Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

July 20, 2016

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

RE: **Notice of Exempt Modification for AT&T/ LTE 3C Crown Site BU: 876343**
AT&T Site ID: CT2158
1919 Boston Post Road, Guilford, CT 06437
Latitude: 41° 18' 1.27"/ Longitude: -72° 42' 29.13"

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 106-foot level of the existing 150-foot monopole tower at 1919 Boston Post Road in Guilford, CT. The tower is owned by Crown Castle. The property is owned by Roger Stone. AT&T now intends to install three (3) RRU11's.

This facility was approved by the by the Connecticut Siting Council in Docket No. 349 on May 22, 2008. This approval included the conditions that:

> 1.The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of the wireless carriers that utilize the existing tower and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 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.S.C.A. § 16-50j-73, a copy of this letter is being sent to Mr. Joseph Mazz, First-Selectman, Town of Guilford, as well as the property owner, and Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Jeffrey Barbadora.

Sincerely,

Jeffrey Barbadora
Real Estate Specialist
12 Gill Street, Suite 5800, Woburn, MA 01801
781-729-0053
Jeff.Barbadora@crowncastle.com

Attachments:

Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes
Tab 2: Exhibit-2: Structural Modification Report
Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc: Mr. Joseph Mazza, First-Selectman
Town of Guilford
31 Park Street
Guilford, CT 06437

Mr. Roger Stone
7103 Gulf of Mexico Boulevard
Marathon, FL 33050

DOCKET NO. 349 – Global Signal Acquisitions II application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 1919 Boston Post Road, Guilford, Connecticut.	}	Connecticut
	}	Siting
	}	Council

May 22, 2008

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Global Signal Acquisitions II, hereinafter referred to as the Certificate Holder, for an existing telecommunications facility to be relocated to the site identified as the Alternate Site in the Findings of Fact, located at 1919 Boston Post Road, Guilford, Connecticut. The Council denies certification of the site identified as the Application Site in the Findings of Fact, located at 1919 Boston Post Road, Guilford, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of the wireless carriers that utilize the existing tower and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Guilford for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:

    a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
    b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Guilford public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.

8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Guilford. Any proposed modifications to this Decision and Order shall likewise be so served.

9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the New Haven Register and the Shoreline Times.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

APPLICANT	**ITS REPRESENTATIVE**
Global Signal Acquisitions II	Julie Kohler, Esq. Carrie Larson, Esq. Cohen and Wolf, P.C.

PARTY	**ITS REPRESENTATIVE**
Anthony Poccia William and Myung Arabolos Margaret Rose Richard and Sandra Wilson	John S. Bennet, Esq. Gould, Larson, Bennet, Wells & McDonnell, P.C.

INTERVENORS	**THEIR REPRESENTATIVE**
Heather Fernandes Diane and Alan Sholomskas Brian Denning Daniel Capozziello Joel and Donna Zemke	John S. Bennet, Esq. Gould, Larson, Bennet, Wells & McDonnell, P.C.

Town of Guilford
Property Listing Report

Parcel ID 079035

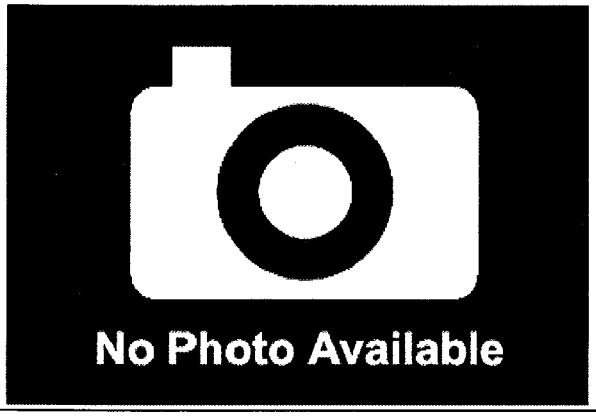
Account

Property Information

Owner	DDR GUILFORD LLC
Address	1919 BOSTON POST RD
Mailing Address	3300 ENTERPRISE PKWY BEACHWOOD , OH 44122
Land Use	- REGIONAL SHOPPING
Land Class	Commercial

Census Tract	1903
Neighborhood	N
Zoning	SCW
Acreage	27.83
Utilities	
Lot Setting/ Desc	/

Photo



PARCEL VALUATIONS (Assessed value = 70% of Appraised Value)

	Appraised	Assessed
Buildings	23005859	16104100
Outbuildings	482333	337630
Improvements		
Extras		
Land	6694400	4686080
Total	30182592	21127810
Previous		

Construction Details

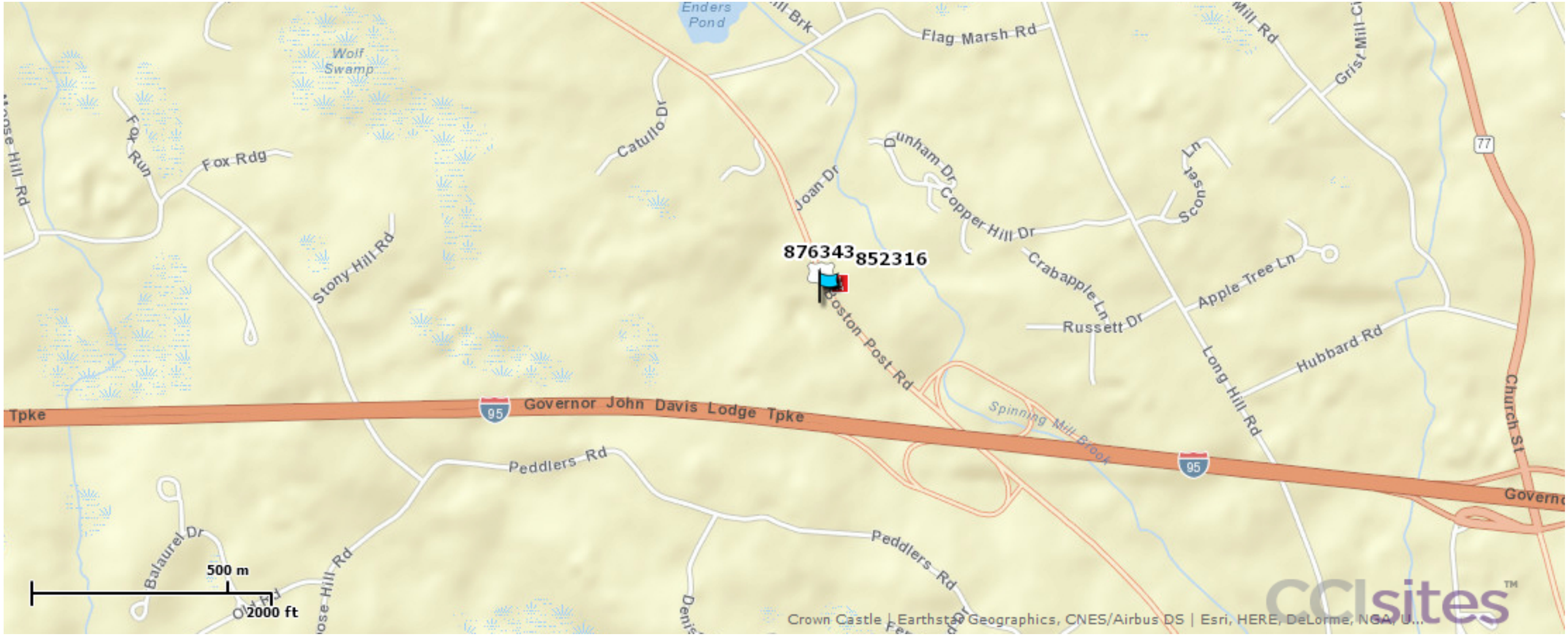
Year Built	2015
Stories	1
Building Style	
Building Use	Neighborhood
Building Condition	GOOD
Total Rooms	0
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	FLAT
Roof Cover	POLY RUBBER

EXTERIOR WALLS:	
Primary	CONCRETE BLOCK
Secondary	
INTERIOR WALLS:	
Primary	
Secondary	
FLOORS:	
Primary	
Secondary	
HEATING/AC:	
Heating Type	
Heating Fuel	
AC Type	

BUILDING AREA:	
Effective Building Area	
Gross Building Area	0
Total Living Area	63416

SALES HISTORY:	
Sale Date	1/28/2015
Sale Price	0
Book/ Page	0879/1141

Report Created On 7/20/2016


Enders Pond
Wolf Swamp
Flag Marsh Rd
Mill Rd
Grist Mill Cir
Fox Run
Fox Rdg
Catullo Dr
Joan Dr
Dunham Dr
Copper Hill Dr
Sconset Ln
77
Stony Hill Rd
876343 852316
Boston Post Rd
Crabapple Ln
Apple Tree Ln
Russett Dr
Hubbard Rd
Long Hill Rd
Church St
Tpke
95
Governor John Davis Lodge Tpke
Spinning Mill Brook
Peddlers Rd
Balaurel Dr
500 m
2000 ft
Crown Castle | Earthstar Geographics, CNES/Airbus DS | Esri, HERE, DeLorme, NGA, U...
CCIsites™

WIRELESS COMMUNICATIONS FACILITY

CT2158 - LTE 2C
GUILFORD
CROWN CASTLE SITE NO.: 876343
1919 BOSTON POST ROAD
GUILFORD, CT 06437

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2009 AMENDMENTS, INCLUDING THE TIA/EIA-222 REVISION "F" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2005 CONNECTICUT FIRE SAFETY CODE AND 2009 AMENDMENTS, 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.

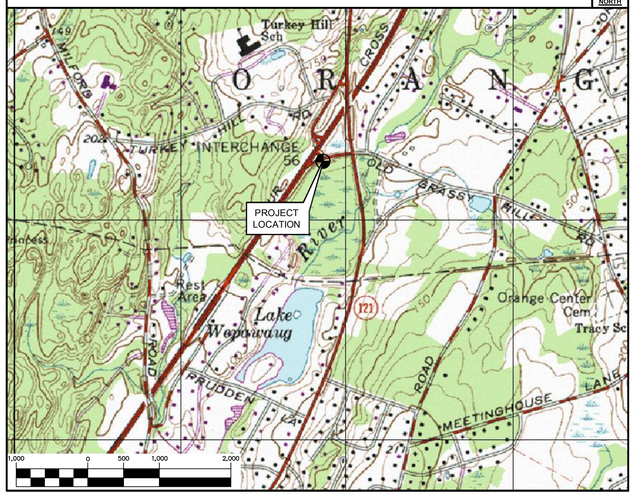
SITE DIRECTIONS

FROM: 500 ENTERPRISE DRIVE, ROCKY HILL, CONNECTICUT **TO:** 1919 BOSTON POST RD, GUILFORD, CONNECTICUT

1.	TAKE RAMP LEFT FOR I-91 SOUTH	29.0 MI
2.	TAKE RAMP LEFT FOR I-95 NORTH TOWARD NEW LONDON	11.5 MI
3.	AT EXIT 57, TAKE RAMP RIGHT AND FOLLOW SIGNS FOR US-1,	0.4 MI
4.	TURN LEFT ONTO US-1 / BOSTON POST RD	0.5 MI
5.	ARRIVE AT 1919 BOSTON POST RD.	

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

1. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
   A. INSTALL (3) NEW RRUS-11 ON EXISTING RRU TOWER MOUNT. RECONFIGURE AS REQUIRED.

PROJECT INFORMATION

AT&T SITE NUMBER:	CT2158
AT&T SITE NAME:	GUILFORD
SITE ADDRESS:	CROWN CASTLE SITE NO.: 876343 1919 BOSTON POST ROAD GUILFORD, CT 06437
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°-18'-01.17" N LONGITUDE: 72°-42'-27.49" W GROUND ELEVATION: ±105' 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, ELEVATION AND DETAILS	0
C-2	LTE 2C EQUIPMENT DETAILS	0
E-1	LTE SCHEMATIC DIAGRAM AND NOTES	0
E-2	LTE WIRING DIAGRAM	0
E-3	TYPICAL ELECTRICAL DETAILS	0

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	06/21/16	KAWJR	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
GUILFORD
CT2158 - LTE 2C
1919 BOSTON POST ROAD
GUILFORD, CT 06437

DATE: 06/16/16
SCALE: AS NOTED
JOB NO. 16071.11

TITLE SHEET

T-1

NOTES AND SPECIFICATIONS

DESIGN BASIS:

GOVERNING CODE: 2003 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2005 CT STATE BUILDING CODE AND 2009 AMENDMENTS.

1. DESIGN CRITERIA:

- WIND LOAD: PER EIA/TIA 222 F-96 (ANTENNA MOUNTS): 85 MPH (FASTEST MILE), EQUIVALENT TO 105 MPH (3 SECOND GUST)
- BUILDING CLASSIFICATION: II (BASED ON IBC TABLE 1604.5)
- BASIC WIND SPEED (OTHER STRUCTURE): 110 MPH (3 SECOND GUST) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-02) PER 2003 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2009 AMMENDMENT.
- SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-02 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

GENERAL NOTES:

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

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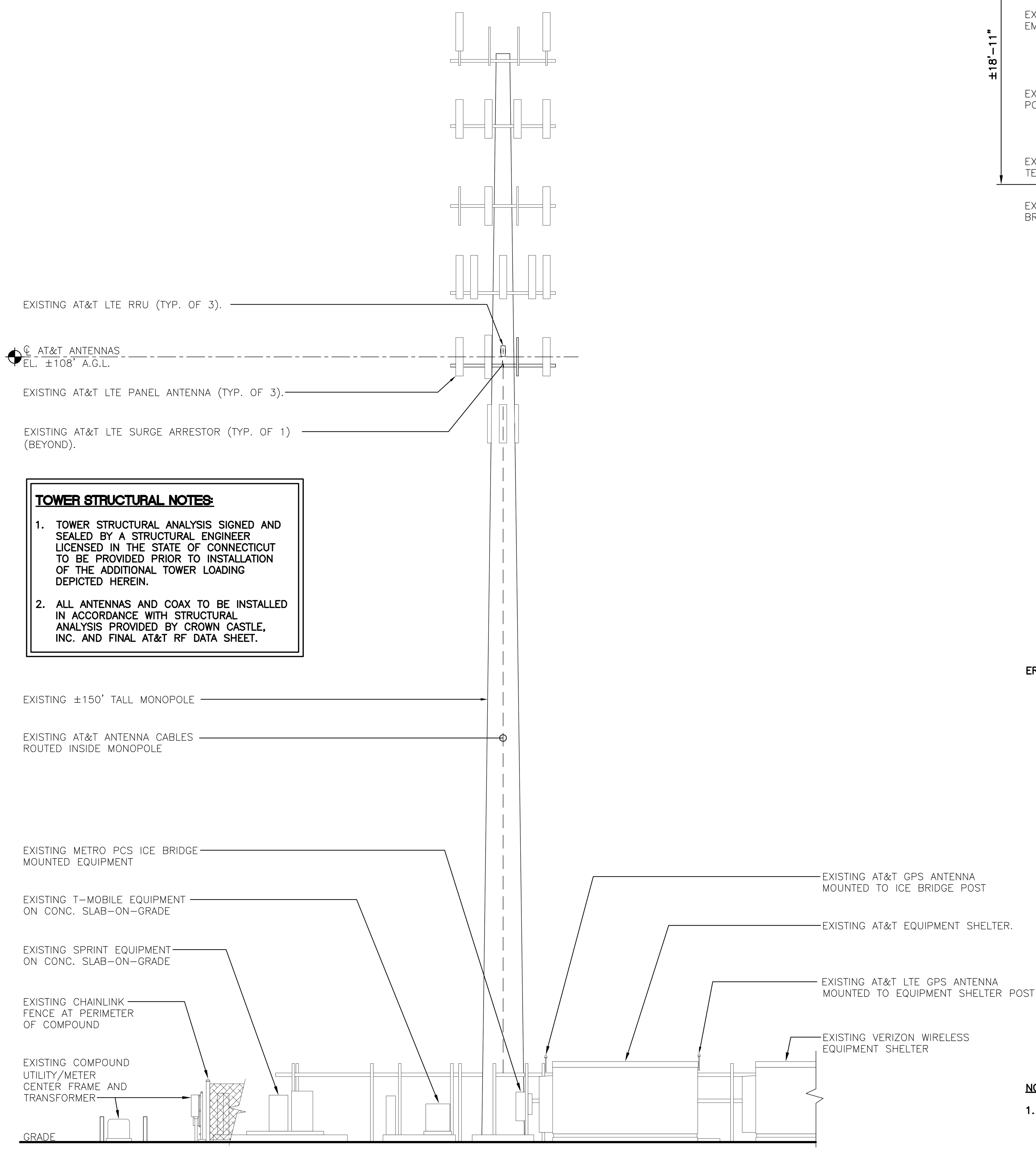
NOTES AND SPECIFICATIONS

N-1



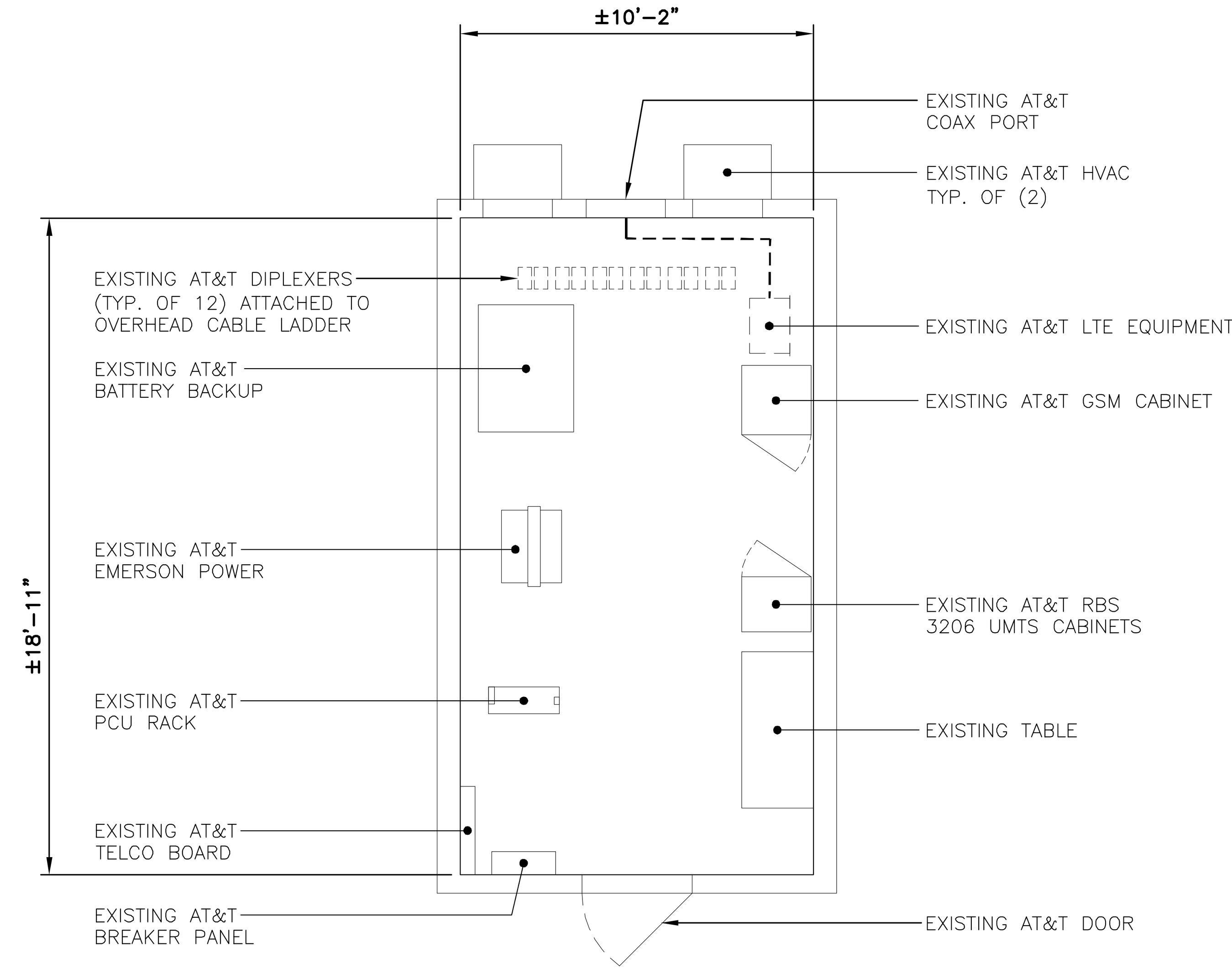
TOWER STRUCTURAL NOTES:

1. TOWER STRUCTURAL ANALYSIS SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT TO BE PROVIDED PRIOR TO INSTALLATION OF THE ADDITIONAL TOWER LOADING DEPICTED HEREIN.
2. ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY CROWN CASTLE, INC. AND FINAL AT&T RF DATA SHEET.

4 / C-1 **PARTIAL WEST ELEVATION**

SCALE: 1" = 10'

GRAPHIC SCALE: 10 0 5 10 20 40 (IN FEET) 1 inch = 10 ft.

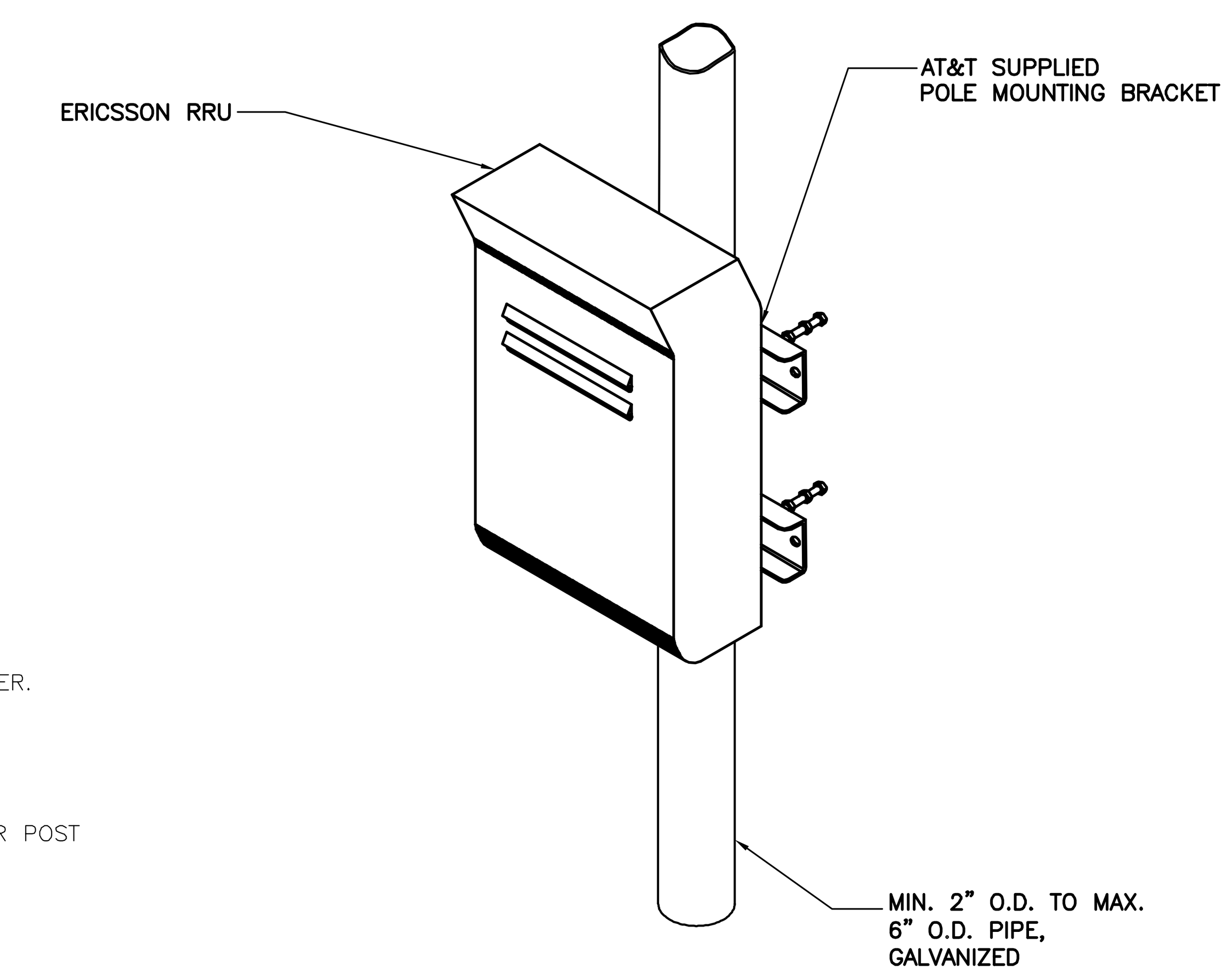


2 / C-1 **EQUIPMENT BUILDING FLOOR PLAN**

SCALE: 1" = 4'-0"

APPROX. NORTH

GRAPHIC SCALE: 4 0 2 4 8 16 (IN FEET) 1 inch = 4 ft.



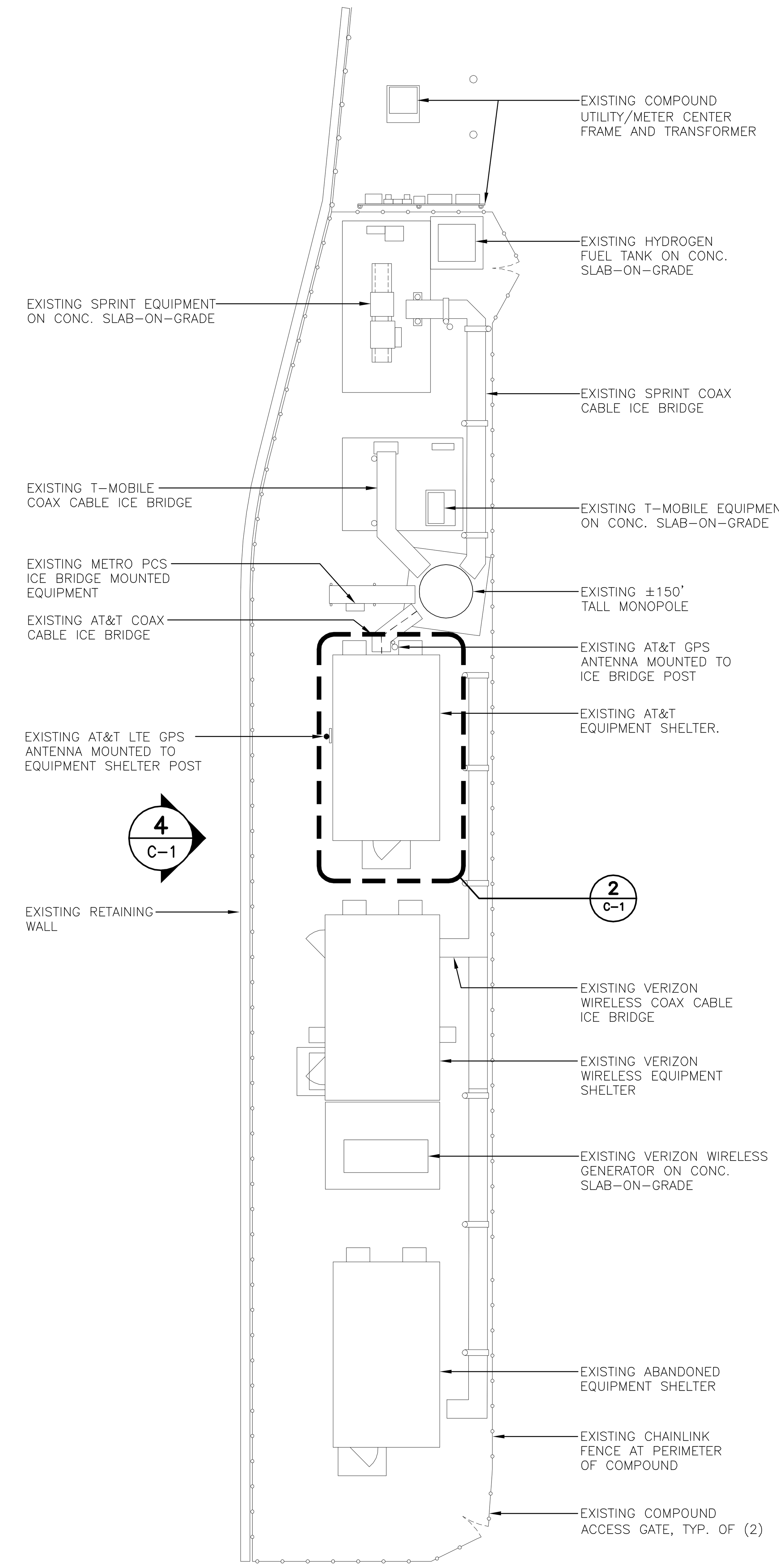
ISOMETRIC VIEW

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.
3. NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

3 / C-1 **TYPICAL RRUS MOUNTING DETAILS**

SCALE: 1 1/2" = 1'-0"



1 / C-1 **COMPOUND PLAN**

SCALE: 1" = 10'

APPROX. NORTH

GRAPHIC SCALE: 10 0 5 10 20 40 (IN FEET) 1 inch = 10 ft.

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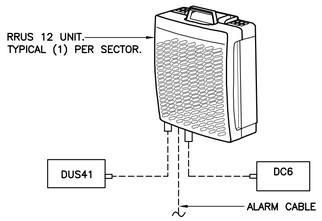
PLANS, ELEVATION AND DETAILS

C-1

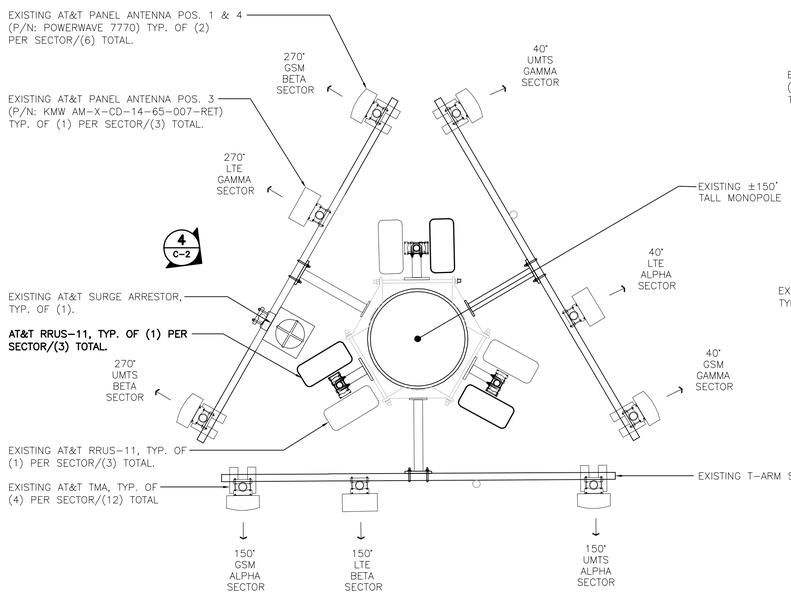
Sheet No. 3 of 7



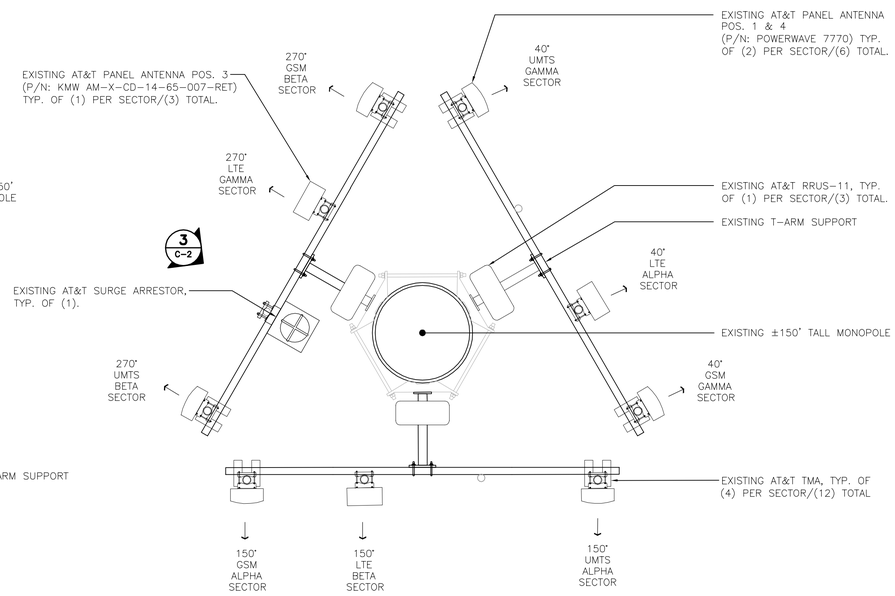
RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS 11	17.8"L x 17.3"W x 7.2"D	50 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.

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

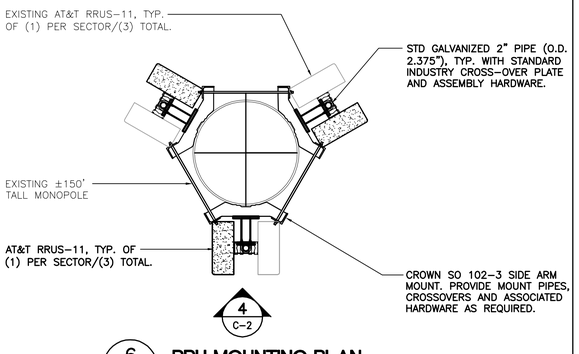
5 / C-2 **ERICSSON RRUS 11 DETAIL**
SCALE: 1" = 1'-0"



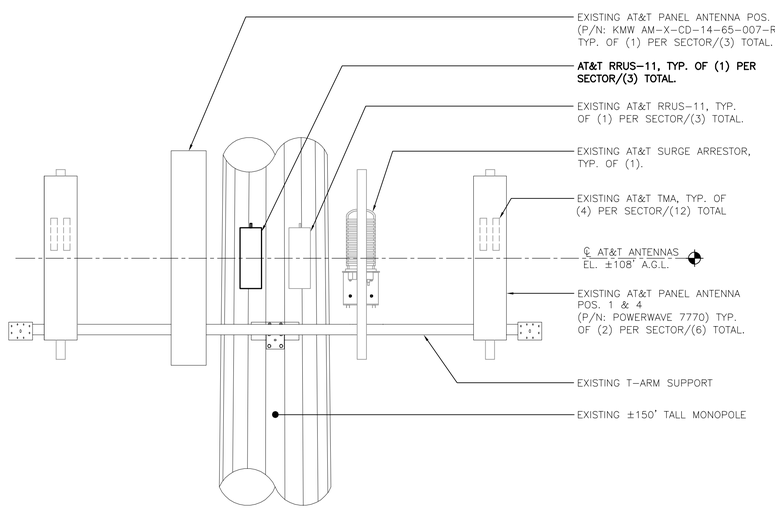
2 / C-2 **PROPOSED ANTENNA PLAN** APPROX. NORTH
SCALE: 1/4" = 1'-0"



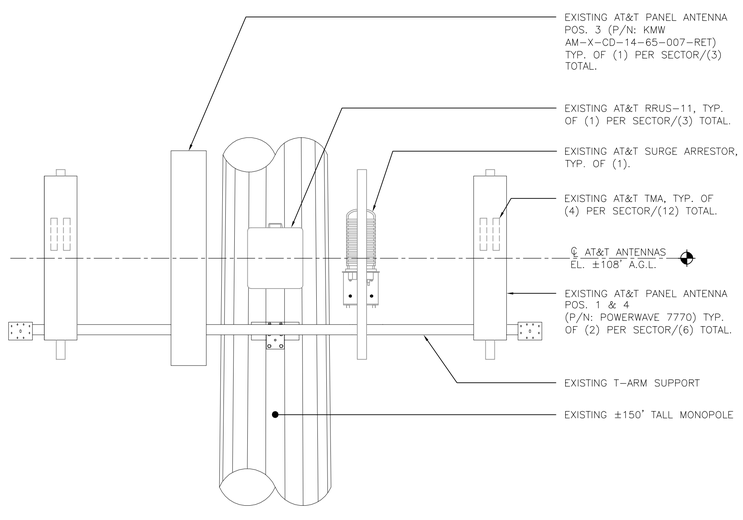
1 / C-2 **EXISTING ANTENNA PLAN** APPROX. NORTH
SCALE: 1/4" = 1'-0"



6 / C-2 **RRU MOUNTING PLAN**
NOT TO SCALE



4 / C-2 **PROPOSED ANTENNA SECTOR ELEVATION**
SCALE: 1/4" = 1'-0"



3 / C-2 **EXISTING ANTENNA SECTOR ELEVATION**
SCALE: 1/4" = 1'-0"

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LTE 2C
EQUIPMENT
DETAILS

C-2

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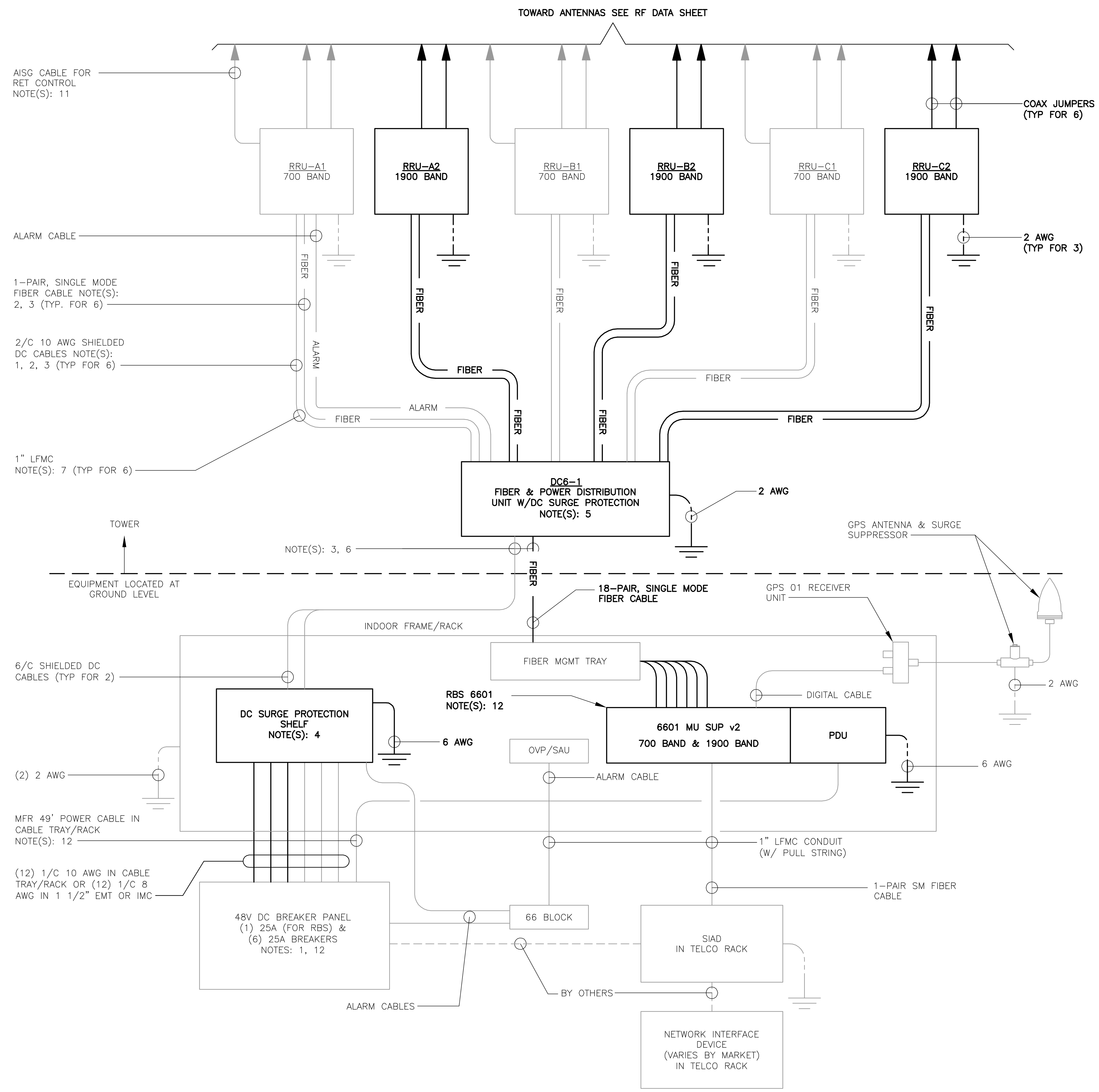

1 / E–1 **LTE SCHEMATIC DIAGRAM**

NOT TO SCALE

LTE SCHEMATIC DIAGRAM NOTES:

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

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.

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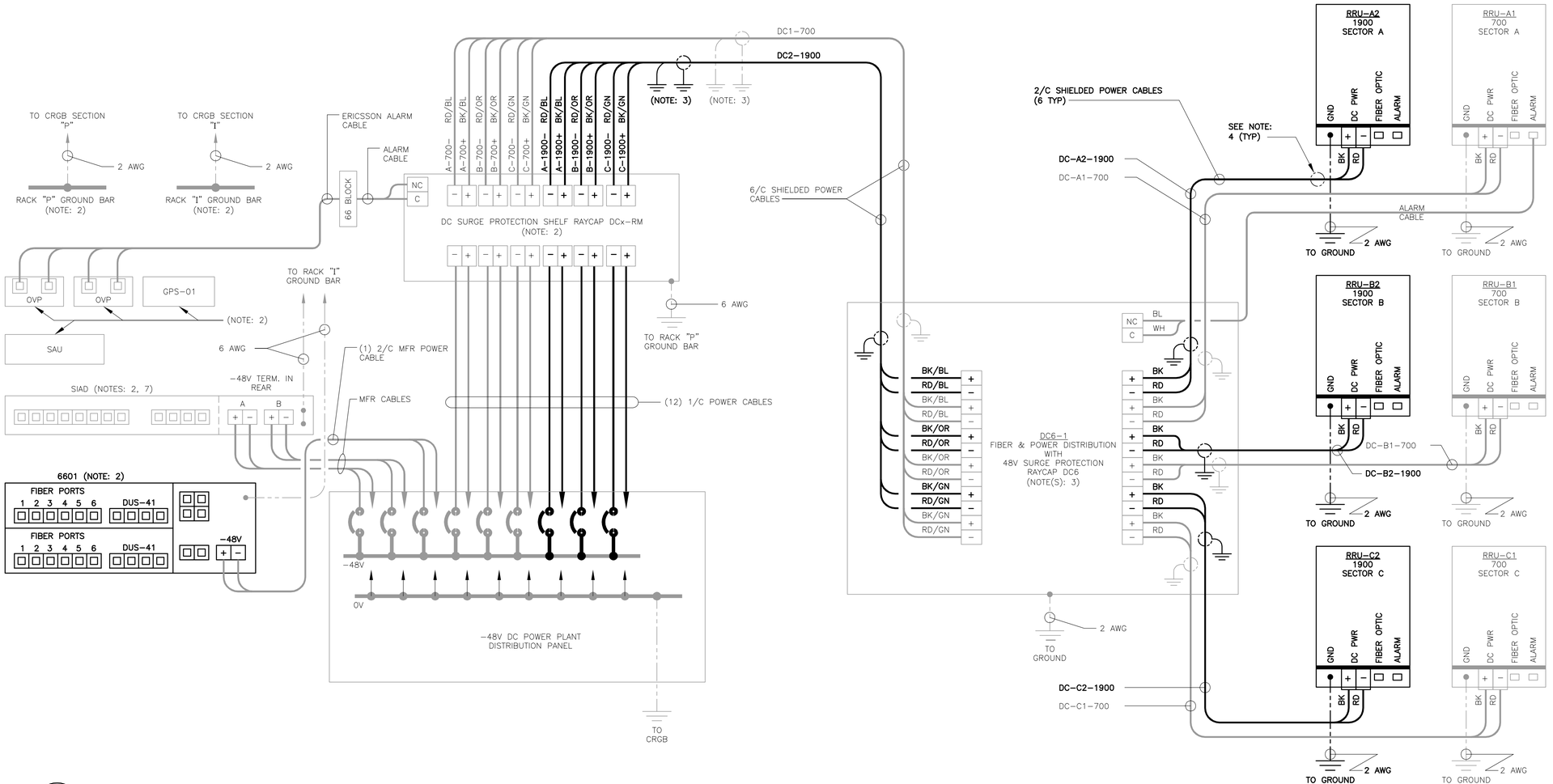
LTE SCHEMATIC DIAGRAM AND NOTES

E–1



1 / E-2 LTE WIRING DIAGRAM

NOT TO SCALE

LTE WIRING DIAGRAM NOTES:

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

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AT&T MOBILITY

WIRELESS COMMUNICATIONS FACILITY

GUILFORD

CT2158 - LTE 2C

199 BOSTON POST ROAD

GUILFORD, CT 06437

DATE: 06/16/16

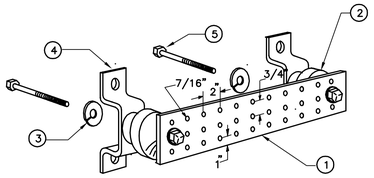
SCALE: AS NOTED

JOB NO. 16071.11

LTE WIRING DIAGRAM

E-2

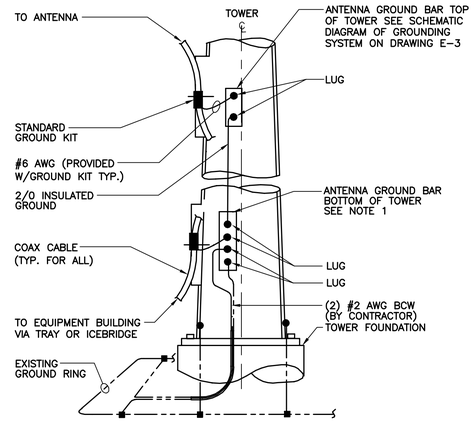
Sheet No. 6 of 7



LEGEND

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

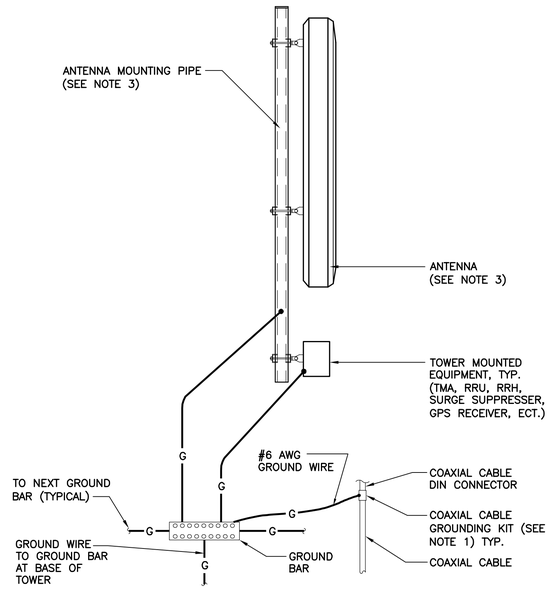
3 GROUND BAR DETAIL
E-3 NOT TO SCALE



NOTES:

1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, LOCATION AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

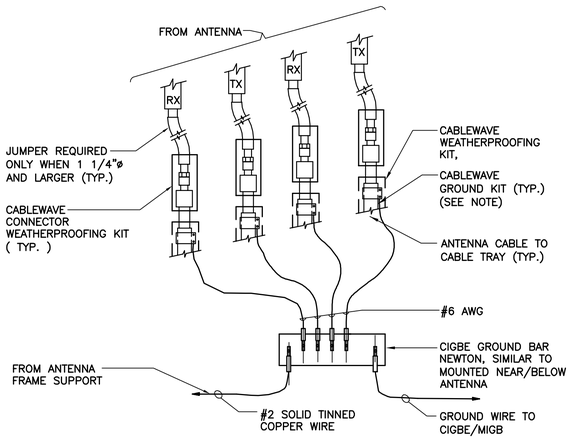
2 ANTENNA CABLE GROUNDING - TOWER
E-3 NOT TO SCALE



NOTES:

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

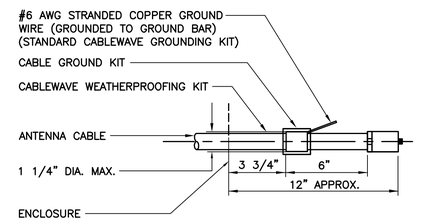
1 TYPICAL ANTENNA GROUNDING DETAIL
E-3 NOT TO SCALE



NOTE:

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

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



NOTE:

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

4 ANTENNA CABLE GROUNDING DETAIL
E-3 NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	06/21/16	KAWJR	CAG	CONSTRUCTION DOCUMENTS - ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

at&t

EMPIRE telecom

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AT&T MOBILITY

WIRELESS COMMUNICATIONS FACILITY

GUILFORD

CT2158 - LTE 2C

1919 BOSTON POST ROAD

GUILFORD, CT 06437

DATE: 06/16/16

SCALE: AS NOTED

JOB NO. 16071.11

TYPICAL ELECTRICAL DETAILS

E-3

Sheet No. 7 of 7

June 13, 2016

Charles Trask
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(980) 209-8228

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Tulsa, OK 74119
(918) 587-4630
btwo@btgrp.com

Subject:	**Structural Analysis Report**	
Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Carrier Site Number:	CTL02158
	Carrier Site Name:	Guilford
Crown Castle Designation:	**Crown Castle BU Number:**	876343
	Crown Castle Site Name:	Guilford West Stone Property
	Crown Castle JDE Job Number:	382074
	Crown Castle Work Order Number:	1250837
	Crown Castle Application Number:	346986 Rev. 1
Engineering Firm Designation:	**B+T Group Project Number:**	84701.005.01
Site Data:	**1919 Boston Post Rd., Guilford, New Haven County, CT** **Latitude *41° 18' 1.27"*, Longitude *-72° 42' 29.13"*** **149 Foot - Monopole Tower**	

Dear Charles Trask,

B+T Group is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 912736, in accordance with application 346986, revision 1.

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

LC5: Existing + Proposed Equipment **Sufficient Capacity**
Note: See Table 1 and Table 2 for the proposed and existing loading, respectively.

This analysis has been performed in accordance with the TIA/EIA-222-F standard and 2005 CT State Building Code with 2009 amendment based upon a wind speed of 85 mph fastest mile.

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

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

Respectfully submitted by:
B+T Engineering, Inc.

Jason Brock, E.I.
Project Engineer

Chad E. Tuttle, P.E.
Engineer of Record
COA: PEC.0001564 Expires: 02/10/2017

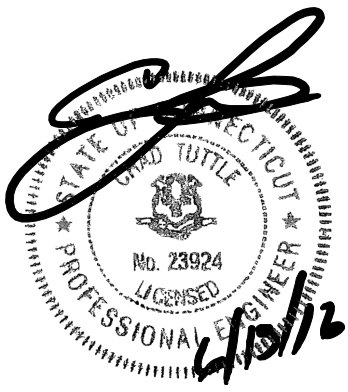


TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 149 ft. Monopole tower designed by Engineered Endeavors Inc. in June of 2008. The tower was originally designed for a wind speed of 115 mph per TIA-222-G.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 85 mph with no ice, 37.6 mph with 0.75 inch ice thickness and 50 mph under service loads.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
106.0	108.0	3	Ericsson	RRUS 11	--	--	--

Table 2 - Existing Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
148.0	148.0	3	Andrew	ETW200VS12UB	6 1 1	1-5/8 1-1/4 7/8	1
		3	Ericsson	ERICSSON AIR 21 B2A B4P			
		3	Ericsson	ERICSSON AIR 21 B4A B2P			
		1	--	Sector Mount [SM 901-3]			
139.0	140.0	12	Decibel	DB848H90E-XY	12	1-5/8	2
	139.0	1	--	Sector Mount [SM 901-3]			
129.0	130.0	3	Alcatel Lucent	TME-800MHZ RRH	--	--	1
	127.0	3	Alcatel Lucent	TME-1900MHz RRH (65MHz)			
	129.0	1	--	Side Arm Mount [SO 102-3]			
128.0	130.0	3	Alcatel Lucent	800 EXTERNAL NOTCH FILTER	4	1-1/4	1
		3	Alcatel Lucent	TD-RRH8x20-25			
		9	Rfs Celwave	ACU-A20-N			
		3	Rfs Celwave	APXVSPP18-C-A20			
		3	Rfs Celwave	APXVTM14-C-120			
	128.0	1	--	Sector Mount [SM 901-3]			
116.0	118.0	3	Alcatel Lucent	RRH2x40-AWS	12 1	1-5/8 1-1/4	1
		4	Andrew	DB846F65ZAXY			
		1	Antel	BXA-171063-12BF			
		3	Antel	BXA-171063-12CF-EDIN-2			
		1	Antel	BXA-171063-8BF-2			
		1	Antel	BXA-171085-12BF-2			
		3	Antel	BXA-70063/6CF-2			
		2	Decibel	DB846H80E-SX			
		1	Maxrad	GPS-TMG-26NMS			
		1	Rfs Celwave	DB-T1-6Z-8AB-0Z			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
		6	Rfs Celwave	FD9R6004/2C-3L			
	116.0	1	--	Sector Mount [SM 901-3]			
110.0	110.0	3	Ericsson	RRUS 11	--	--	1
		1	--	Side Arm Mount [SO 102-3]			
106.0	108.0	**1**	**Raycap**	**DC6-48-60-18-8F**	**--**	**--**	**3**
		1	Kmw Comm.	AM-X-CD-14-65-00T-RET	12 2 2	1-5/8 3/8 3/4	1
		2	Kmw Comm.	AM-X-CD-16-65-00T-RET			
		6	Powerwave Tech.	RA21.7770.00			
		1	Raycap	DC6-48-60-18-8F			
	106.0	12	Powerwave Tech.	LGP21401			
		1	--	Sector Mount [SM 901-3]			
98.0	98.0	3	Rfs Celwave	APXV18-206517S-C	6	1-5/8	1

Notes:
1) Existing Equipment
2) Abandoned Equipment; Considered In This Analysis
3) Equipment To Be Removed; Not Considered In This Analysis

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
150	150	3	Generic	10' Universal T-Arms	--	--
		12	Generic	72" x 12" Panel		
140	140	3	Generic	10' Universal T-Arms	--	--
		12	Generic	72" x 12" Panel		
130	130	3	Generic	10' Universal T-Arms	--	--
		12	Generic	72" x 12" Panel		
120	120	3	Generic	10' Universal T-Arms	--	--
		12	Generic	72" x 12" Panel		
110	110	3	Generic	10' Universal T-Arms	--	--
		12	Generic	72" x 12" Panel		

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Online Application	AT&T Mobility Co-Locate Rev # 1	346986	CCI Sites
Tower Manufacturer Drawing	EEI, Project No: 15475	2302343	CCI Sites
Foundation Drawing	EEI, Project No: 15475	2302348	CCI Sites
Geotech Report	Terracon, Project No: J2085178	2302346	CCI Sites
Antenna Configuration	Crown CAD Package	Date: 06/08/2016	CCI Sites

3.1) Analysis Method

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

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) Mount areas and weights are assumed based on photographs provided.

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

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	149 - 135.04	Pole	TP26.77x22x0.188	1	-4.078	780.990	9.7	Pass
L2	135.04 - 92.17	Pole	TP40.91x25.056x0.25	2	-15.720	1575.646	65.2	Pass
L3	92.17 - 45.21	Pole	TP56.31x38.489x0.313	3	-26.095	2589.792	78.1	Pass
L4	45.21 - 0	Pole	TP71x53.118x0.375	4	-44.081	3890.107	73.5	Pass
							Summary	
						Pole (L3)	78.1	Pass
						Rating =	78.1	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	Base	44.8	Pass
1	Base Plate	Base	44.9	Pass
1	Base Foundation (Structure)	Base	78.3	Pass
1	Base Foundation (Soil Interaction)	Base	26.2	Pass

Structure Rating (max from all components) =	78.3%

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

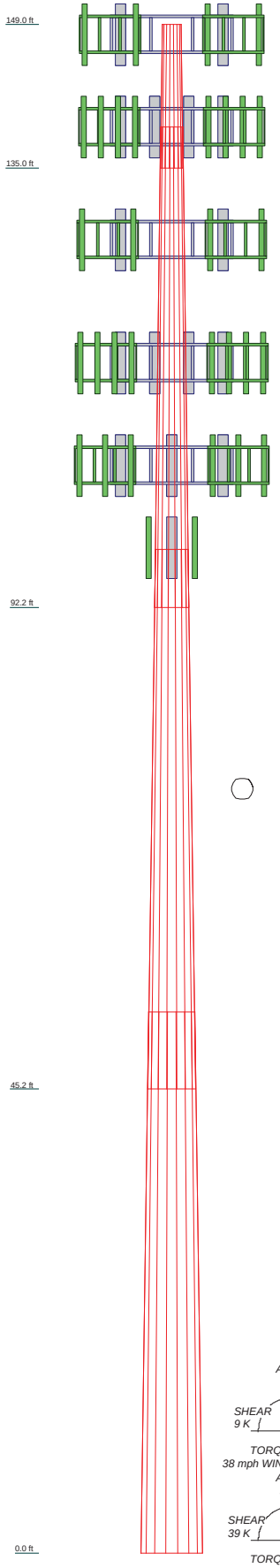
4.1) Recommendations

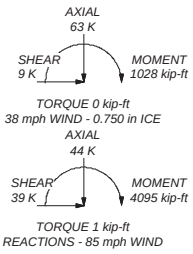
The tower and its foundation have sufficient capacity to carry the existing and proposed loads. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	13.960	18	0.188	3.920	22.000	26.770	A572-65	0.7
2	46.790	18	0.250	5.670	25.056	40.910	A572-65	4.1
3	52.630	18	0.313	7.580	38.489	56.310	A572-65	8.4
4	52.790	18	0.375		53.118	71.000	A572-65	13.2





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E)	148	(2) DB846H80E-SX w/ Mount Pipe (E)	116
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E)	148	(2) DB846F65ZAXY w/ Mount Pipe (E)	116
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E)	148	BXA-171063-8BF-2 w/ Mount Pipe (E)	116
ERICSSON AIR 21 B4A B2P w/ Mount Pipe (E)	148	BXA-171085-12BF-2 w/ Mount Pipe (E)	116
ERICSSON AIR 21 B4A B2P w/ Mount Pipe (E)	148	BXA-171063-12BF w/ Mount Pipe (E)	116
ERICSSON AIR 21 B4A B2P w/ Mount Pipe (E)	148	BXA-70063/6CF-2 w/ Mount Pipe (E)	116
ETW200VS12UB (E)	148	BXA-70063/6CF-2 w/ Mount Pipe (E)	116
ETW200VS12UB (E)	148	BXA-70063/6CF-2 w/ Mount Pipe (E)	116
ETW200VS12UB (E)	148	BXA-171063-12CF-EDIN-2 w/ Mount Pipe (E)	116
(2) 8' x 2" Pipe Mount (E)	148	BXA-171063-12CF-EDIN-2 w/ Mount Pipe (E)	116
(2) 8' x 2" Pipe Mount (E)	148	BXA-171063-12CF-EDIN-2 w/ Mount Pipe (E)	116
(2) 8' x 2" Pipe Mount (E)	148	(2) FD9R6004/2C-3L (E)	116
Sector Mount [SM 901-3] (E)	148	(2) FD9R6004/2C-3L (E)	116
(4) DB848H90E-XY w/ Mount Pipe (AB)	139	(2) FD9R6004/2C-3L (E)	116
(4) DB848H90E-XY w/ Mount Pipe (AB)	139	DB-T1-6Z-8AB-0Z (E)	116
(4) DB848H90E-XY w/ Mount Pipe (AB)	139	RRH2x40-AWS (E)	116
Sector Mount [SM 901-3] (AB)	139	RRH2x40-AWS (E)	116
TME-1900MHz RRH (65MHz) (E)	129	RRH2x40-AWS (E)	116
TME-1900MHz RRH (65MHz) (E)	129	GPS-TMG-26NMS (E)	116
TME-1900MHz RRH (65MHz) (E)	129	Sector Mount [SM 901-3] (E)	116
TME-800MHZ RRH (E)	129	RRUS 11 (E)	110
TME-800MHZ RRH (E)	129	RRUS 11 (E)	110
TME-800MHZ RRH (E)	129	RRUS 11 (E)	110
6' x 2" Mount Pipe (E)	129	4' x 2" Pipe Mount (E)	110
6' x 2" Mount Pipe (E)	129	4' x 2" Pipe Mount (E)	110
6' x 2" Mount Pipe (E)	129	4' x 2" Pipe Mount (E)	110
Side Arm Mount [SO 102-3] (E)	129	Side Arm Mount [SO 102-3] (E)	110
APXVTM14-C-120 w/ Mount Pipe (E)	128	(2) RA21.7770.00 w/ Mount Pipe (E)	106
APXVTM14-C-120 w/ Mount Pipe (E)	128	(2) RA21.7770.00 w/ Mount Pipe (E)	106
APXVTM14-C-120 w/ Mount Pipe (E)	128	(2) RA21.7770.00 w/ Mount Pipe (E)	106
APXVSPP18-C-A20 w/ Mount Pipe (E)	128	AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	106
APXVSPP18-C-A20 w/ Mount Pipe (E)	128	AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	106
APXVSPP18-C-A20 w/ Mount Pipe (E)	128	AM-X-CD-14-65-00T-RET w/ Mount Pipe (E)	106
TD-RRH8x20-25 (E)	128	DC6-48-60-18-8F (E)	106
TD-RRH8x20-25 (E)	128	(4) LGP21401 (E)	106
TD-RRH8x20-25 (E)	128	(4) LGP21401 (E)	106
(3) ACU-A20-N (E)	128	(4) LGP21401 (E)	106
(3) ACU-A20-N (E)	128	RRUS 11 (P)	106
(3) ACU-A20-N (E)	128	RRUS 11 (P)	106
800 EXTERNAL NOTCH FILTER (E)	128	RRUS 11 (P)	106
800 EXTERNAL NOTCH FILTER (E)	128	8' x 2" Pipe Mount (E)	106
800 EXTERNAL NOTCH FILTER (E)	128	8' x 2" Pipe Mount (E)	106
(2) 8' x 2" Pipe Mount (E)	128	8' x 2" Pipe Mount (E)	106
(2) 8' x 2" Pipe Mount (E)	128	Sector Mount [SM 901-3] (E)	106
(2) 8' x 2" Pipe Mount (E)	128	APXV18-206517S-C w/ Mount Pipe (E)	98
Sector Mount [SM 901-3] (E)	128	APXV18-206517S-C w/ Mount Pipe (E)	98
(2) DB846F65ZAXY w/ Mount Pipe (E)	116	APXV18-206517S-C w/ Mount Pipe (E)	98

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 78.1%

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FAX: (918) 295-0265

Job: 84701.005.01 - GUILFORD WEST STONE PROPERTY, CT (BU# 87634			
Project:			
Client: Crown Castle	Drawn by: jbrock	App'd:	
Code: TIA/EIA-222-F	Date: 06/13/16	Scale: NTS	
Path:		Dwg No. E-1	

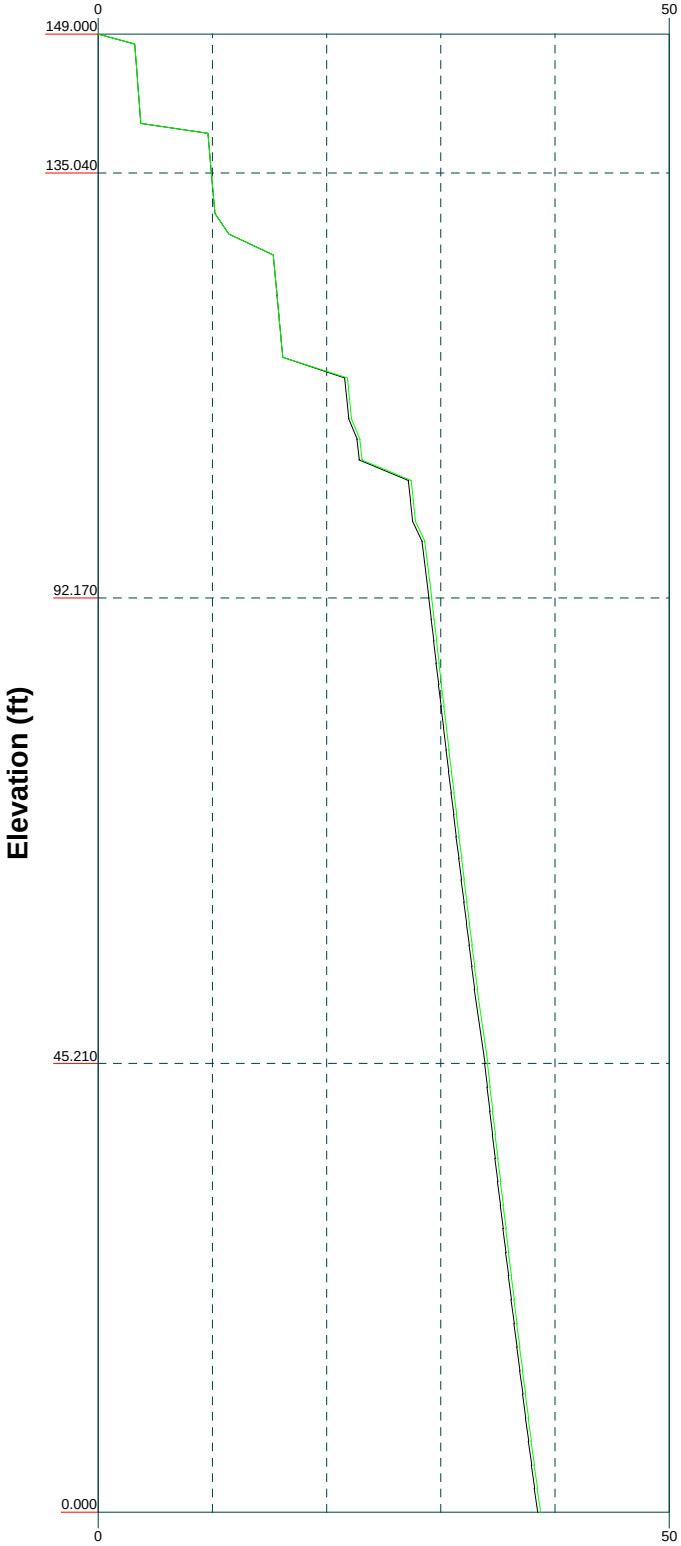
TIA/EIA-222-F - 85 mph/38 mph 0.750 in Ice

Vx Vz

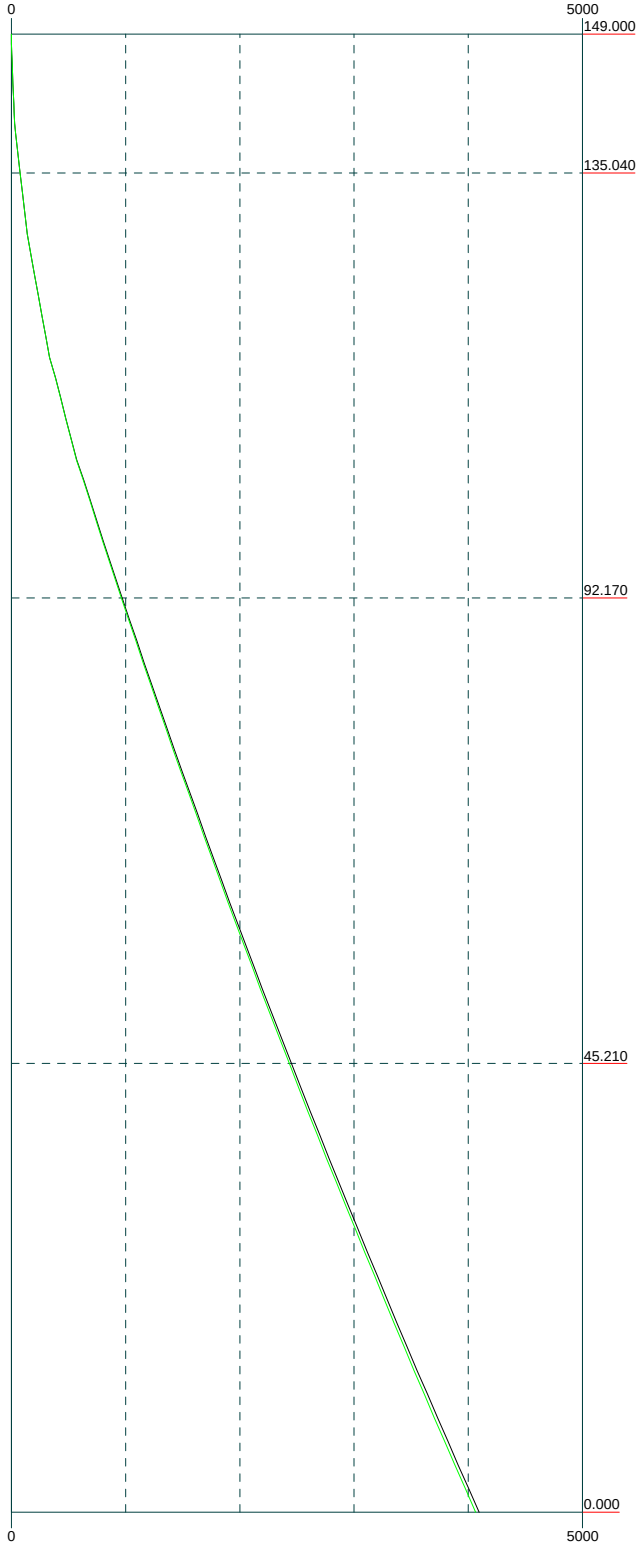
Maximum Values

Mx Mz

Global Mast Shear (K)



Global Mast Moment (kip-ft)



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Phone: `(918) 587-4630
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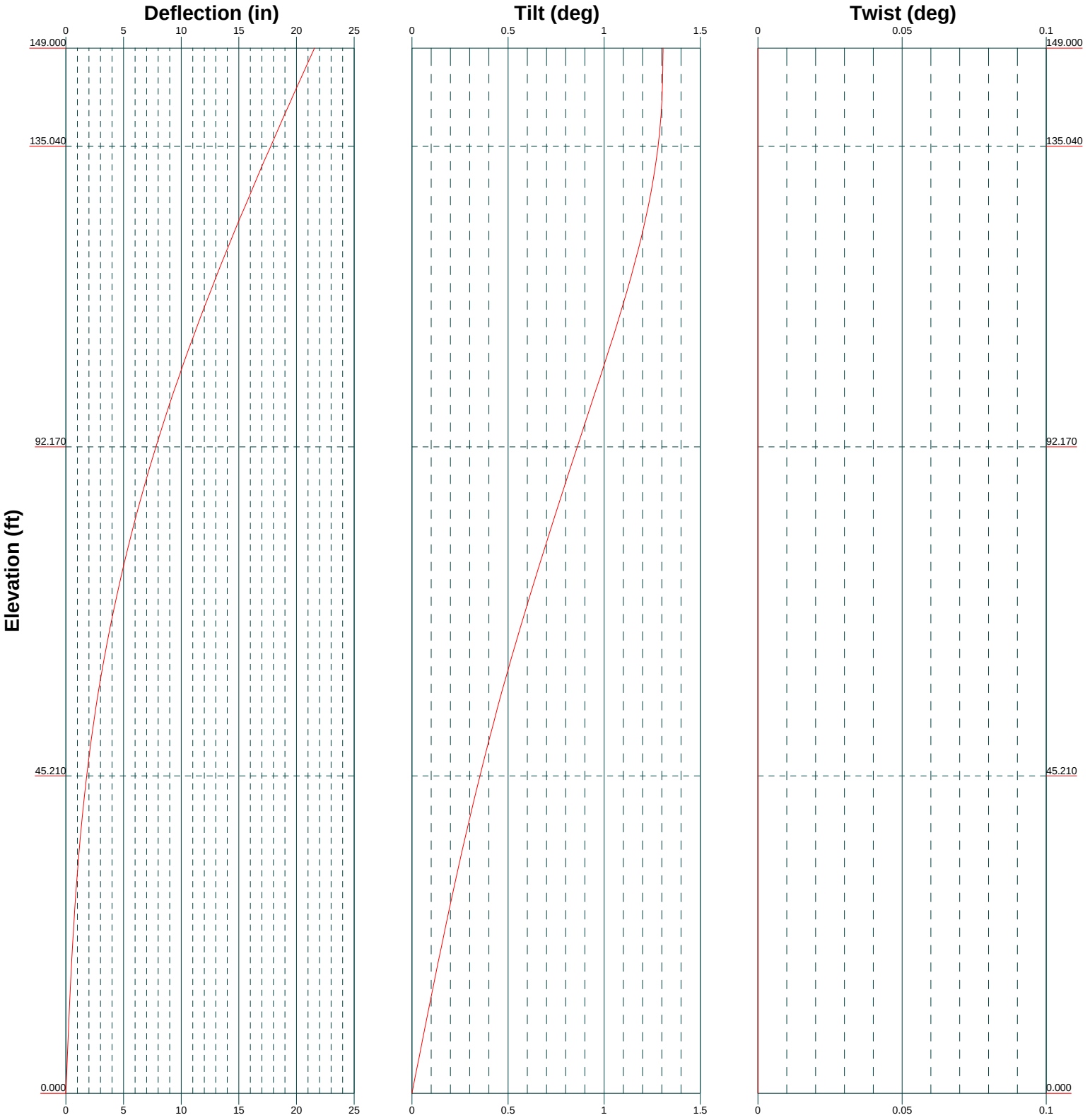
Job: ***84701.005.01 - GUILFORD WEST STONE PROPERTY, CT (BU# 87634***		
Project:		
Client: Crown Castle	Drawn by: Shashank.S.Rao	App'd:
Code: TIA/EIA-222-F	Date: 06/10/16	Scale: NTS
Path:		Dwg No. E-4

TIA/EIA-222-F - Service - 50 mph

Maximum Values



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Phone: `(918) 587-4630
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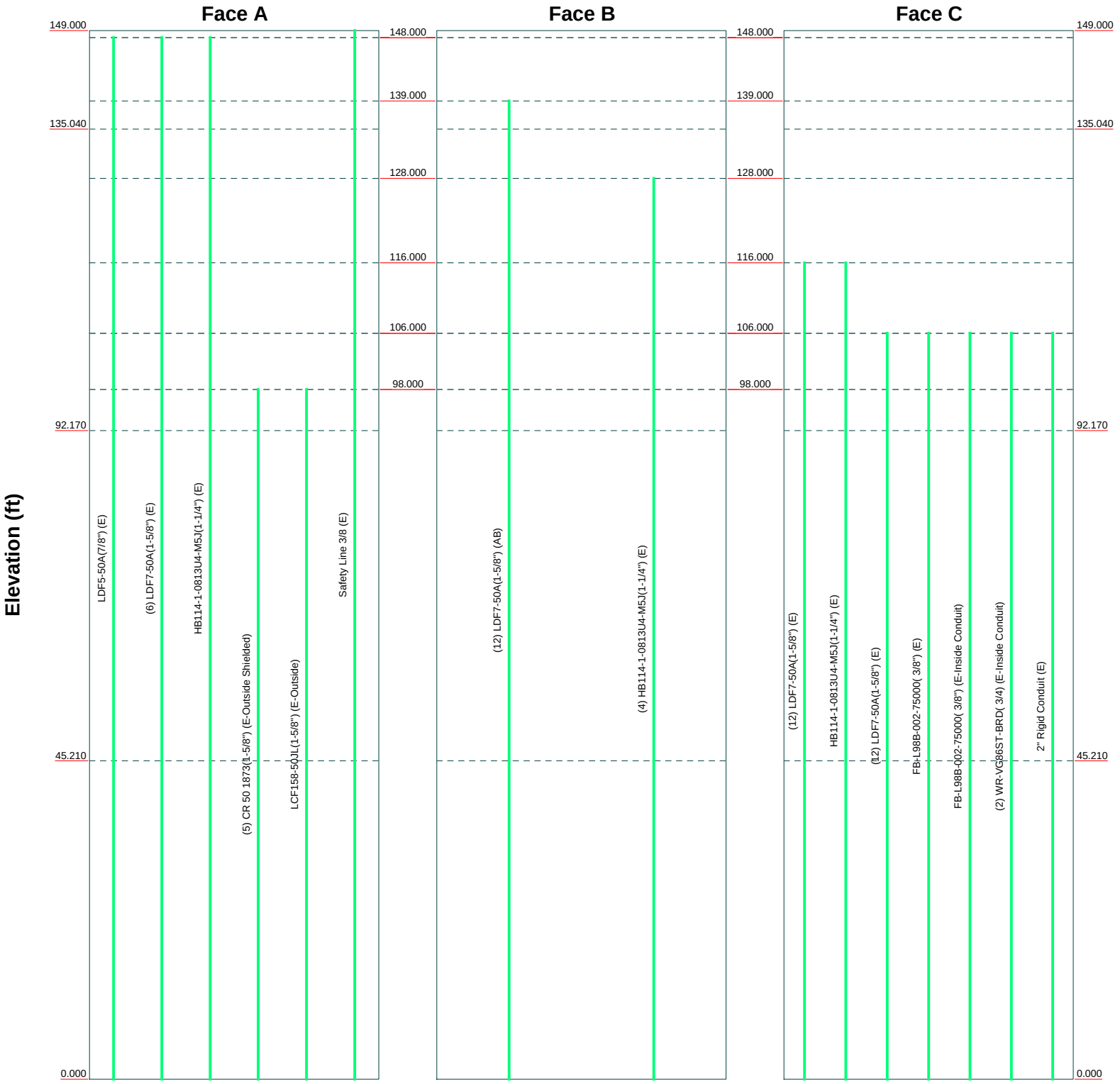
Job: ***84701.005.01 - GUILFORD WEST STONE PROPERTY, CT (BU# 87634***		
Project:		
Client: Crown Castle	Drawn by: Shashank.S.Rao	App'd:
Code: TIA/EIA-222-F	Date: 06/10/16	Scale: NTS
Path:		Dwg No. E-5

Feed Line Distribution Chart
0' - 149'

Round | Flat | App In Face | App Out Face | Truss Leg



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Job: ***84701.005.01 - GUILFORD WEST STONE PROPERTY, CT (BU# 87634***		
Project:		
Client: Crown Castle	Drawn by: Shashank.S.Rao	App'd:
Code: TIA/EIA-222-F	Date: 06/10/16	Scale: NTS
Path:		Dwg No. E-7

B+T Group
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Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in New Haven County, Connecticut.
Basic wind speed of 85 mph.
Nominal ice thickness of 0.750 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 38 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.333.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Tapered Pole Section Geometry

Section	*Elevation*	*Section Length*	*Splice Length*	*Number of Sides*	*Top Diameter*	*Bottom Diameter*	*Wall Thickness*	*Bend Radius*	*Pole Grade*
	ft	*ft*	*ft*		*in*	*in*	*in*	*in*	
L1	149.000-135.040	13.960	3.920	18	22.000	26.770	0.188	0.750	A572-65 (65 ksi)
L2	135.040-92.170	46.790	5.670	18	25.056	40.910	0.250	1.000	A572-65 (65 ksi)
L3	92.170-45.210	52.630	7.580	18	38.489	56.310	0.313	1.250	A572-65 (65 ksi)
L4	45.210-0.000	52.790		18	53.118	71.000	0.375	1.500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	22.339	12.981	780.301	7.743	11.176	69.819	1561.628	6.492	3.542	18.891
	27.183	15.820	1412.320	9.437	13.599	103.853	2826.498	7.911	4.382	23.368
L2	26.791	19.683	1530.144	8.806	12.728	120.217	3062.300	9.843	3.970	15.879
	41.541	32.264	6738.861	14.434	20.782	324.260	13486.589	16.135	6.760	27.041
L3	41.032	37.866	6972.278	13.553	19.552	356.596	13953.731	18.937	6.224	19.917
	57.179	55.543	22003.933	19.879	28.605	769.221	44036.819	27.777	9.361	29.954
L4	56.545	62.778	22063.670	18.724	26.984	817.654	44156.373	31.395	8.689	23.17
	72.095	84.061	52972.567	25.072	36.068	1468.686	106014.838	42.039	11.836	31.563

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 149.000-135.040				1	1	1			
L2 135.040-92.170				1	1	1			
L3 92.170-45.210				1	1	1			
L4 45.210-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
&&										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
LDF5-50A(7/8") (E)	A	No	Inside Pole	148.000 - 0.000	1	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
LDF7-50A(1-5/8") (E)	A	No	Inside Pole	148.000 - 0.000	6	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
HB114-1-0813U4-M5J(1-1/4")	A	No	Inside Pole	148.000 - 0.000	1	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
(E)						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
&&								
LDF7-50A(1-5/8")	B	No	Inside Pole	139.000 - 0.000	12	No Ice	0.000	0.001
(AB)						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
&&								
HB114-1-0813U4-M5J(1 -1/4")	B	No	Inside Pole	128.000 - 0.000	4	No Ice	0.000	0.001
(E)						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
&&								
LDF7-50A(1-5/8")	C	No	Inside Pole	116.000 - 0.000	12	No Ice	0.000	0.001
(E)						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
HB114-1-0813U4-M5J(1 -1/4")	C	No	Inside Pole	116.000 - 0.000	1	No Ice	0.000	0.001
(E)						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
&&								
LDF7-50A(1-5/8")	C	No	Inside Pole	106.000 - 0.000	12	No Ice	0.000	0.001
(E)						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
FB-L98B-002-75000(3/8")	C	No	Inside Pole	106.000 - 0.000	1	No Ice	0.000	0.000
(E)						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
FB-L98B-002-75000(3/8")	C	No	Inside Pole	106.000 - 0.000	1	No Ice	0.000	0.000
(E-Inside Conduit)						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
WR-VG86ST-BRD(3/4)	C	No	Inside Pole	106.000 - 0.000	2	No Ice	0.000	0.001
(E-Inside Conduit)						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
2" Rigid Conduit	C	No	Inside Pole	106.000 - 0.000	1	No Ice	0.000	0.003
(E)						1/2" Ice	0.000	0.003
						1" Ice	0.000	0.003
						2" Ice	0.000	0.003
						4" Ice	0.000	0.003
&&								
CR 50 1873(1-5/8")	A	No	CaAa (Out Of Face)	98.000 - 0.000	5	No Ice	0.000	0.001
(E-Outside Shielded)						1/2" Ice	0.000	0.002
						1" Ice	0.000	0.004
						2" Ice	0.000	0.011
						4" Ice	0.000	0.030
LCF158-50JL(1-5/8")	A	No	CaAa (Out Of Face)	98.000 - 0.000	1	No Ice	0.198	0.001
(E-Outside)						1/2" Ice	0.298	0.002
						1" Ice	0.398	0.004

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
						2" Ice	0.598	0.010
						4" Ice	0.998	0.030
&&								
Safety Line 3/8 (E)	A	No	CaAa (Out Of Face)	149.000 - 0.000	1	No Ice	0.037	0.000
						1/2" Ice	0.137	0.001
						1" Ice	0.238	0.001
						2" Ice	0.437	0.002
						4" Ice	0.838	0.004
&&								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	149.000-135.040	A	0.000	0.000	0.000	0.523	0.087
		B	0.000	0.000	0.000	0.000	0.039
		C	0.000	0.000	0.000	0.000	0.000
L2	135.040-92.170	A	0.000	0.000	0.000	2.762	0.313
		B	0.000	0.000	0.000	0.000	0.594
		C	0.000	0.000	0.000	0.000	0.456
L3	92.170-45.210	A	0.000	0.000	0.000	11.059	0.533
		B	0.000	0.000	0.000	0.000	0.687
		C	0.000	0.000	0.000	0.000	1.173
L4	45.210-0.000	A	0.000	0.000	0.000	10.647	0.513
		B	0.000	0.000	0.000	0.000	0.662
		C	0.000	0.000	0.000	0.000	1.129

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	149.000-135.040	A	0.893	0.000	0.000	0.000	3.018	0.100
		B		0.000	0.000	0.000	0.000	0.039
		C		0.000	0.000	0.000	0.000	0.000
L2	135.040-92.170	A	0.869	0.000	0.000	0.000	11.464	0.465
		B		0.000	0.000	0.000	0.000	0.594
		C		0.000	0.000	0.000	0.000	0.456
L3	92.170-45.210	A	0.818	0.000	0.000	0.000	27.378	1.444
		B		0.000	0.000	0.000	0.000	0.687
		C		0.000	0.000	0.000	0.000	1.173
L4	45.210-0.000	A	0.750	0.000	0.000	0.000	25.439	1.330
		B		0.000	0.000	0.000	0.000	0.662
		C		0.000	0.000	0.000	0.000	1.129

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L1	149.000-135.040	0.000	-0.055	0.000	-0.275
L2	135.040-92.170	0.000	-0.102	0.000	-0.362
L3	92.170-45.210	0.000	-0.334	0.000	-0.741
L4	45.210-0.000	0.000	-0.338	0.000	-0.745

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E)	A	From Leg	4.000 0.000 0.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.825 7.347 7.863 8.926 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E)	B	From Leg	4.000 0.000 0.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.825 7.347 7.863 8.926 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E)	C	From Leg	4.000 0.000 0.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.825 7.347 7.863 8.926 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
ERICSSON AIR 21 B4A B2P w/ Mount Pipe (E)	A	From Leg	4.000 0.000 0.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.825 7.347 7.863 8.926 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
ERICSSON AIR 21 B4A B2P w/ Mount Pipe (E)	B	From Leg	4.000 0.000 0.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.825 7.347 7.863 8.926 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
ERICSSON AIR 21 B4A B2P w/ Mount Pipe (E)	C	From Leg	4.000 0.000 0.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.825 7.347 7.863 8.926 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
ETW200VS12UB (E)	A	From Leg	4.000 0.000 0.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.184 0.248 0.322 0.494 0.943	0.472 0.567 0.670 0.904 1.474	0.011 0.015 0.019 0.034 0.086
ETW200VS12UB (E)	B	From Leg	4.000 0.000 0.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.184 0.248 0.322 0.494 0.943	0.472 0.567 0.670 0.904 1.474	0.011 0.015 0.019 0.034 0.086
ETW200VS12UB (E)	C	From Leg	4.000 0.000	0.000	148.000	No Ice 1/2" Ice	0.184 0.248	0.472 0.567	0.011 0.015

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.000			1" Ice	0.322	0.670	0.019
						2" Ice	0.494	0.904	0.034
						4" Ice	0.943	1.474	0.086
(2) 8' x 2" Pipe Mount (E)	A	From Leg	4.000 0.000 0.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.900 2.728 3.401 4.396 6.498	1.900 2.728 3.401 4.396 6.498	0.029 0.044 0.063 0.119 0.300
(2) 8' x 2" Pipe Mount (E)	B	From Leg	4.000 0.000 0.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.900 2.728 3.401 4.396 6.498	1.900 2.728 3.401 4.396 6.498	0.029 0.044 0.063 0.119 0.300
(2) 8' x 2" Pipe Mount (E)	C	From Leg	4.000 0.000 0.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.900 2.728 3.401 4.396 6.498	1.900 2.728 3.401 4.396 6.498	0.029 0.044 0.063 0.119 0.300
Sector Mount [SM 901-3] (E)	C	None		0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	12.900 17.160 21.420 29.940 46.980	12.900 17.160 21.420 29.940 46.980	1.257 1.432 1.607 1.956 2.654
&&									
(4) DB848H90E-XY w/ Mount Pipe (AB)	A	From Leg	4.000 0.000 1.000	0.000	139.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.426 8.116 8.816 10.151 12.921	10.493 12.016 13.564 15.911 20.786	0.061 0.135 0.219 0.419 0.995
(4) DB848H90E-XY w/ Mount Pipe (AB)	B	From Leg	4.000 0.000 1.000	0.000	139.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.426 8.116 8.816 10.151 12.921	10.493 12.016 13.564 15.911 20.786	0.061 0.135 0.219 0.419 0.995
(4) DB848H90E-XY w/ Mount Pipe (AB)	C	From Leg	4.000 0.000 1.000	0.000	139.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.426 8.116 8.816 10.151 12.921	10.493 12.016 13.564 15.911 20.786	0.061 0.135 0.219 0.419 0.995
Sector Mount [SM 901-3] (AB)	C	None		0.000	139.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	12.900 17.160 21.420 29.940 46.980	12.900 17.160 21.420 29.940 46.980	1.257 1.432 1.607 1.956 2.654
&&									
TME-1900MHz RRH (65MHz) (E)	A	From Leg	1.000 0.000 -2.000	0.000	129.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.698 2.936 3.183 3.703 4.846	2.771 3.011 3.260 3.784 4.935	0.060 0.084 0.111 0.176 0.354
TME-1900MHz RRH (65MHz) (E)	B	From Leg	1.000 0.000 -2.000	0.000	129.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.698 2.936 3.183 3.703 4.846	2.771 3.011 3.260 3.784 4.935	0.060 0.084 0.111 0.176 0.354
TME-1900MHz RRH (65MHz)	C	From Leg	1.000 0.000	0.000	129.000	No Ice 1/2" Ice	2.698 2.936	2.771 3.011	0.060 0.084

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(E)			-2.000			1" Ice	3.183	3.260	0.111
						2" Ice	3.703	3.784	0.176
						4" Ice	4.846	4.935	0.354
TME-800MHZ RRH	A	From Leg	1.000	0.000	129.000	No Ice	2.490	2.068	0.053
(E)			0.000			1/2" Ice	2.706	2.271	0.074
			1.000			1" Ice	2.931	2.481	0.098
						2" Ice	3.407	2.928	0.157
						4" Ice	4.462	3.927	0.318
TME-800MHZ RRH	B	From Leg	1.000	0.000	129.000	No Ice	2.490	2.068	0.053
(E)			0.000			1/2" Ice	2.706	2.271	0.074
			1.000			1" Ice	2.931	2.481	0.098
						2" Ice	3.407	2.928	0.157
						4" Ice	4.462	3.927	0.318
TME-800MHZ RRH	C	From Leg	1.000	0.000	129.000	No Ice	2.490	2.068	0.053
(E)			0.000			1/2" Ice	2.706	2.271	0.074
			1.000			1" Ice	2.931	2.481	0.098
						2" Ice	3.407	2.928	0.157
						4" Ice	4.462	3.927	0.318
6' x 2" Mount Pipe	A	From Leg	0.500	0.000	129.000	No Ice	1.425	1.425	0.022
(E)			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
6' x 2" Mount Pipe	B	From Leg	0.500	0.000	129.000	No Ice	1.425	1.425	0.022
(E)			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
6' x 2" Mount Pipe	C	From Leg	0.500	0.000	129.000	No Ice	1.425	1.425	0.022
(E)			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
Side Arm Mount [SO 102-3]	C	None		0.000	129.000	No Ice	3.000	3.000	0.081
(E)						1/2" Ice	3.480	3.480	0.111
						1" Ice	3.960	3.960	0.141
						2" Ice	4.920	4.920	0.201
						4" Ice	6.840	6.840	0.321
&&									
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.000	0.000	128.000	No Ice	7.134	4.959	0.077
			0.000			1/2" Ice	7.662	5.754	0.131
(E)			2.000			1" Ice	8.183	6.472	0.193
						2" Ice	9.256	8.010	0.338
						4" Ice	11.526	11.412	0.752
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.000	0.000	128.000	No Ice	7.134	4.959	0.077
			0.000			1/2" Ice	7.662	5.754	0.131
(E)			2.000			1" Ice	8.183	6.472	0.193
						2" Ice	9.256	8.010	0.338
						4" Ice	11.526	11.412	0.752
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.000	0.000	128.000	No Ice	7.134	4.959	0.077
			0.000			1/2" Ice	7.662	5.754	0.131
(E)			2.000			1" Ice	8.183	6.472	0.193
						2" Ice	9.256	8.010	0.338
						4" Ice	11.526	11.412	0.752
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.000	0.000	128.000	No Ice	8.498	6.946	0.083
			0.000			1/2" Ice	9.149	8.127	0.151
(E)			2.000			1" Ice	9.767	9.021	0.227

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	11.031	10.844	0.406
						4" Ice	13.679	14.851	0.909
APXVSPP18-C-A20 w/ Mount Pipe (E)	B	From Leg	4.000 0.000 2.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.498 9.149 9.767 11.031 13.679	6.946 8.127 9.021 10.844 14.851	0.083 0.151 0.227 0.406 0.909
APXVSPP18-C-A20 w/ Mount Pipe (E)	C	From Leg	4.000 0.000 2.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.498 9.149 9.767 11.031 13.679	6.946 8.127 9.021 10.844 14.851	0.083 0.151 0.227 0.406 0.909
TD-RRH8x20-25 (E)	A	From Leg	4.000 0.000 2.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	4.720 5.014 5.316 5.948 7.314	1.703 1.920 2.145 2.622 3.680	0.070 0.097 0.128 0.201 0.397
TD-RRH8x20-25 (E)	B	From Leg	4.000 0.000 2.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	4.720 5.014 5.316 5.948 7.314	1.703 1.920 2.145 2.622 3.680	0.070 0.097 0.128 0.201 0.397
TD-RRH8x20-25 (E)	C	From Leg	4.000 0.000 2.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	4.720 5.014 5.316 5.948 7.314	1.703 1.920 2.145 2.622 3.680	0.070 0.097 0.128 0.201 0.397
(3) ACU-A20-N (E)	A	From Leg	4.000 0.000 2.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.078 0.121 0.173 0.302 0.665	0.136 0.189 0.251 0.400 0.802	0.001 0.002 0.004 0.012 0.045
(3) ACU-A20-N (E)	B	From Leg	4.000 0.000 2.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.078 0.121 0.173 0.302 0.665	0.136 0.189 0.251 0.400 0.802	0.001 0.002 0.004 0.012 0.045
(3) ACU-A20-N (E)	C	From Leg	4.000 0.000 2.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.078 0.121 0.173 0.302 0.665	0.136 0.189 0.251 0.400 0.802	0.001 0.002 0.004 0.012 0.045
800 EXTERNAL NOTCH FILTER (E)	A	From Leg	4.000 0.000 2.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.770 0.890 1.018 1.301 1.970	0.375 0.465 0.563 0.787 1.337	0.011 0.017 0.024 0.045 0.114
800 EXTERNAL NOTCH FILTER (E)	B	From Leg	4.000 0.000 2.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.770 0.890 1.018 1.301 1.970	0.375 0.465 0.563 0.787 1.337	0.011 0.017 0.024 0.045 0.114
800 EXTERNAL NOTCH FILTER (E)	C	From Leg	4.000 0.000 2.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.770 0.890 1.018 1.301 1.970	0.375 0.465 0.563 0.787 1.337	0.011 0.017 0.024 0.045 0.114

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) 8' x 2" Pipe Mount	A	From Leg	4.000	0.000	128.000	No Ice	1.900	1.900	0.029
(E)			0.000			1/2" Ice	2.728	2.728	0.044
			0.000			1" Ice	3.401	3.401	0.063
						2" Ice	4.396	4.396	0.119
						4" Ice	6.498	6.498	0.300
(2) 8' x 2" Pipe Mount	B	From Leg	4.000	0.000	128.000	No Ice	1.900	1.900	0.029
(E)			0.000			1/2" Ice	2.728	2.728	0.044
			0.000			1" Ice	3.401	3.401	0.063
						2" Ice	4.396	4.396	0.119
						4" Ice	6.498	6.498	0.300
(2) 8' x 2" Pipe Mount	C	From Leg	4.000	0.000	128.000	No Ice	1.900	1.900	0.029
(E)			0.000			1/2" Ice	2.728	2.728	0.044
			0.000			1" Ice	3.401	3.401	0.063
						2" Ice	4.396	4.396	0.119
						4" Ice	6.498	6.498	0.300
Sector Mount [SM 901-3]	C	None		0.000	128.000	No Ice	12.900	12.900	1.257
(E)						1/2" Ice	17.160	17.160	1.432
						1" Ice	21.420	21.420	1.607
						2" Ice	29.940	29.940	1.956
						4" Ice	46.980	46.980	2.654
&&									
(2) DB846F65ZAXY w/ Mount Pipe	A	From Leg	4.000	0.000	116.000	No Ice	7.271	7.821	0.047
(E)			0.000			1/2" Ice	7.877	9.010	0.114
			2.000			1" Ice	8.484	9.912	0.189
						2" Ice	9.724	11.812	0.367
						4" Ice	12.325	15.978	0.867
(2) DB846H80E-SX w/ Mount Pipe	B	From Leg	4.000	0.000	116.000	No Ice	5.331	7.735	0.041
(E)			0.000			1/2" Ice	5.888	8.930	0.099
			2.000			1" Ice	6.412	9.843	0.165
						2" Ice	7.481	11.711	0.323
						4" Ice	9.828	15.894	0.782
(2) DB846F65ZAXY w/ Mount Pipe	C	From Leg	4.000	0.000	116.000	No Ice	7.271	7.821	0.047
(E)			0.000			1/2" Ice	7.877	9.010	0.114
			2.000			1" Ice	8.484	9.912	0.189
						2" Ice	9.724	11.812	0.367
						4" Ice	12.325	15.978	0.867
BXA-171063-8BF-2 w/ Mount Pipe	A	From Leg	4.000	0.000	116.000	No Ice	3.179	3.353	0.029
(E)			0.000			1/2" Ice	3.555	3.971	0.061
			2.000			1" Ice	3.964	4.595	0.099
						2" Ice	4.853	5.893	0.193
						4" Ice	6.767	8.885	0.488
BXA-171085-12BF-2 w/ Mount Pipe	B	From Leg	4.000	0.000	116.000	No Ice	4.971	5.228	0.040
(E)			0.000			1/2" Ice	5.521	6.389	0.086
			2.000			1" Ice	6.036	7.261	0.139
						2" Ice	7.091	9.046	0.271
						4" Ice	9.359	12.817	0.671
BXA-171063-12BF w/ Mount Pipe	C	From Leg	4.000	0.000	116.000	No Ice	4.971	5.228	0.040
(E)			0.000			1/2" Ice	5.521	6.389	0.086
			2.000			1" Ice	6.036	7.261	0.139
						2" Ice	7.091	9.046	0.271
						4" Ice	9.359	12.817	0.671
BXA-70063/6CF-2 w/ Mount Pipe	A	From Leg	4.000	0.000	116.000	No Ice	7.969	5.398	0.042
(E)			0.000			1/2" Ice	8.609	6.546	0.101
			2.000			1" Ice	9.216	7.409	0.168
						2" Ice	10.459	9.184	0.327
						4" Ice	13.066	12.933	0.787
BXA-70063/6CF-2 w/ Mount	B	From Leg	4.000	0.000	116.000	No Ice	7.969	5.398	0.042

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Pipe			0.000			1/2" Ice	8.609	6.546	0.101
(E)			2.000			1" Ice	9.216	7.409	0.168
						2" Ice	10.459	9.184	0.327
						4" Ice	13.066	12.933	0.787
BXA-70063/6CF-2 w/ Mount	C	From Leg	4.000	0.000	116.000	No Ice	7.969	5.398	0.042
Pipe			0.000			1/2" Ice	8.609	6.546	0.101
(E)			2.000			1" Ice	9.216	7.409	0.168
						2" Ice	10.459	9.184	0.327
						4" Ice	13.066	12.933	0.787
BXA-171063-12CF-EDIN-2	A	From Leg	4.000	0.000	116.000	No Ice	5.029	5.289	0.041
w/ Mount Pipe			0.000			1/2" Ice	5.583	6.459	0.087
(E)			2.000			1" Ice	6.103	7.348	0.140
						2" Ice	7.166	9.148	0.273
						4" Ice	9.438	12.947	0.677
BXA-171063-12CF-EDIN-2	B	From Leg	4.000	0.000	116.000	No Ice	5.029	5.289	0.041
w/ Mount Pipe			0.000			1/2" Ice	5.583	6.459	0.087
(E)			2.000			1" Ice	6.103	7.348	0.140
						2" Ice	7.166	9.148	0.273
						4" Ice	9.438	12.947	0.677
BXA-171063-12CF-EDIN-2	C	From Leg	4.000	0.000	116.000	No Ice	5.029	5.289	0.041
w/ Mount Pipe			0.000			1/2" Ice	5.583	6.459	0.087
(E)			2.000			1" Ice	6.103	7.348	0.140
						2" Ice	7.166	9.148	0.273
						4" Ice	9.438	12.947	0.677
(2) FD9R6004/2C-3L	A	From Leg	4.000	0.000	116.000	No Ice	0.367	0.085	0.003
(E)			0.000			1/2" Ice	0.451	0.136	0.005
			2.000			1" Ice	0.543	0.196	0.009
						2" Ice	0.755	0.343	0.020
						4" Ice	1.281	0.740	0.063
(2) FD9R6004/2C-3L	B	From Leg	4.000	0.000	116.000	No Ice	0.367	0.085	0.003
(E)			0.000			1/2" Ice	0.451	0.136	0.005
			2.000			1" Ice	0.543	0.196	0.009
						2" Ice	0.755	0.343	0.020
						4" Ice	1.281	0.740	0.063
(2) FD9R6004/2C-3L	C	From Leg	4.000	0.000	116.000	No Ice	0.367	0.085	0.003
(E)			0.000			1/2" Ice	0.451	0.136	0.005
			2.000			1" Ice	0.543	0.196	0.009
						2" Ice	0.755	0.343	0.020
						4" Ice	1.281	0.740	0.063
DB-T1-6Z-8AB-0Z	A	From Leg	4.000	0.000	116.000	No Ice	5.600	2.333	0.044
(E)			0.000			1/2" Ice	5.915	2.558	0.080
			2.000			1" Ice	6.240	2.791	0.120
						2" Ice	6.914	3.284	0.213
						4" Ice	8.365	4.373	0.455
RRH2x40-AWS	A	From Leg	4.000	0.000	116.000	No Ice	2.522	1.589	0.044
(E)			0.000			1/2" Ice	2.753	1.795	0.061
			2.000			1" Ice	2.993	2.010	0.082
						2" Ice	3.499	2.465	0.132
						4" Ice	4.615	3.479	0.275
RRH2x40-AWS	B	From Leg	4.000	0.000	116.000	No Ice	2.522	1.589	0.044
(E)			0.000			1/2" Ice	2.753	1.795	0.061
			2.000			1" Ice	2.993	2.010	0.082
						2" Ice	3.499	2.465	0.132
						4" Ice	4.615	3.479	0.275
RRH2x40-AWS	C	From Leg	4.000	0.000	116.000	No Ice	2.522	1.589	0.044
(E)			0.000			1/2" Ice	2.753	1.795	0.061
			2.000			1" Ice	2.993	2.010	0.082

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	3.499	2.465	0.132
						4" Ice	4.615	3.479	0.275
GPS-TMG-26NMS	B	From Leg	4.000	0.000	116.000	No Ice	0.156	0.156	0.001
(E)			0.000			1/2" Ice	0.213	0.213	0.002
			2.000			1" Ice	0.279	0.279	0.005
						2" Ice	0.437	0.437	0.014
						4" Ice	0.857	0.857	0.052
Sector Mount [SM 901-3]	C	None		0.000	116.000	No Ice	12.900	12.900	1.257
(E)						1/2" Ice	17.160	17.160	1.432
						1" Ice	21.420	21.420	1.607
						2" Ice	29.940	29.940	1.956
						4" Ice	46.980	46.980	2.654
&&									
RRUS 11	A	From Leg	1.000	0.000	110.000	No Ice	3.249	1.373	0.048
(E)			0.000			1/2" Ice	3.491	1.551	0.068
			0.000			1" Ice	3.741	1.738	0.092
						2" Ice	4.268	2.138	0.150
						4" Ice	5.426	3.042	0.310
RRUS 11	B	From Leg	1.000	0.000	110.000	No Ice	3.249	1.373	0.048
(E)			0.000			1/2" Ice	3.491	1.551	0.068
			0.000			1" Ice	3.741	1.738	0.092
						2" Ice	4.268	2.138	0.150
						4" Ice	5.426	3.042	0.310
RRUS 11	C	From Leg	1.000	0.000	110.000	No Ice	3.249	1.373	0.048
(E)			0.000			1/2" Ice	3.491	1.551	0.068
			0.000			1" Ice	3.741	1.738	0.092
						2" Ice	4.268	2.138	0.150
						4" Ice	5.426	3.042	0.310
4' x 2" Pipe Mount	A	From Leg	0.500	0.000	110.000	No Ice	0.785	0.785	0.029
(E)			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
						2" Ice	1.814	1.814	0.072
						4" Ice	3.111	3.111	0.167
4' x 2" Pipe Mount	B	From Leg	0.500	0.000	110.000	No Ice	0.785	0.785	0.029
(E)			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
						2" Ice	1.814	1.814	0.072
						4" Ice	3.111	3.111	0.167
4' x 2" Pipe Mount	C	From Leg	0.500	0.000	110.000	No Ice	0.785	0.785	0.029
(E)			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
						2" Ice	1.814	1.814	0.072
						4" Ice	3.111	3.111	0.167
Side Arm Mount [SO 102-3]	C	None		0.000	110.000	No Ice	3.000	3.000	0.081
(E)						1/2" Ice	3.480	3.480	0.111
						1" Ice	3.960	3.960	0.141
						2" Ice	4.920	4.920	0.201
						4" Ice	6.840	6.840	0.321
&&									
(2) RA21.7770.00 w/ Mount Pipe	A	From Leg	4.000	0.000	106.000	No Ice	7.031	5.002	0.060
			0.000			1/2" Ice	7.608	5.960	0.114
(E)			2.000			1" Ice	8.165	6.747	0.175
						2" Ice	9.310	8.370	0.322
						4" Ice	11.721	11.872	0.746
(2) RA21.7770.00 w/ Mount Pipe	B	From Leg	4.000	0.000	106.000	No Ice	7.031	5.002	0.060
			0.000			1/2" Ice	7.608	5.960	0.114
(E)			2.000			1" Ice	8.165	6.747	0.175

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	9.310	8.370	0.322
						4" Ice	11.721	11.872	0.746
(2) RA21.7770.00 w/ Mount Pipe (E)	C	From Leg	4.000 0.000 2.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.031 7.608 8.165 9.310 11.721	5.002 5.960 6.747 8.370 11.872	0.060 0.114 0.175 0.322 0.746
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	A	From Leg	4.000 0.000 2.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.498 9.149 9.767 11.031 13.679	6.304 7.479 8.368 10.179 14.024	0.074 0.139 0.212 0.385 0.874
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	B	From Leg	4.000 0.000 2.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.498 9.149 9.767 11.031 13.679	6.304 7.479 8.368 10.179 14.024	0.074 0.139 0.212 0.385 0.874
AM-X-CD-14-65-00T-RET w/ Mount Pipe (E)	C	From Leg	4.000 0.000 2.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.744 6.198 6.661 7.618 9.668	4.015 4.633 5.276 6.678 9.744	0.035 0.080 0.131 0.254 0.610
DC6-48-60-18-8F (E)	A	From Leg	4.000 0.000 2.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.467 1.667 1.878 2.333 3.378	1.467 1.667 1.878 2.333 3.378	0.019 0.037 0.057 0.105 0.239
(4) LGP21401 (E)	A	From Leg	4.000 0.000 0.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.288 1.445 1.611 1.969 2.788	0.233 0.313 0.403 0.608 1.121	0.014 0.021 0.030 0.055 0.135
(4) LGP21401 (E)	B	From Leg	4.000 0.000 0.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.288 1.445 1.611 1.969 2.788	0.233 0.313 0.403 0.608 1.121	0.014 0.021 0.030 0.055 0.135
(4) LGP21401 (E)	C	From Leg	4.000 0.000 0.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.288 1.445 1.611 1.969 2.788	0.233 0.313 0.403 0.608 1.121	0.014 0.021 0.030 0.055 0.135
RRUS 11 (P)	A	From Leg	4.000 0.000 2.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.249 3.491 3.741 4.268 5.426	1.373 1.551 1.738 2.138 3.042	0.048 0.068 0.092 0.150 0.310
RRUS 11 (P)	B	From Leg	4.000 0.000 2.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.249 3.491 3.741 4.268 5.426	1.373 1.551 1.738 2.138 3.042	0.048 0.068 0.092 0.150 0.310
RRUS 11 (P)	C	From Leg	4.000 0.000 2.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.249 3.491 3.741 4.268 5.426	1.373 1.551 1.738 2.138 3.042	0.048 0.068 0.092 0.150 0.310

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
8' x 2" Pipe Mount (E)	A	From Leg	4.000 0.000 0.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.900 2.728 3.401 4.396 6.498	1.900 2.728 3.401 4.396 6.498	0.029 0.044 0.063 0.119 0.300
8' x 2" Pipe Mount (E)	B	From Leg	4.000 0.000 0.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.900 2.728 3.401 4.396 6.498	1.900 2.728 3.401 4.396 6.498	0.029 0.044 0.063 0.119 0.300
8' x 2" Pipe Mount (E)	C	From Leg	4.000 0.000 0.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.900 2.728 3.401 4.396 6.498	1.900 2.728 3.401 4.396 6.498	0.029 0.044 0.063 0.119 0.300
Sector Mount [SM 901-3] (E)	C	None		0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	12.900 17.160 21.420 29.940 46.980	12.900 17.160 21.420 29.940 46.980	1.257 1.432 1.607 1.956 2.654
&&									
APXV18-206517S-C w/ Mount Pipe (E)	A	From Leg	1.000 0.000 0.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.404 5.960 6.481 7.547 9.919	4.700 5.860 6.734 8.515 12.277	0.052 0.097 0.150 0.280 0.679
APXV18-206517S-C w/ Mount Pipe (E)	B	From Leg	1.000 0.000 0.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.404 5.960 6.481 7.547 9.919	4.700 5.860 6.734 8.515 12.277	0.052 0.097 0.150 0.280 0.679
APXV18-206517S-C w/ Mount Pipe (E)	C	From Leg	1.000 0.000 0.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.404 5.960 6.481 7.547 9.919	4.700 5.860 6.734 8.515 12.277	0.052 0.097 0.150 0.280 0.679
&&									

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 60 deg - No Ice
5	Dead+Wind 90 deg - No Ice
6	Dead+Wind 120 deg - No Ice
7	Dead+Wind 150 deg - No Ice
8	Dead+Wind 180 deg - No Ice
9	Dead+Wind 210 deg - No Ice

Comb. No.	Description
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice+Temp
15	Dead+Wind 0 deg+Ice+Temp
16	Dead+Wind 30 deg+Ice+Temp
17	Dead+Wind 60 deg+Ice+Temp
18	Dead+Wind 90 deg+Ice+Temp
19	Dead+Wind 120 deg+Ice+Temp
20	Dead+Wind 150 deg+Ice+Temp
21	Dead+Wind 180 deg+Ice+Temp
22	Dead+Wind 210 deg+Ice+Temp
23	Dead+Wind 240 deg+Ice+Temp
24	Dead+Wind 270 deg+Ice+Temp
25	Dead+Wind 300 deg+Ice+Temp
26	Dead+Wind 330 deg+Ice+Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 30 deg - Service
29	Dead+Wind 60 deg - Service
30	Dead+Wind 90 deg - Service
31	Dead+Wind 120 deg - Service
32	Dead+Wind 150 deg - Service
33	Dead+Wind 180 deg - Service
34	Dead+Wind 210 deg - Service
35	Dead+Wind 240 deg - Service
36	Dead+Wind 270 deg - Service
37	Dead+Wind 300 deg - Service
38	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	149 - 135.04	Pole	Max Tension	15	0.000	0.000	-0.000
			Max. Compression	14	-8.132	0.000	0.012
			Max. Mx	5	-4.082	-36.959	0.006
			Max. My	2	-4.078	-0.003	36.970
			Max. Vy	5	9.608	-36.959	0.006
			Max. Vx	2	-9.610	-0.003	36.970
			Max. Torque	10			-0.003
L2	135.04 - 92.17	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-28.097	-0.171	1.268
			Max. Mx	5	-15.741	-799.981	1.881
			Max. My	2	-15.720	-1.535	805.299
			Max. Vy	5	28.373	-799.981	1.881
			Max. Vx	2	-28.622	-1.535	805.299
			Max. Torque	6			0.916
L3	92.17 - 45.21	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-41.088	-0.171	3.237
			Max. Mx	5	-26.105	-2179.924	5.223
			Max. My	2	-26.094	-4.466	2196.878
			Max. Vy	5	32.958	-2179.924	5.223
			Max. Vx	2	-33.207	-4.466	2196.878
			Max. Torque	6			1.021
L4	45.21 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-62.839	-0.171	6.347
			Max. Mx	5	-44.081	-4064.466	9.271

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-44.081	-7.851	4095.116
			Max. Vy	5	38.485	-4064.466	9.271
			Max. Vx	2	-38.729	-7.851	4095.116
			Max. Torque	6			1.168

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	15	62.839	-0.015	9.352
	Max. H_x	11	44.099	38.465	-0.063
	Max. H_z	2	44.099	-0.063	38.709
	Max. M_x	2	4095.116	-0.063	38.709
	Max. M_z	5	4064.466	-38.465	0.063
	Max. Torsion	6	1.168	-33.280	-19.300
	Min. Vert	1	44.099	0.000	0.000
	Min. H_x	5	44.099	-38.465	0.063
	Min. H_z	8	44.099	0.063	-38.709
	Min. M_x	8	-4092.002	0.063	-38.709
	Min. M_z	11	-4064.192	38.465	-0.063
	Min. Torsion	12	-1.167	33.280	19.300

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	44.099	0.000	0.000	-1.528	-0.133	0.000
Dead+Wind 0 deg - No Ice	44.099	0.063	-38.709	-4095.116	-7.851	0.479
Dead+Wind 30 deg - No Ice	44.099	19.287	-33.555	-3550.542	-2038.967	-0.119
Dead+Wind 60 deg - No Ice	44.099	33.343	-19.409	-2055.026	-3523.794	-0.685
Dead+Wind 90 deg - No Ice	44.099	38.465	-0.063	-9.271	-4064.466	-1.069
Dead+Wind 120 deg - No Ice	44.099	33.280	19.300	2038.558	-3516.092	-1.168
Dead+Wind 150 deg - No Ice	44.099	19.177	33.491	3539.726	-2025.613	-0.954
Dead+Wind 180 deg - No Ice	44.099	-0.063	38.709	4092.002	7.578	-0.482
Dead+Wind 210 deg - No Ice	44.099	-19.287	33.555	3547.427	2038.693	0.120
Dead+Wind 240 deg - No Ice	44.099	-33.343	19.409	2051.912	3523.520	0.690
Dead+Wind 270 deg - No Ice	44.099	-38.465	0.063	6.157	4064.192	1.073
Dead+Wind 300 deg - No Ice	44.099	-33.280	-19.300	-2041.671	3515.819	1.167
Dead+Wind 330 deg - No Ice	44.099	-19.177	-33.491	-3542.840	2025.340	0.949
Dead+Ice+Temp	62.839	0.000	0.000	-6.347	-0.171	0.000
Dead+Wind 0 deg+Ice+Temp	62.839	0.015	-9.352	-1027.518	-1.998	0.132
Dead+Wind 30 deg+Ice+Temp	62.839	4.663	-8.107	-891.642	-509.043	-0.054
Dead+Wind 60 deg+Ice+Temp	62.839	8.061	-4.689	-518.604	-879.738	-0.225
Dead+Wind 90 deg+Ice+Temp	62.839	9.300	-0.015	-8.358	-1014.757	-0.336
Dead+Wind 120 deg+Ice+Temp	62.839	8.046	4.663	502.375	-877.920	-0.357
Dead+Wind 150 deg+Ice+Temp	62.839	4.637	8.092	876.745	-505.894	-0.283
Dead+Wind 180 deg+Ice+Temp	62.839	-0.015	9.352	1014.439	1.638	-0.132
Dead+Wind 210 deg+Ice+Temp	62.839	-4.663	8.107	878.563	508.683	0.054
Dead+Wind 240 deg+Ice+Temp	62.839	-8.061	4.689	505.525	879.378	0.225
Dead+Wind 270 deg+Ice+Temp	62.839	-9.300	0.015	-4.721	1014.397	0.336
Dead+Wind 300 deg+Ice+Temp	62.839	-8.046	-4.663	-515.454	877.560	0.357

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 330 deg+Ice+Temp	62.839	-4.637	-8.092	-889.824	505.533	0.282
Dead+Wind 0 deg - Service	44.099	0.022	-13.394	-1418.726	-2.808	0.167
Dead+Wind 30 deg - Service	44.099	6.674	-11.611	-1230.197	-705.969	-0.041
Dead+Wind 60 deg - Service	44.099	11.537	-6.716	-712.456	-1220.003	-0.238
Dead+Wind 90 deg - Service	44.099	13.310	-0.022	-4.230	-1407.176	-0.371
Dead+Wind 120 deg - Service	44.099	11.515	6.678	704.712	-1217.333	-0.405
Dead+Wind 150 deg - Service	44.099	6.636	11.589	1224.408	-701.343	-0.331
Dead+Wind 180 deg - Service	44.099	-0.022	13.394	1415.607	2.533	-0.167
Dead+Wind 210 deg - Service	44.099	-6.674	11.611	1227.078	705.694	0.041
Dead+Wind 240 deg - Service	44.099	-11.537	6.716	709.337	1219.728	0.239
Dead+Wind 270 deg - Service	44.099	-13.310	0.022	1.111	1406.901	0.372
Dead+Wind 300 deg - Service	44.099	-11.515	-6.678	-707.831	1217.058	0.405
Dead+Wind 330 deg - Service	44.099	-6.636	-11.589	-1227.527	701.069	0.330

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.000	-44.099	0.000	0.000	44.099	0.000	0.000%
2	0.063	-44.099	-38.709	-0.063	44.099	38.709	0.000%
3	19.287	-44.099	-33.555	-19.287	44.099	33.555	0.000%
4	33.343	-44.099	-19.409	-33.343	44.099	19.409	0.000%
5	38.465	-44.099	-0.063	-38.465	44.099	0.063	0.000%
6	33.280	-44.099	19.300	-33.280	44.099	-19.300	0.000%
7	19.177	-44.099	33.491	-19.177	44.099	-33.491	0.000%
8	-0.063	-44.099	38.709	0.063	44.099	-38.709	0.000%
9	-19.287	-44.099	33.555	19.287	44.099	-33.555	0.000%
10	-33.343	-44.099	19.409	33.343	44.099	-19.409	0.000%
11	-38.465	-44.099	0.063	38.465	44.099	-0.063	0.000%
12	-33.280	-44.099	-19.300	33.280	44.099	19.300	0.000%
13	-19.177	-44.099	-33.491	19.177	44.099	33.491	0.000%
14	0.000	-62.839	0.000	0.000	62.839	0.000	0.000%
15	0.015	-62.839	-9.352	-0.015	62.839	9.352	0.000%
16	4.663	-62.839	-8.107	-4.663	62.839	8.107	0.000%
17	8.061	-62.839	-4.689	-8.061	62.839	4.689	0.000%
18	9.300	-62.839	-0.015	-9.300	62.839	0.015	0.000%
19	8.046	-62.839	4.663	-8.046	62.839	-4.663	0.000%
20	4.637	-62.839	8.092	-4.637	62.839	-8.092	0.000%
21	-0.015	-62.839	9.352	0.015	62.839	-9.352	0.000%
22	-4.663	-62.839	8.107	4.663	62.839	-8.107	0.000%
23	-8.061	-62.839	4.689	8.061	62.839	-4.689	0.000%
24	-9.300	-62.839	0.015	9.300	62.839	-0.015	0.000%
25	-8.046	-62.839	-4.663	8.046	62.839	4.663	0.000%
26	-4.637	-62.839	-8.092	4.637	62.839	8.092	0.000%
27	0.022	-44.099	-13.394	-0.022	44.099	13.394	0.000%
28	6.674	-44.099	-11.611	-6.674	44.099	11.611	0.000%
29	11.537	-44.099	-6.716	-11.537	44.099	6.716	0.000%
30	13.310	-44.099	-0.022	-13.310	44.099	0.022	0.000%
31	11.515	-44.099	6.678	-11.515	44.099	-6.678	0.000%
32	6.636	-44.099	11.589	-6.636	44.099	-11.589	0.000%
33	-0.022	-44.099	13.394	0.022	44.099	-13.394	0.000%
34	-6.674	-44.099	11.611	6.674	44.099	-11.611	0.000%
35	-11.537	-44.099	6.716	11.537	44.099	-6.716	0.000%
36	-13.310	-44.099	0.022	13.310	44.099	-0.022	0.000%
37	-11.515	-44.099	-6.678	11.515	44.099	6.678	0.000%
38	-6.636	-44.099	-11.589	6.636	44.099	11.589	0.000%

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Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00005400
3	Yes	5	0.00000001	0.00005845
4	Yes	5	0.00000001	0.00005898
5	Yes	4	0.00000001	0.00008245
6	Yes	5	0.00000001	0.00005702
7	Yes	5	0.00000001	0.00005881
8	Yes	4	0.00000001	0.00003700
9	Yes	5	0.00000001	0.00005842
10	Yes	5	0.00000001	0.00005787
11	Yes	4	0.00000001	0.00006199
12	Yes	5	0.00000001	0.00005901
13	Yes	5	0.00000001	0.00005723
14	Yes	4	0.00000001	0.00000001
15	Yes	4	0.00000001	0.00058105
16	Yes	4	0.00000001	0.00066573
17	Yes	4	0.00000001	0.00066458
18	Yes	4	0.00000001	0.00057453
19	Yes	4	0.00000001	0.00065330
20	Yes	4	0.00000001	0.00065646
21	Yes	4	0.00000001	0.00057403
22	Yes	4	0.00000001	0.00065778
23	Yes	4	0.00000001	0.00065605
24	Yes	4	0.00000001	0.00057414
25	Yes	4	0.00000001	0.00066215
26	Yes	4	0.00000001	0.00066184
27	Yes	4	0.00000001	0.00001675
28	Yes	4	0.00000001	0.00017408
29	Yes	4	0.00000001	0.00017738
30	Yes	4	0.00000001	0.00001977
31	Yes	4	0.00000001	0.00016544
32	Yes	4	0.00000001	0.00017726
33	Yes	4	0.00000001	0.00001616
34	Yes	4	0.00000001	0.00017353
35	Yes	4	0.00000001	0.00016974
36	Yes	4	0.00000001	0.00001888
37	Yes	4	0.00000001	0.00017862
38	Yes	4	0.00000001	0.00016726

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	149 - 135.04	21.559	27	1.305	0.001
L2	138.96 - 92.17	18.824	27	1.292	0.001
L3	97.84 - 45.21	8.908	27	0.929	0.001
L4	52.79 - 0	2.405	27	0.425	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
148.000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	27	21.285	1.304	0.001	29341
139.000	(4) DB848H90E-XY w/ Mount Pipe	27	18.834	1.292	0.001	15288
129.000	TME-1900MHz RRH (65MHz)	27	16.185	1.244	0.001	9734
128.000	APXVTM14-C-120 w/ Mount Pipe	27	15.926	1.238	0.001	9415
116.000	(2) DB846F65ZAXY w/ Mount Pipe	27	12.931	1.134	0.001	6759
110.000	RRUS 11	27	11.525	1.070	0.001	5924
106.000	(2) RA21.7770.00 w/ Mount Pipe	27	10.627	1.025	0.001	5473
98.000	APXV18-206517S-C w/ Mount Pipe	27	8.940	0.931	0.001	4812

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	149 - 135.04	62.175	2	3.764	0.003
L2	138.96 - 92.17	54.289	2	3.727	0.003
L3	97.84 - 45.21	25.702	2	2.681	0.002
L4	52.79 - 0	6.941	2	1.227	0.001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
148.000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	2	61.385	3.763	0.003	10255
139.000	(4) DB848H90E-XY w/ Mount Pipe	2	54.320	3.727	0.003	5342
129.000	TME-1900MHz RRH (65MHz)	2	46.682	3.590	0.002	3398
128.000	APXVTM14-C-120 w/ Mount Pipe	2	45.936	3.570	0.002	3287
116.000	(2) DB846F65ZAXY w/ Mount Pipe	2	37.301	3.271	0.002	2358
110.000	RRUS 11	2	33.247	3.088	0.002	2065
106.000	(2) RA21.7770.00 w/ Mount Pipe	2	30.659	2.958	0.002	1908
98.000	APXV18-206517S-C w/ Mount Pipe	2	25.795	2.687	0.002	1676

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L1	149 - 135.04 (1)	TP26.77x22x0.188	13.960	0.000	0.0	39.000	15.023	-4.078	585.889	0.007
L2	135.04 - 92.17 (2)	TP40.91x25.056x0.25	46.790	0.000	0.0	38.453	30.739	-15.720	1182.030	0.013
L3	92.17 - 45.21 (3)	TP56.31x38.489x0.313	52.630	0.000	0.0	36.660	52.997	-26.095	1942.830	0.013
L4	45.21 - 0 (4)	TP71x53.118x0.375	52.790	0.000	0.0	34.716	84.061	-44.081	2918.310	0.015

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	149 - 135.04 (1)	TP26.77x22x0.188	36.970	4.739	39.000	0.122	0.000	0.000	39.000	0.000
L2	135.04 - 92.17 (2)	TP40.91x25.056x0.25	805.301	32.841	38.453	0.854	0.000	0.000	38.453	0.000
L3	92.17 - 45.21 (3)	TP56.31x38.489x0.313	2196.883	37.654	36.660	1.027	0.000	0.000	36.660	0.000
L4	45.21 - 0 (4)	TP71x53.118x0.375	4095.125	33.459	34.716	0.964	0.000	0.000	34.716	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
L1	149 - 135.04 (1)	TP26.77x22x0.188	9.610	0.640	26.000	0.049	0.000	0.000	26.000	0.000
L2	135.04 - 92.17 (2)	TP40.91x25.056x0.25	28.622	0.931	26.000	0.072	0.480	0.010	26.000	0.000
L3	92.17 - 45.21 (3)	TP56.31x38.489x0.313	33.207	0.627	26.000	0.048	0.479	0.004	26.000	0.000
L4	45.21 - 0 (4)	TP71x53.118x0.375	38.729	0.461	26.000	0.035	0.479	0.002	26.000	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	149 - 135.04 (1)	0.007	0.122	0.000	0.049	0.000	0.129 ✔	1.333	H1-3+VT ✔
L2	135.04 - 92.17 (2)	0.013	0.854	0.000	0.072	0.000	0.869 ✔	1.333	H1-3+VT ✔
L3	92.17 - 45.21 (3)	0.013	1.027	0.000	0.048	0.000	1.041 ✔	1.333	H1-3+VT ✔
L4	45.21 - 0 (4)	0.015	0.964	0.000	0.035	0.000	0.979 ✔	1.333	H1-3+VT ✔

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria

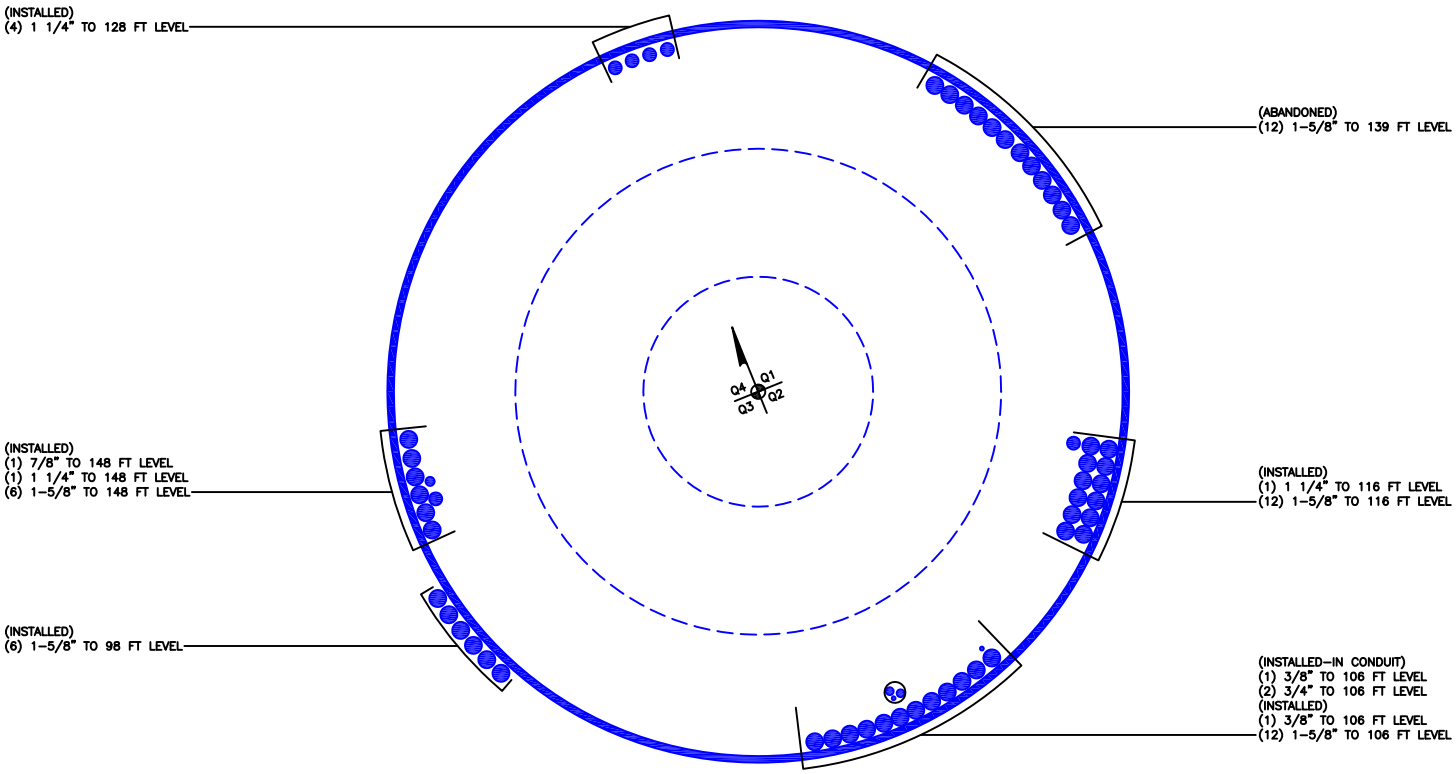
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	149 - 135.04	Pole	TP26.77x22x0.188	1	-4.078	780.990	9.7	Pass
L2	135.04 - 92.17	Pole	TP40.91x25.056x0.25	2	-15.720	1575.646	65.2	Pass
L3	92.17 - 45.21	Pole	TP56.31x38.489x0.313	3	-26.095	2589.792	78.1	Pass
L4	45.21 - 0	Pole	TP71x53.118x0.375	4	-44.081	3890.107	73.5	Pass
							Summary	
						Pole (L3)	78.1	Pass
						RATING =	**78.1**	**Pass**

Program Version 7.0.5.1

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT:876343

APPENDIX C

ADDITIONAL CALCULATIONS

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

TIA Rev F

Site Data

BU#: *876343*
Site Name: *GUILFORD WEST STONE*
App #: *346986 Revision # 1*
Pole Manufacturer: *Other*

Reactions		
Moment:	4095	ft-kips
Axial:	44	kips
Shear:	39	kips

If No stiffeners, Criteria: AISC ASD <-Only Applcable to Unstiffened Cases

Anchor Rod Data		
Qty:	28	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	79	in

Anchor Rod Results

Maximum Rod Tension:	87.3 Kips	Rigid
Allowable Tension:	195.0 Kips	Service, ASD
Anchor Rod Stress Ratio:	44.8% **Pass**	Fty*ASIF

Plate Data		
Diam:	85	in
Thick:	2.75	in
Grade:	50	ksi
Single-Rod B-eff:	8.05	in

Base Plate Results Flexural Check

Base Plate Stress:	22.4 ksi	Rigid
Allowable Plate Stress:	50.0 ksi	Service ASD
Base Plate Stress Ratio:	44.9% **Pass**	0.75*Fy*ASIF
		Y.L. Length: 34.64

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

n/a

Stiffener Results

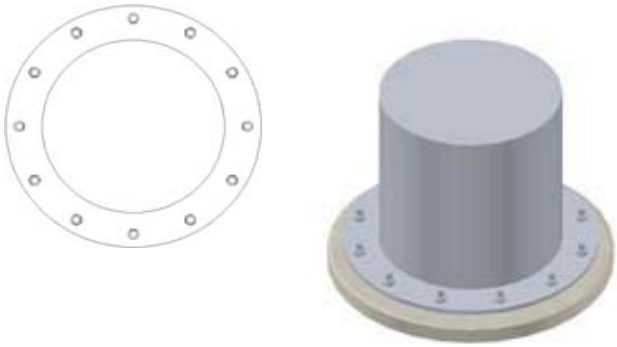
Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check: n/a

Pole Data		
Diam:	71	in
Thick:	0.375	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor		
ASIF:	1.333	



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

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

PROJECT	**876343 - GUILFORD WEST STONE PROPERTY, CT**				
SUBJECT	**Foundation Analysis**				
DATE	**06/13/16**	PAGE	1	OF	1

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Monopole Pad & Pier Foundation Analysis

Rev. Type: F

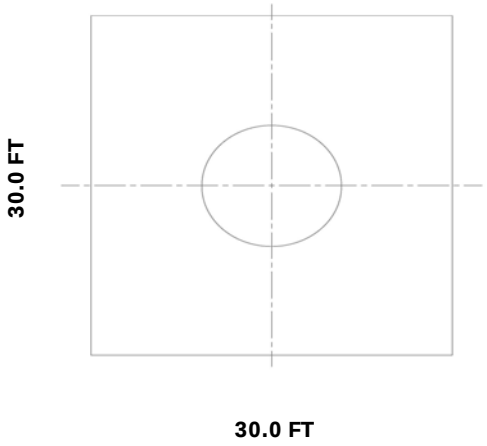
Design Loads:

Input unfactored loads

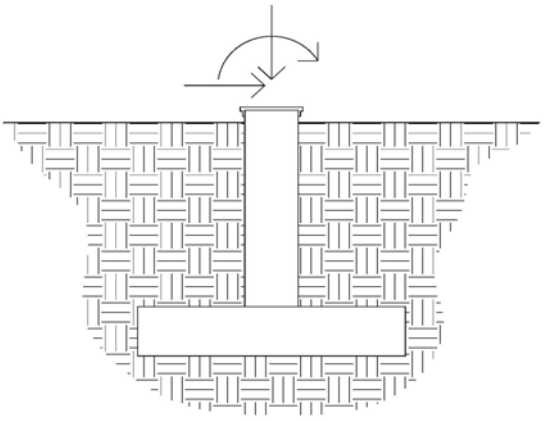
Shear:	39.0	kips
Moment:	4,095.0	ft-kips
Tower Height:	149.0	ft
Tower Weight:	44.0	kips

Pad & Pier Dimensions / Properties:

Pole Diameter at Base:	71.00	in
Bearing Depth:	12.0	ft
Pad Width:	30.0	ft
Neglected Depth:	3.3	ft
Thickness:	3.0	ft
Pier Diameter:	8.5	ft
Pier Height Above Grade:	1.0	ft
BP Dist. Above Pier:	3.0	in
Clear Cover:	3.0	in
Pier Rebar Size:	9	
Pier Rebar Quanity:	48	
Pad Rebar Size:	8	
Pad Rebar Quanity:	34	
Pier Tie Size:	4	
Tie Quanity:	20	
Rebar Yield Strength:	60000	psi
Concrete Strength:	4000	psi
Concrete Unit Weight:	0.15	kcf



Elevation Overview



Soil Data:

Allowable Values

Soil Unit Weight:	0.120	kcf
Ult. Bearing Capacity:	17.440	ksf
Angle of Friction:	30.000	deg
Cohesion:	0.000	ksf
Passive Pressure:	0.000	ksf
Base Friction:	0.500	

** Notes:

Summary of Results

Req'd Pier Diam.	OK
Overturning	26.2%
Shear Capacity	8.6%
Bearing	21.7%
Pad Shear - 1-way	78.3%
Pad Shear - 2-way	7.7%
Pad Moment Capacity	48.4%
Pier Moment Capacity	60.4%

EBI Consulting
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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

AT&T Existing Facility

Site ID: CT2158

Guilford
1919 Boston Post Road
Guilford, CT 06437

July 9, 2016

EBI Project Number: 6216003139

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	9.88 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

July 9, 2016

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

Emissions Analysis for Site: **CT2158 – Guilford**

EBI Consulting was directed to analyze the proposed AT&T facility located at **1919 Boston Post Road, Guilford, 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 public 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 public 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.

Public 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 done for the proposed AT&T Wireless antenna facility located at **1919 Boston Post Road, Guilford, 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.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 2 UMTS channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

5) 2 GSM channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. 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. This is rarely the case, and if so, is never continuous.

7) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antennas used in this modeling are the **Powerwave 7770, KMW AM-X-CD-14-65-00T-RET and the KMW AM-X-CD-16-65-00T-RET** for transmission in the 700 MHz, 850 MHz and 1900 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.

9) The antenna mounting height centerlines of the proposed antennas are **108 feet** above ground level (AGL) for **Sector A**, **108 feet** above ground level (AGL) for **Sector B** and **108 feet** above ground level (AGL) for Sector C.

10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	**108 feet**	Height (AGL):	**108 feet**	Height (AGL):	**108 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,140.89	ERP (W):	2,140.89	ERP (W):	2,140.89
Antenna A1 MPE%	**0.96 %**	Antenna B1 MPE%	**0.96 %**	Antenna C1 MPE%	**0.96 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	KMW AM-X-CD-14-65-00T-RET
Gain:	13.35 / 15.25 dBd	Gain:	13.35 / 15.25 dBd	Gain:	11.85 / 14.15 dBd
Height (AGL):	**108 feet**	Height (AGL):	**108 feet**	Height (AGL):	**108 feet**
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	6,614.85	ERP (W):	6,614.85	ERP (W):	4,957.50
Antenna A2 MPE%	**3.31 %**	Antenna B2 MPE%	**3.31 %**	Antenna C2 MPE%	**2.44 %**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 dBd	Gain:	11.4 dBd	Gain:	11.4 dBd
Height (AGL):	**108 feet**	Height (AGL):	**108 feet**	Height (AGL):	**108 feet**
Frequency Bands	850 MHz	Frequency Bands	850 MHz	Frequency Bands	850 MHz
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	60 Watts	Total TX Power(W):	60 Watts	Total TX Power(W):	60 Watts
ERP (W):	828.23	ERP (W):	828.23	ERP (W):	828.23
Antenna A3 MPE%	**0.50 %**	Antenna B3 MPE%	**0.50 %**	Antenna C3 MPE%	**0.50 %**

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max per sector	**4.77 %**
Verizon Wireless	3.63 %
MetroPCS	0.72 %
T-Mobile	0.02 %
Nextel	0.32 %
Sprint	0.42 %
Site Total MPE %:	**9.88 %**

AT&T Sector A Total:	4.77 %
AT&T Sector B Total:	4.77 %
AT&T Sector C Total:	3.90 %
Site Total:	9.88 %

AT&T _ Max Values Per Sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	414.12	108	2.86	850 MHz	567	0.50%
AT&T 1900 MHz (PCS) UMTS	2	656.33	108	4.54	1900 MHz (PCS)	1000	0.45%
AT&T 700 MHz LTE	2	1,297.63	108	8.97	700 MHz	467	1.92%
AT&T 1900 MHz (PCS) LTE	2	2,009.79	108	13.89	1900 MHz (PCS)	1000	1.39%
AT&T 850 MHz GSM	2	414.12	108	2.86	850 MHz	567	0.50%
						Total:	**4.77 %**

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public 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 public exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	4.77 %
Sector B:	4.77 %
Sector C:	3.90 %
AT&T Maximum Total (per sector):	4.77 %
Site Total:	9.88 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **9.88 %** of the allowable FCC established general public 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.