINE WORK,AT NIGHT YOU CAN GO IN JUST CALL AND LEAVE A MESSAGE ON AL'S VOICEMAIL THAT YOU WERE AT THE SITECONTACT: 860-669-8630 X 3057;AL-DAYTIME ONLYSECURITY: NO ISSUESPOWER COMPANY: NORTHEAST UTILITIES (800) 286-2000METER:089-085-359FIRE: (860) 745-1878 POLICE: (860) 763-6400T-1:GSM:HCGS-737362-ET-107T-1:GSM:HCGS-727136-ET-52UMTS:ON FIBER				

ORACLE PTN # 1:	2051A09FYB	PACE JOB # 1:	MRCTB022142		
ORACLE PTN # 2:		PACE JOB # 2:			
ORACLE PTN # 3:		PACE JOB # 3:			
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-North	LAC(GSM):	05005		
OPS ZONE:	NE_CT_N_TLDN_N_CS	LAC(UMTS):	05993		
RF DISTRICT:	NPO Triage	BSC(GSM):	BCT05		
RF ZONE:	Hotseat	RNC(UMTS):	MDTWCTNICR0R04		
PARENT NAME(GSM):	MIDDLETOWN-GSM MTSO-BSC-5	MME POOL ID(LTE):	FF01		
PARENT NAME(UMTS):	MIDDLETOWN RNC04				

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:	z_KNLB312,z_KNLB312,z_KNLB312

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	Yes	GROUND ELEVATION (ft):		STRUCTURE TYPE:	WATER TANK
ADDITIONAL REGULATORY?:	Yes	HEIGHT OVERALL (ft):	140.00	FCC ASR NUMBER:	NR
SUB-LEASE RIGHTS?:	Yes	STRUCTURE HEIGHT (ft):	140.00		
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	CONNECTICUT STATE POLICE-H TROOP	1320		INTRADO_MIAMI		0				
SECTOR B	EAST WINDSOR POLICE DEPARTMENT	1337		INTRADO_MIAMI		0				
SECTOR C	CONNECTICUT STATE POLICE-H TROOP	1320		INTRADO_MIAMI		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	CONNECTICUT STATE POLICE-H TROOP	1320		INTRADO_MIAMI		0				
SECTOR B	EAST WINDSOR POLICE DEPARTMENT	1337		INTRADO_MIAMI		0				
SECTOR C	CONNECTICUT STATE POLICE-H TROOP	1320		INTRADO_MIAMI		0				
SECTOR D										
SECTOR E										
SECTOR F										
OMNI										

Section 6 - RBS GENERAL INFORMATION - existing

	GSM 1ST RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS								
RBS ID:	43700	208908	300987	367050								
CTS COMMON ID:	184P5192	CTV5192	CTU5192	CTL05192								
CELL ID / BCF:	NYNYCT0192	CTV5192	CTV5192	CTL05192								
BTA/TID:	184P	184U	184W	184L								
4-9 DIGIT SITE ID:	5192	5192	5192	5192								
COW OR TOY?:	No	No	No	No								
CELL SITE TYPE:												
SITE TYPE:												
BTS LOCATION ID:												
BASE STATION TYPE:												
EQUIPMENT NAME:	GSM-WINDSOR LOCKS NORTH	WINDSOR LOCKS NORTH	WINDSOR LOCKS NORTH	WINDSOR LOCKS NORTH								
DISASTER PRIORITY:												

Section 6 - RBS GENERAL INFORMATION - final

	GSM 1ST RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS								
RBS ID:	43700	208908	300987	367050								
CTS COMMON ID:	184P5192	CTV5192	CTU5192	CTL05192								
CELL ID / BCF:	NYNYCT0192	CTV5192	CTV5192	CTL05192								
BTA/TID:	184P	184U	184W	184L								
4-9 DIGIT SITE ID:	5192	5192	5192	5192								
COW OR TOY?:	No	No	No	No								
CELL SITE TYPE:	SECTORIZED	SECTORIZED	SECTORIZED	SECTORIZED								
SITE TYPE:	BTS-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL								
BTS LOCATION ID:	GROUND	INTERNAL	INTERNAL	INTERNAL								
BASE STATION TYPE:	BASE	BASE	OVERLAY	BASE								
EQUIPMENT NAME:	GSM-WINDSOR LOCKS NORTH	WINDSOR LOCKS NORTH	WINDSOR LOCKS NORTH	WINDSOR LOCKS NORTH								
DISASTER PRIORITY:	1	1	0	3								

Section 7 - RBS SPECIFIC INFORMATION - existing

	GSM 1ST RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS								
RAC:												
EQUIPMENT VENDOR:												
EQUIPMENT TYPE:												
BASEBAND CONFIGURATION:												
LOCATION:												
CABINET LOCATION:												
MARKET STATE CODE:												
AGPS:	Yes	Yes	Yes	Yes								
NODE B NUMBER:	0	0	0	5192								

Section 7 - RBS SPECIFIC INFORMATION - final

	GSM 1ST RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS								
RAC:												
EQUIPMENT VENDOR:	NOKIA	ERICSSON	ERICSSON	ERICSSON								
EQUIPMENT TYPE:	ULTRASITE	3206 INDOOR	3206 INDOOR	6601 INDOOR MU								
BASEBAND CONFIGURATION:				1x6601 / 1xDUS41 / 1xXMU03								
LOCATION:												
CABINET LOCATION:												
MARKET STATE CODE:				CT								
AGPS:	Yes	Yes	Yes	Yes								
NODE B NUMBER:	0	0	0	5192								

Section 8 - RBS/SECTOR ASSOCIATION - existing

	GSM 1ST RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS																
CTS Common ID	184P5192	CTV5192	CTU5192	CTL05192																
Soft Sector IDs	184P51921	CTV51921	CTU51927	CTL05192_7A_1																
	184P51922	CTV51922	CTU51928	CTL05192_7B_1																
	184P51923	CTV51923	CTU51929	CTL05192_7C_1																
				CTL05192_9A_1																
				CTL05192_9A_2																
				CTL05192_9B_1																
				CTL05192_9B_2																
				CTL05192_9C_1																
				CTL05192_9C_2																

Section 8 - RBS/SECTOR ASSOCIATION - final

	GSM 1ST RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS																
CTS Common ID	184P5192	CTV5192	CTU5192	CTL05192																
Soft Sector IDs	184P51921	CTV51921	CTU51927	CTL05192_7A_1																
	184P51922	CTV51922	CTU51928	CTL05192_7B_1																
	184P51923	CTV51923	CTU51929	CTL05192_7C_1																
				CTL05192_9A_1																
				CTL05192_9A_2																
				CTL05192_9B_1																
				CTL05192_9B_2																
				CTL05192_9C_1																
				CTL05192_9C_2																

Section 9 - SOFT SECTOR ID - existing

	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 1900	LTE 2ND 1900																				
USEID (excluding Hard Sector)	4566.1900.25G.1	4566.850.3G.1	4566.1900.3G.2																							
SECTOR A SOFT SECTOR ID	184P51921	CTV51921	CTU51927	CTL05192_7A_1	CTL05192_9A_1	CTL05192_9A_2$G																				
SECTOR B	184P51922	CTV51922	CTU51928	CTL05192_7B_1	CTL05192_9B_1	CTL05192_9B_2$G																				
SECTOR C	184P51923	CTV51923	CTU51929	CTL05192_7C_1	CTL05192_9C_1	CTL05192_9C_2$G																				
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 9 - SOFT SECTOR ID - final

	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 1900	LTE 2ND 1900																				
USEID (excluding Hard Sector)	4566.1900.25G.1	4566.850.3G.1	4566.1900.3G.2																							
SECTOR A SOFT SECTOR ID	184P51921	CTV51921	CTU51927	CTL05192_7A_1	CTL05192_9A_1	CTL05192_9A_2																				
SECTOR B	184P51922	CTV51922	CTU51928	CTL05192_7B_1	CTL05192_9B_1	CTL05192_9B_2																				
SECTOR C	184P51923	CTV51923	CTU51929	CTL05192_7C_1	CTL05192_9C_1	CTL05192_9C_2																				
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 9 - Cell Number - existing

	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 1900	LTE 2ND 1900																				
USEID (excluding Hard Sector)	4566.1900.25G.1	4566.850.3G.1	4566.1900.3G.2																							
SECTOR A **CELL NUMBER**	0	0	0	15	8	178$G																				
SECTOR B	0	0	0	16	9	179$G																				
SECTOR C	0	0	0	17	10	180$G																				
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 9 - Cell Number - final

	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 1900	LTE 2ND 1900																				
USEID (excluding Hard Sector)	4566.1900.25G.1	4566.850.3G.1	4566.1900.3G.2																							
SECTOR A **CELL NUMBER**	0	0	0	15	8	178																				
SECTOR B	0	0	0	16	9	179																				
SECTOR C	0	0	0	17	10	180																				
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 10 - CID/SAC - existing

		GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 1900	LTE 2ND 1900																					
SECTOR A	CID/SAC	51921	51921	51927																								
SECTOR B		51922	51922	51928																								
SECTOR C		51923	51923	51929																								
SECTOR D																												
SECTOR E																												
SECTOR F																												
OMNI																												

Section 10 - CID/SAC - final

		GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 1900	LTE 2ND 1900																					
SECTOR A	CID/SAC	51921	51921	51927																								
SECTOR B		51922	51922	51928																								
SECTOR C		51923	51923	51929																								
SECTOR D																												
SECTOR E																												
SECTOR F																												
OMNI																												

Section 12 - CURRENT T1 COUNTS existing

	LTE 1ST Cabinet															
# T1s																
LINK PROFILE																
RF COMBINING																
FIBER or ETHERNET?																
Tx Board Model																
Tx Board QTY																
RAX/ECU Board Model																
RAX/ECU Board QTY																
BBU Board Model	DUS41															
BBU Board QTY	1															
RRU - location																
FIBER JUMPER																
DC CABLE																
DC/Fiber Dem. Box																
Bundled Fiber Cable																
Bundled DC Cable																

Section 14 - NEW/PROPOSED T1 COUNTS

	LTE 1ST Cabinet															
# T1s																
LINK PROFILE																
RF COMBINING																
FIBER or ETHERNET?																
Tx Board Model																
Tx Board QTY																
RAX/ECU Board Model																
RAX/ECU Board QTY																
BBU Board Model	DUS41															
BBU Board QTY	1															
RRU - location																
FIBER JUMPER																
DC CABLE																
DC/Fiber Dem. Box																
Bundled Fiber Cable																
Bundled DC Cable																

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	800-10121		HPA-65R-BUU-H8				
ANTENNA VENDOR	Kathrein		CCI Antennas				
ANTENNA SIZE (H x W x D)	54.5X10.3X5.9		92.4X14.8X7.4				
ANTENNA WEIGHT	44.1		68				
AZIMUTH	0		60				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	78		78				
ANTENNA TIP HEIGHT	80		82				
MECHANICAL DOWNTILT	0		0				
FEEDER AMOUNT	2						
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)	2 Kathrein 860-10025						
SURGE ARRESTOR (QTY/MODEL)			1 DC Fiber Squid				
DIPLEXER (QTY/MODEL)	2 Powerwave / LGP 21901						
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)	1 Kathrein / 860-10006						
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2 Powerwave LGP 21401 (DB - 850 Bypass)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2 Polyphaser 1000860						
PDU FOR TMAS (QTY/MODEL)	1 LGP 12104 (1900 AND 850 Bypass TMA)						
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)							
RRH - 1900 band (QTY/MODEL)			1 RRUS-12+RRUS-A2				
RRH - AWS band (QTY/MODEL)							
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 1900 A3-A4 & E - BWE- 1xBBU RRH ADD //Replace LTE 1900 Radio w/ RRUS-12 on existing LTE Antenna // Add XMU.						
Local Market Note 2							
Local Market Note 3	Baseband Config - 1 DUS + XMUDUS-1 7A:7B:7C:X1P1:X1P2:ACXMU-1 PA:_:PB:_:PC:_:AC:AB:_:_:_:_:_:_:D1E:D1D						

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	4566.A.850.3G.1	4566.A.850.3G.1	CTV51921	CTV51921		UMTS 850	800 10121 @850MHz_04DT	16.2	0	4	None	Andrew 1-5/8 (850)	165.042252	NO					533.33		1	
	PORT 3	4566.A.1900.3G.2	4566.A.1900.3G.2	CTU51927	CTU51927		UMTS 1900	800 10121 @1950_Xpol_2dt	18	0	2	None	Andrew 1-5/8 (850)	165.042252	RXAIT 1900					729.46		2	
	PORT 5	4566.A.1900.25G.1	4566.A.1900.25G.1	184P51921	184P51921		GSM 1900	800 10121 @1950_Xpol_2dt	17.03	0	1	None	Andrew 1-5/8 (850)	165.042252	RXAIT 1900				11.22	285.1		2	
ANTENNA POSITION 3	PORT 1	4566.A.700.4G.1	4566.A.700.4G.1	CTL05192_7A_1	CTL05192_7A_1		LTE 700	HPA-65R-BUU-H8_725MHz_04DT	15.6	60	4	TOP	FIBER	0						1044.7202		5	

	PORT 3	4566.A.1900.4G.1	4566.A.1900.4G.1	CTL05192_9A_1	CTL05192_9A_1		LTE 1900	HPA-65R-BUU-H8_1948MHz_05DT	17.29	60	5	TOP	FIBER	0						2233.5722		5	
	PORT 4	4566.A.1900.4G.tmp2	4566.A.1900.4G.tmp2	CTL05192_9A_2	CTL05192_9A_2		LTE 1900	HPA-65R-BUU-H8_1948MHz_05DT	17.29	60	5	TOP	FIBER	0						2233.5722		5	

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	800-10121		HPA-65R-BUU-H8				
ANTENNA VENDOR	Kathrein		CCI Antennas				
ANTENNA SIZE (H x W x D)	54.5X10.3X5.9		92.4X14.8X7.4				
ANTENNA WEIGHT	44.1		68				
AZIMUTH	120		170				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	78		78				
ANTENNA TIP HEIGHT	80		82				
MECHANICAL DOWNTILT	0		0				
FEEDER AMOUNT	2						
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)	2	Kathrein 860-10025					
SURGE ARRESTOR (QTY/MODEL)			1	DC Fiber Squid			
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901					
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2	Powerwave LGP 21401 (DB - 850 Bypass)					
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860					
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)							
RRH - 1900 band (QTY/MODEL)			1	RRUS-12+RRUS-A2			
RRH - AWS band (QTY/MODEL)							
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 1900 A3-A4 & E - BWE- 1xBBU RRH ADD //Replace LTE 1900 Radio w/ RRUS-12 on existing LTE Antenna // Add XMU.						
Local Market Note 2							
Local Market Note 3	Baseband Config - 1 DUS + XMUDUS-1 7A:7B:7C:X1P1:X1P2:ACXMU-1 PA:_:PB:_:PC:_:AC:AB:_:_:_:_:_:_:D1E:D1D						

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	4566.B.850.3G.1	4566.B.850.3G.1	CTV51922	CTV51922		UMTS 850	800 10121 @1950_840MHz_04DT	17.2	120	4	None	Andrew 1-5/8 (850)	165.042252	NO					770.9		9	
	PORT 3	4566.B.1900.3G.2	4566.B.1900.3G.2	CTU51928	CTU51928		UMTS 1900	800 10121 @1950_Xpol_2dt	17.5	120	2	None	Andrew 1-5/8 (850)	165.042252	RXAIT 1900					650.13		10	
	PORT 5	4566.B.1900.25G.1	4566.B.1900.25G.1	184P51922	184P51922		GSM 1900	800 10121 @1950_Xpol_7dt	16.45	120	7	None	Andrew 1-5/8 (850)	165.042252	RXAIT 1900				28.18	626.61		10	
ANTENNA POSITION 3	PORT 1	4566.B.700.4G.1	4566.B.700.4G.1	CTL05192_7B_1	CTL05192_7B_1		LTE 700	HPA-65R-BUU-H8_719MHz_04DT	16.39	170	4	TOP	FIBER	0						1044.7202		13	

	PORT 3	4566.B.1900.4G.1	4566.B.1900.4G.1	CTL05192_9B_1	CTL05192_9B_1		LTE 1900	HPA-65R-BUU-H8_1948MHz_02DT	16.89	170	2	TOP	FIBER	0						2233.5722		13	
	PORT 4	4566.B.1900.4G.tmp2	4566.B.1900.4G.tmp2	CTL05192_9B_2	CTL05192_9B_2		LTE 1900	HPA-65R-BUU-H8_1948MHz_02DT	16.89	170	2	TOP	FIBER	0						2233.5722		13	

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	800-10121		HPA-65R-BUU-H8				
ANTENNA VENDOR	Kathrein		CCI Antennas				
ANTENNA SIZE (H x W x D)	54.5X10.3X5.9		92.4X14.8X7.4				
ANTENNA WEIGHT	44.1		68				
AZIMUTH	240		290				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	78		78				
ANTENNA TIP HEIGHT	80		82				
MECHANICAL DOWNTILT	0		0				
FEEDER AMOUNT	2						
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)	2	Kathrein 860-10025					
SURGE ARRESTOR (QTY/MODEL)			1	DC Fiber Squid			
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901					
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2	Powerwave LGP 21401 (DB - 850 Bypass)					
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860					
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)							
RRH - 1900 band (QTY/MODEL)			1	RRUS-12+RRUS-A2			
RRH - AWS band (QTY/MODEL)							
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 1900 A3-A4 & E - BWE- 1xBBU RRH ADD //Replace LTE 1900 Radio w/ RRUS-12 on existing LTE Antenna // Add XMU.						
Local Market Note 2							
Local Market Note 3	Baseband Config - 1 DUS + XMUDUS-1 7A:7B:7C:X1P1:X1P2:ACXMU-1 PA:_:PB:_:PC:_:AC:AB:_:_:_:_:_:_:D1E:D1D						

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	4566.C.850.3G.1	4566.C.850.3G.1	CTV51923	CTV51923		UMTS 850	800 10121 @850MHz_04DT	16.2	240	4	None	Andrew 1-5/8 (850)	165.042252	NO					533.33		17	
	PORT 3	4566.C.1900.3G.2	4566.C.1900.3G.2	CTU51929	CTU51929		UMTS 1900	800 10121 @1950_Xpol_2dt	18	240	2	None	Andrew 1-5/8 (850)	165.042252	RXAIT 1900					729.46		18	
	PORT 5	4566.C.1900.25G.1	4566.C.1900.25G.1	184P51923	184P51923		GSM 1900	800 10121 @1950_Xpol_7dt	16.45	240	7	None	Andrew 1-5/8 (850)	165.042252	RXAIT 1900				28.18	626.61		18	
ANTENNA POSITION 3	PORT 1	4566.C.700.4G.1	4566.C.700.4G.1	CTL05192_7C_1	CTL05192_7C_1		LTE 700	HPA-65R-BUU-H8_725MHz_09DT	15.6	290	9	TOP	FIBER	0						1044.7202		21	

	PORT 3	4566.C.1900.4G.1	4566.C.1900.4G.1	CTL05192_9C_1	CTL05192_9C_1		LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	17.39	290	6	TOP	FIBER	0						2233.5722		21	
	PORT 4	4566.C.1900.4G.tmp2	4566.C.1900.4G.tmp2	CTL05192_9C_2	CTL05192_9C_2		LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	17.39	290	6	TOP	FIBER	0						2233.5722		21	

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?			Yes				
ANTENNA MAKE - MODEL							
ANTENNA VENDOR							
ANTENNA SIZE (H x W x D)							
ANTENNA WEIGHT							
AZIMUTH							
MAGNETIC DECLINATION							
RADIATION CENTER (feet)							
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT							
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)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
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)							
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)			1 RRUS-32 B2				
RRH - AWS band (QTY/MODEL)							
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 4T4R Retrofit- Replace RRUS-12+A2 with RRUS-32 B2						
Local Market Note 2							
Local Market Note 3	Baseband Config - 1 DUS + XMUDUS-1 7A:7B:7C:X1P1:X1P2:ACXMU-1 PA:_:PB:_:PC:_:AC:AB:_:_:_:_:_:_:D1E:D1D						

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 3	PORT 3		4566.A.1900.4G.1	CTL05192_9A_1	CTL05192_9A_1		LTE 1900	HPA-65R-BUU-H8_1948MHz_05DT	17.29	60	5	TOP	FIBER	0						2233.5722		5	
	PORT 4		4566.A.1900.4G.tmp2	CTL05192_9A_2	CTL05192_9A_2		LTE 1900	HPA-65R-BUU-H8_1948MHz_05DT	17.29	60	5	TOP	FIBER	0						2233.5722		5	

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?			Yes				
ANTENNA MAKE - MODEL							
ANTENNA VENDOR							
ANTENNA SIZE (H x W x D)							
ANTENNA WEIGHT							
AZIMUTH							
MAGNETIC DECLINATION							
RADIATION CENTER (feet)							
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT							
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)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
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)							
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)			1 RRUS-32 B2				
RRH - AWS band (QTY/MODEL)							
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 4T4R Retrofit- Replace RRUS-12+A2 with RRUS-32 B2						
Local Market Note 2							
Local Market Note 3	Baseband Config - 1 DUS + XMUDUS-1 7A:7B:7C:X1P1:X1P2:ACXMU-1 PA:_:PB:_:PC:_:AC:AB:_:_:_:_:_:_:D1E:D1D						

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 3	PORT 3		4566.B.1900.4G.1	CTL05192_9B_1	CTL05192_9B_1		LTE 1900	HPA-65R-BUU-H8_1948MHz_02DT	16.89	170	2	TOP	FIBER	0						2233.5722		13	
	PORT 4		4566.B.1900.4G.tmp2	CTL05192_9B_2	CTL05192_9B_2		LTE 1900	HPA-65R-BUU-H8_1948MHz_02DT	16.89	170	2	TOP	FIBER	0						2233.5722		13	

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?			Yes				
ANTENNA MAKE - MODEL							
ANTENNA VENDOR							
ANTENNA SIZE (H x W x D)							
ANTENNA WEIGHT							
AZIMUTH							
MAGNETIC DECLINATION							
RADIATION CENTER (feet)							
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT							
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)							
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
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)							
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)			1 RRUS-32 B2				
RRH - AWS band (QTY/MODEL)							
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 4T4R Retrofit- Replace RRUS-12+A2 with RRUS-32 B2						
Local Market Note 2							
Local Market Note 3	Baseband Config - 1 DUS + XMUDUS-1 7A:7B:7C:X1P1:X1P2:ACXMU-1 PA:_:PB:_:PC:_:AC:AB:_:_:_:_:_:_:D1E:D1D						

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 3	PORT 3		4566.C.1900.4G.1	CTL05192_9C_1	CTL05192_9C_1		LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	17.39	290	6	TOP	FIBER	0						2233.5722		21	
	PORT 4		4566.C.1900.4G.tmp2	CTL05192_9C_2	CTL05192_9C_2		LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	17.39	290	6	TOP	FIBER	0						2233.5722		21	

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	800-10121		HPA-65R-BUU-H8				
ANTENNA VENDOR	Kathrein		CCI Antennas				
ANTENNA SIZE (H x W x D)	54.5X10.3X5.9		92.4X14.8X7.4				
ANTENNA WEIGHT	44.1		68				
AZIMUTH	0		60				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	78		78				
ANTENNA TIP HEIGHT	80		82				
MECHANICAL DOWNTILT	0		0				
FEEDER AMOUNT	2						
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)	2	Kathrein 860-10025					
SURGE ARRESTOR (QTY/MODEL)			1	DC Fiber Squid			
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901					
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)	1	Kathrein / 860-10006					
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2	Powerwave LGP 21401 (DB - 850 Bypass)					
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860					
PDU FOR TMAS (QTY/MODEL)	1	LGP 12104 (1900 AND 850 Bypass TMA)					
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)							
RRH - 1900 band (QTY/MODEL)			1	RRUS-32 B2			
RRH - AWS band (QTY/MODEL)							
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 4T4R Retrofit- Replace RRUS-12+A2 with RRUS-32 B2						
Local Market Note 2							
Local Market Note 3	Baseband Config - 1 DUS + XMUDUS-1 7A:7B:7C:X1P1:X1P2:ACXMU-1 PA:_:PB:_:PC:_:AC:AB:_:_:_:_:_:D1E:D1D						

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	4566.A.850.3G.1	4566.A.850.3G.1	CTV51921	CTV51921		UMTS 850	800 10121 @850MHz_04DT	16.2	0	4	None	Andrew 1-5/8 (850)	165.042252						533.33		1	
	PORT 3	4566.A.1900.3G.2	4566.A.1900.3G.2	CTU51927	CTU51927		UMTS 1900	800 10121 @1950_Xpol_2dt	18	0	2	None	Andrew 1-5/8 (850)	165.042252						729.46		2	
	PORT 5	4566.A.1900.25G.1	4566.A.1900.25G.1	184P51921	184P51921	Decom	GSM 1900	800 10121 @1950_Xpol_2dt	17.03	0	1	None	Andrew 1-5/8 (850)	165.042252					11.22	285.1		2	
ANTENNA POSITION 3	PORT 1	4566.A.700.4G.1	4566.A.700.4G.1	CTL05192_7A_1	CTL05192_7A_1		LTE 700	HPA-65R-BUU-H8_725MHz_04DT	15.6	60	4	TOP	FIBER	0						1044.7202		5	

	PORT 3	4566.A.1900.4G.1	4566.A.1900.4G.1	CTL05192_9A_1	CTL05192_9A_1		LTE 1900	HPA-65R-BUU-H8_1948MHz_05DT	17.29	60	5	TOP	FIBER	0						2233.5722		5	
	PORT 4	4566.A.1900.4G.tmp2	4566.A.1900.4G.tmp2	CTL05192_9A_2	CTL05192_9A_2		LTE 1900	HPA-65R-BUU-H8_1948MHz_05DT	17.29	60	5	TOP	FIBER	0						2233.5722		5	

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	800-10121		HPA-65R-BUU-H8				
ANTENNA VENDOR	Kathrein		CCI Antennas				
ANTENNA SIZE (H x W x D)	54.5X10.3X5.9		92.4X14.8X7.4				
ANTENNA WEIGHT	44.1		68				
AZIMUTH	120		170				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	78		78				
ANTENNA TIP HEIGHT	80		82				
MECHANICAL DOWNTILT	0		0				
FEEDER AMOUNT	2						
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)	2	Kathrein 860-10025					
SURGE ARRESTOR (QTY/MODEL)			1	DC Fiber Squid			
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901					
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2	Powerwave LGP 21401 (DB - 850 Bypass)					
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860					
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)							
RRH - 1900 band (QTY/MODEL)			1	RRUS-32 B2			
RRH - AWS band (QTY/MODEL)							
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 4T4R Retrofit- Replace RRUS-12+A2 with RRUS-32 B2						
Local Market Note 2							
Local Market Note 3	Baseband Config - 1 DUS + XMUDUS-1 7A:7B:7C:X1P1:X1P2:ACXMU-1 PA:_:PB:_:PC:_:AC:AB:_:_:_:_:_:_:D1E:D1D						

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	4566.B.850.3G.1	4566.B.850.3G.1	CTV51922	CTV51922		UMTS 850	800 10121 @1950_840MHz_04DT	17.2	120	4	None	Andrew 1-5/8 (850)	165.042252						770.9		9	
	PORT 3	4566.B.1900.3G.2	4566.B.1900.3G.2	CTU51928	CTU51928		UMTS 1900	800 10121 @1950_Xpol_2dt	17.5	120	2	None	Andrew 1-5/8 (850)	165.042252						650.13		10	
	PORT 5	4566.B.1900.25G.1	4566.B.1900.25G.1	184P51922	184P51922	Decom	GSM 1900	800 10121 @1950_Xpol_7dt	16.45	120	7	None	Andrew 1-5/8 (850)	165.042252					28.18	626.61		10	
ANTENNA POSITION 3	PORT 1	4566.B.700.4G.1	4566.B.700.4G.1	CTL05192_7B_1	CTL05192_7B_1		LTE 700	HPA-65R-BUU-H8_719MHz_04DT	16.39	170	4	TOP	FIBER	0						1044.7202		13	

	PORT 3	4566.B.1900.4G.1	4566.B.1900.4G.1	CTL05192_9B_1	CTL05192_9B_1		LTE 1900	HPA-65R-BUU-H8_1948MHz_02DT	16.89	170	2	TOP	FIBER	0						2233.5722		13	
	PORT 4	4566.B.1900.4G.tmp2	4566.B.1900.4G.tmp2	CTL05192_9B_2	CTL05192_9B_2		LTE 1900	HPA-65R-BUU-H8_1948MHz_02DT	16.89	170	2	TOP	FIBER	0						2233.5722		13	

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	800-10121				HPA-65R-BUU-H8									
ANTENNA VENDOR	Kathrein				CCI Antennas									
ANTENNA SIZE (H x W x D)	54.5X10.3X5.9				92.4X14.8X7.4									
ANTENNA WEIGHT	44.1				68									
AZIMUTH	240				290									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	78				78									
ANTENNA TIP HEIGHT	80				82									
MECHANICAL DOWNTILT	0				0									
FEEDER AMOUNT	2													
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)	2	Kathrein 860-10025												
SURGE ARRESTOR (QTY/MODEL)					1	DC Fiber Squid								
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901												
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)														
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	Powerwave LGP 21401 (DB - 850 Bypass)												
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860												
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)														
RRH - 1900 band (QTY/MODEL)					1	RRUS-32 B2								
RRH - AWS band (QTY/MODEL)														
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 4T4R Retrofit- Replace RRUS-12+A2 with RRUS-32 B2													
Local Market Note 2														
Local Market Note 3	Baseband Config - 1 DUS + XMUDUS-1 7A:7B:7C:X1P1:X1P2:ACXMU-1 PA:_:PB:_:PC:_:AC:AB:_:_:_:_:_:_:D1E:D1D													

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	4566.C.850.3G.1	4566.C.850.3G.1	CTV51923	CTV51923		UMTS 850	800 10121 @850MHz_04DT	16.2	240	4	None	Andrew 1-5/8 (850)	165.042252						533.33		17	
	PORT 3	4566.C.1900.3G.2	4566.C.1900.3G.2	CTU51929	CTU51929		UMTS 1900	800 10121 @1950_Xpol_2dt	18	240	2	None	Andrew 1-5/8 (850)	165.042252						729.46		18	
	PORT 5	4566.C.1900.25G.1	4566.C.1900.25G.1	184P51923	184P51923	Decom	GSM 1900	800 10121 @1950_Xpol_7dt	16.45	240	7	None	Andrew 1-5/8 (850)	165.042252					28.18	626.61		18	
ANTENNA POSITION 3	PORT 1	4566.C.700.4G.1	4566.C.700.4G.1	CTL05192_7C_1	CTL05192_7C_1		LTE 700	HPA-65R-BUU-H8_725MHz_09DT	15.6	290	9	TOP	FIBER	0						1044.7202		21	

	PORT 3	4566.C.1900.4G.1	4566.C.1900.4G.1	CTL05192_9C_1	CTL05192_9C_1		LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	17.39	290	6	TOP	FIBER	0						2233.5722		21	
	PORT 4	4566.C.1900.4G.tmp2	4566.C.1900.4G.tmp2	CTL05192_9C_2	CTL05192_9C_2		LTE 1900	HPA-65R-BUU-H8_1948MHz_06DT	17.39	290	6	TOP	FIBER	0						2233.5722		21	

Diagram - Sector	A	Diagram File Name - CT5192_A_B_C_4T4R_v1.vsd					
Atoll Site Name -	CTV5192	Location Name -	WINDSOR LOCKS NORTH	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND
Comments:							

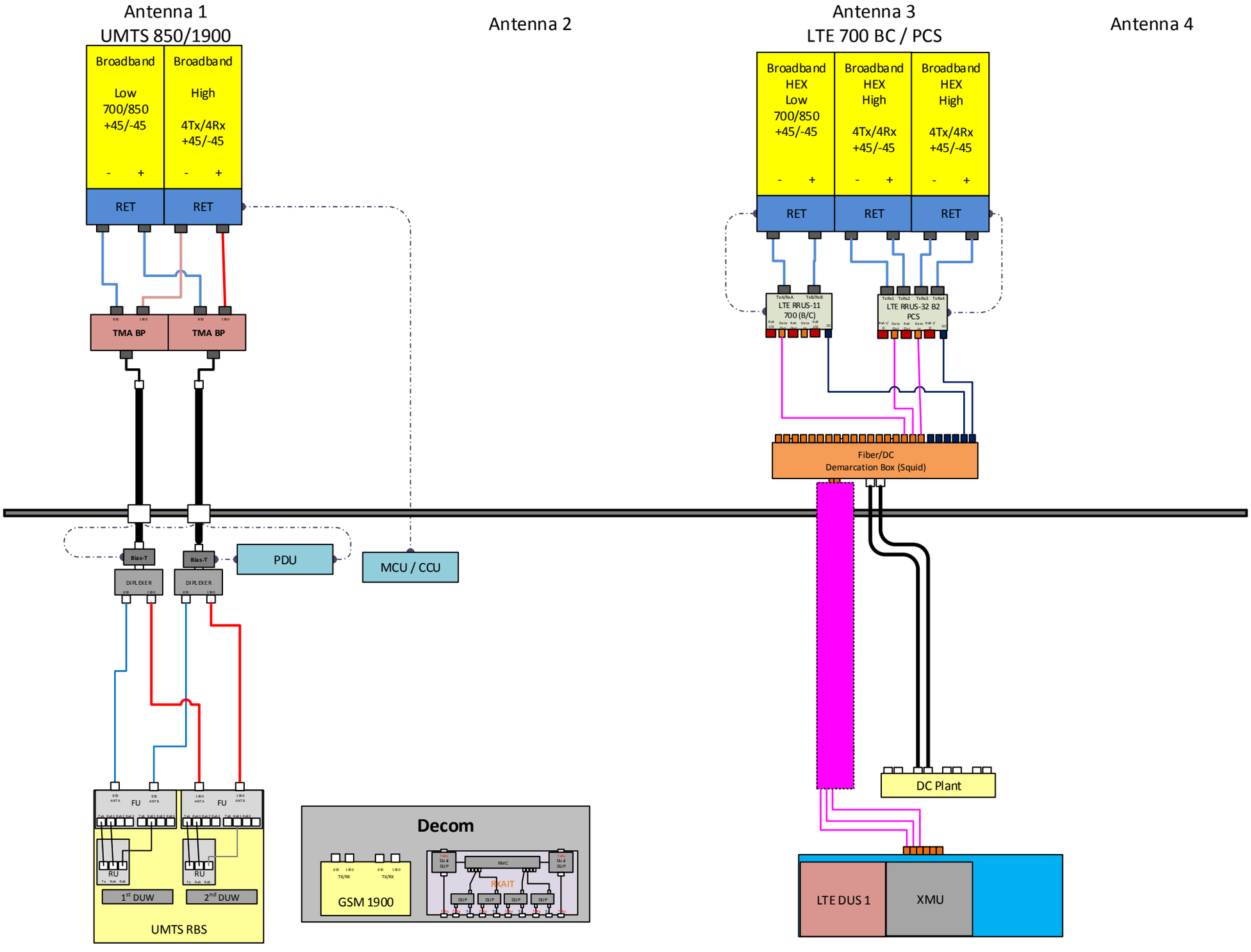


Diagram - Sector	B	Diagram File Name - CT5192_A_B_C_4T4R_v1.vsd					
Atoll Site Name -	CTV5192	Location Name -	WINDSOR LOCKS NORTH	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND
Comments:							

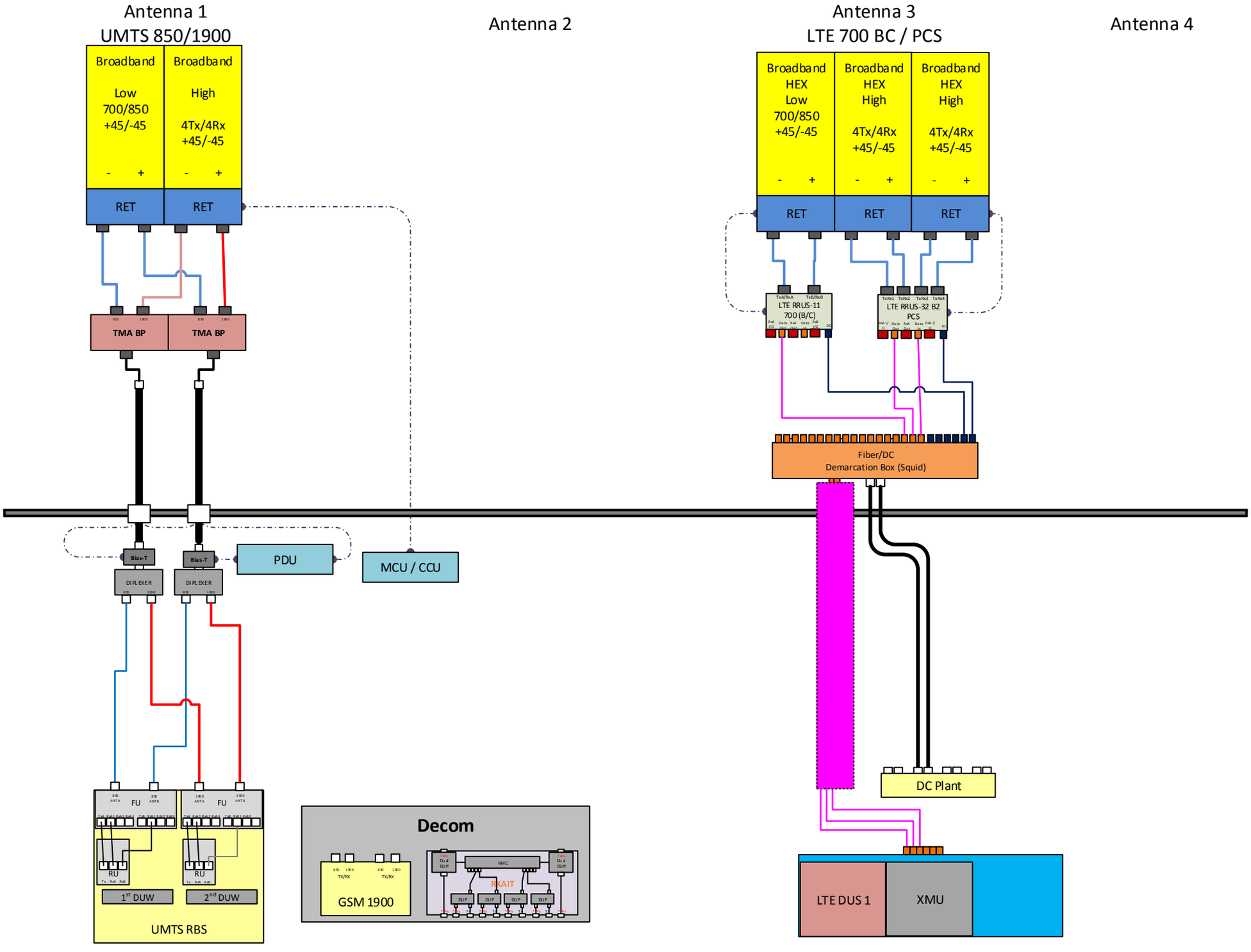
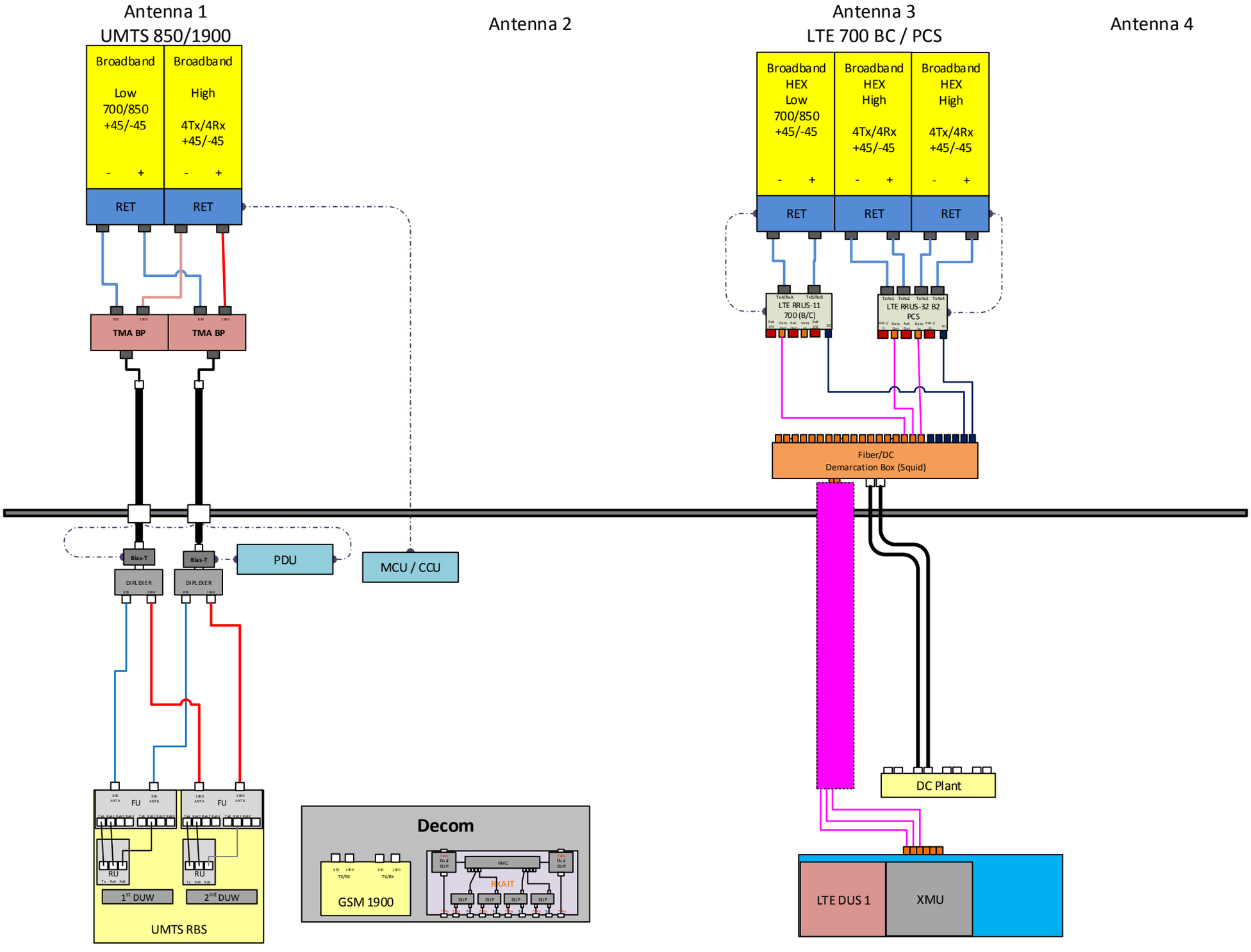


Diagram - Sector	C	Diagram File Name - CT5192_A_B_C_4T4R_v1.vsd					
Atoll Site Name -	CTV5192	Location Name -	WINDSOR LOCKS NORTH	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND
Comments:							



NOTES			
Date Time (Central)	Version	ATTUID	Note
3/13/2017 6:41:43 PM	1.00	mr673a	RFDS/PD updated for 4T4R Retrofit job.

WORKFLOW SUMMARY							
Date	FROM State / Status	FROM ATTUID	TO State / Status	TO ATTUID	Operation	Comments	PACE Status
03/13/2017	Preliminary In Progress	mr673a	Preliminary Submitted for Approval	RC475S	Promote	RFDS/PD updated for 4T4R Retrofit job.	NER-RCTB-17-00651 MRCTB022142 SUCCESS 03/13/2017 6:43:18 PM
03/23/2017	Preliminary Submitted for Approval	RC475S	Preliminary Approved	DC5778	Promote		

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5192

Windsor Locks North
104 Prospect Hill Road
East Windsor, CT 06088

December 18, 2017

Centerline Communications Project Number: 950006-086

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**27.22 %**

December 18, 2017

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

Emissions Analysis for Site: **CT5192 – Windsor Locks North**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **104 Prospect Hill Road, East Windsor, 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 **104 Prospect Hill Road, East Windsor, 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 this site, there were no additional carriers listed in the CSC active MPE database. Sprint and Verizon Wireless are currently active at this facility. For this analysis, calculations were performed on these existing carriers based upon known configurations in this area to approximate their contributions.

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
UMTS	1900 MHz (PCS)	2	30
LTE	700 MHz	2	60
LTE	1900 MHz (PCS)	4	60

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 and1900 MHz (PCS) 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	Kathrein 800-10121	88
A	2	CCI HPA-65R-BUU-H8	88
B	1	Kathrein 800-10121	88
B	2	CCI HPA-65R-BUU-H8	88
C	1	Kathrein 800-10121	88
C	2	CCI HPA-65R-BUU-H8	88

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	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	1.66
Antenna A2	CCI HPA-65R-BUU-H8	700 MHz / 1900 MHz (PCS)	13.15 / 14.95	6	360	9,981.05	6.85
						Sector A Composite MPE%	**8.51**
Antenna B1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	1.66
Antenna B2	CCI HPA-65R-BUU-H8	700 MHz / 1900 MHz (PCS)	13.15 / 14.95	6	360	9,981.05	6.85
						Sector B Composite MPE%	**8.51**
Antenna C1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	1.66
Antenna C2	CCI HPA-65R-BUU-H8	700 MHz / 1900 MHz (PCS)	13.15 / 14.95	6	360	9,981.05	6.85
						Sector C Composite MPE%	**8.51**

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	**8.51 %**
Verizon Wireless	9.24 %
Sprint	9.47 %
Site Total MPE %:	**27.22 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	8.51 %
AT&T Sector B Total:	8.51 %
AT&T Sector C Total:	8.51 %
Site Total:	27.22 %

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 (All Sectors)	# 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	2	418.91	88	4.48	850 MHz	567	0.79%
AT&T 1900 MHz (PCS) UMTS	2	816.81	88	8.73	1900 MHz (PCS)	1000	0.87%
AT&T 700 MHz LTE	2	1,239.23	88	13.25	700 MHz	467	2.84%
AT&T 1900 MHz (PCS) LTE	4	1,875.65	88	40.11	1900 MHz (PCS)	1000	4.01%
						Total:	**8.51%**

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:	8.51 %
Sector B:	8.51 %
Sector C:	8.51 %
AT&T Maximum Total (per sector):	8.51 %
Site Total:	27.22 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **27.22 %** 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

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

Rand Stanley, Building Inspector
Town of East Windsor
11 Rye Street
Broad Brook, CT 06016

9590 9402 1864 6104 9645 88

2. Article Number *(Transfer from service label)*

7016 2140 0000 9458 6085

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Lynn Lemieux C. Date of Delivery 12-21-17

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

3. Service Type

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

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

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

The Honorable Robert Maynard
Town of East Windsor
11 Rye Street
Broad Brook, CT 06016-9553

9590 9402 1864 6104 9645 95

2. Article Number *(Transfer from service label)*

7016 2140 0000 9458 6092

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* LYNN Lemieux C. Date of Delivery 12-21-17

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

3. Service Type

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

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

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

Connecticut Water Company
Attn: Cindy Gaudino
93 West Main Street
Clinton, CT 06413

9590 9402 1864 6104 9645 71

2. Article Number *(Transfer from service label)*

7016 2140 0000 9458 6108

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)*: Erica Nemes

C. Date of Delivery: 12/21/17

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

3. Service Type

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

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

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

Laurie Whitten, CZEO, AICP
Town Planner, Town of East Windsor
11 Rye Street
Broad Brook, CT 06016

9590 9402 1864 6104 9646 18

2. Article Number *(Transfer from service label)*

7016 2140 0000 9458 6078

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)*: Lynn Lemieux

C. Date of Delivery: 12-21-17

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

3. Service Type

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

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