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

November 29, 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: 803843**
AT&T Site ID: CT5194
200 Stanley Street, New Britain, CT 06053
Latitude: 41° 39' 16.4" / Longitude: -72° 46' 9.59"

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 195-foot level of the existing 193-foot monopole at 200 Stanley Street, New Britain, CT. The tower and property is owned by Crown Castle. AT&T now intends to replace three (3) antennas with three (3) new antennas. These antennas would be installed at the 195-foot level of the tower. AT&T also intends to replace three (3) RRU1 with three (3) RRU32 B2s.

This facility was approved by the Connecticut Siting Council Petition No. 544 on February 11, 2002. This approval was given without conditions.

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 The Honorable Erin Stewart, Mayor, City of New Britain, and Crown Castle is the tower and property 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: The Honorable Erin Stewart, Mayor, City of New Britain
27 West Main Street
New Britain, CT 06051

Petition No. 544
Crown Atlantic Company, LLC
New Britain, Connecticut
Staff Report
February 11, 2002

On February 11, 2002, Connecticut Siting Council (Council) member Gerald J. Heffernan with Robert Mercier of Council staff met Crown Atlantic Company LLC (Crown) representatives Kenneth Baldwin, Robert Stanford, and Shane Newhart for an inspection of an existing 195-foot monopole owned and operated by Crown and located at 200 Stanley Street in New Britain, Connecticut. Crown proposes to allow tower sharing for three wireless communications service providers; AT&T Wireless (AT&T), Northcoast Communications (Northcoast) and Verizon Wireless (Verizon) and is petitioning the Council for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (Certificate) is required for the tower share request.

The petition was filed to address the Council's concerns that the tower was built without a Certificate. Crown filed for a City of New Britain (City) building permit in May of 2001. A building permit was issued on June 8, 2001. The Council denied a tower share request (TS-NORTHCOAST-089-011031) at the Council's November 29, 2001 meeting since the City approved the tower after Judge Covello's US District Court decision dated January 9, 2001.

The tower is located on a commercial lot in an industrial zone. Commercial properties abut the site to the north and south. Route 9 is located west of the site. Residential properties are located to the east. A fenced, graveled compound measuring 50' x 70 with one vacant equipment shelter exists at the site.

AT&T proposes to install six panel antennas at the 195-foot level and install equipment cabinets at the base of the tower. Northcoast proposes to install six panel antennas and three two-foot dishes at the 185-foot level and install a 10x20-foot equipment shelter at the base of the tower. Verizon proposes to install 12 panel antennas at the 100-foot level and install radio equipment in the existing building at the base of the tower.

The cumulative worst-case power density for the telecommunications operations at the site has been calculated to be 13.54% of the applicable standard for uncontrolled environments.

Crown contends that the proposed shared use of the existing tower and associated building compound would not cause a substantial adverse environmental effect.

200 STANLEY ST

Location	200 STANLEY ST	**Mblu**	B10B/ 11/ / /
Acct#	81300200	**Owner**	DOWNES INVESTMENTS LLC
Assessment	$567,630	**Appraisal**	$810,900
PID	1486	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2012	$645,500	$165,400	$810,900
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2012	$451,850	$115,780	$567,630

Owner of Record

Owner	DOWNES INVESTMENTS LLC
Co-Owner	
Address	PO BOX 1508 NEW BRITAIN, CT 06050-1508

Sale Price	$327,818
Certificate	1
Book & Page	1827/ 193
Sale Date	10/17/2011
Instrument	19

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
DOWNES INVESTMENTS LLC	$327,818	1	1827/ 193	19	10/17/2011
DOWNES INVESTMENTS LLC	$0		1386/ 135		10/16/2001
DOWNES INVESTMENTS LLC	$0		1351/ 908		11/03/2000
JOHN E DOWNES TRUSTEE	$0		1104/ 267		07/03/1991
DOWNES JOHN E	$0		1105/ 413		06/24/1991

Building Information

Building 1 : Section 1

Year Built:	1954
Living Area:	11,912
Replacement Cost:	$1,077,675

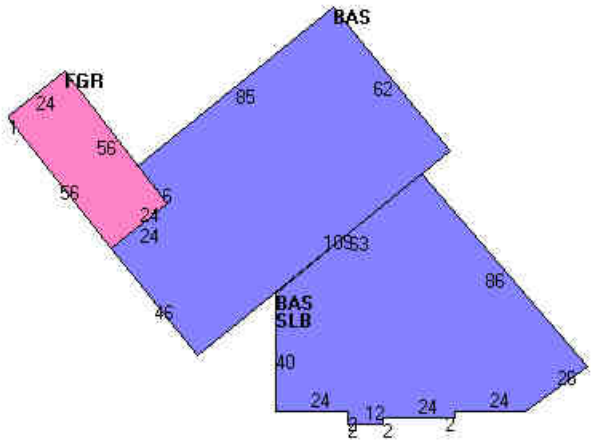
Building Percent Good:	52
Replacement Cost Less Depreciation:	$560,400

Building Attributes	
Field	**Description**
STYLE	Office
MODEL	Comm/Ind
Grade	C
Stories:	1
Occupancy	1
Exterior Wall 1	Block/Concrete
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	T&G/Rubber
Interior Wall 1	Drywall
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Central Heat	Yes
AC Type	Central
Bldg Use	Office Bld MDL-94
Apt Units	
Total Bedrms	00
Total Baths	0
Comm Units	1
Ind Units	
1st Floor Use:	3400
Heat/AC	Heat/AC Pkgs
Frame Type	Masonry
Baths/Plumbing	Average
Ceiling/Wall	Sus-Ceil & WL
Rooms/Prtns	Average
Wall Height	12
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/NewBritainCTPhotos//\00\02\1

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	11,912	11,912
FGR	Garage	1,371	0
SLB	Slab	0	0
		13,283	11,912

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land

Land Use

Use Code	3400
Description	Office Bld MDL-94
Zone	I2
Neighborhood	107H
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	2.18
Depth	
Assessed Value	$115,780
Appraised Value	$165,400

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FN1	Fence - Chain			2520 L.F.	$18,000	1
PAV1	Paving Asphalt			10000 S.F.	$9,600	1
CB3	PreCastConcCel			240 S.F.	$55,400	1
FN4	Fence-8' Chain			168 L.F.	$2,100	1

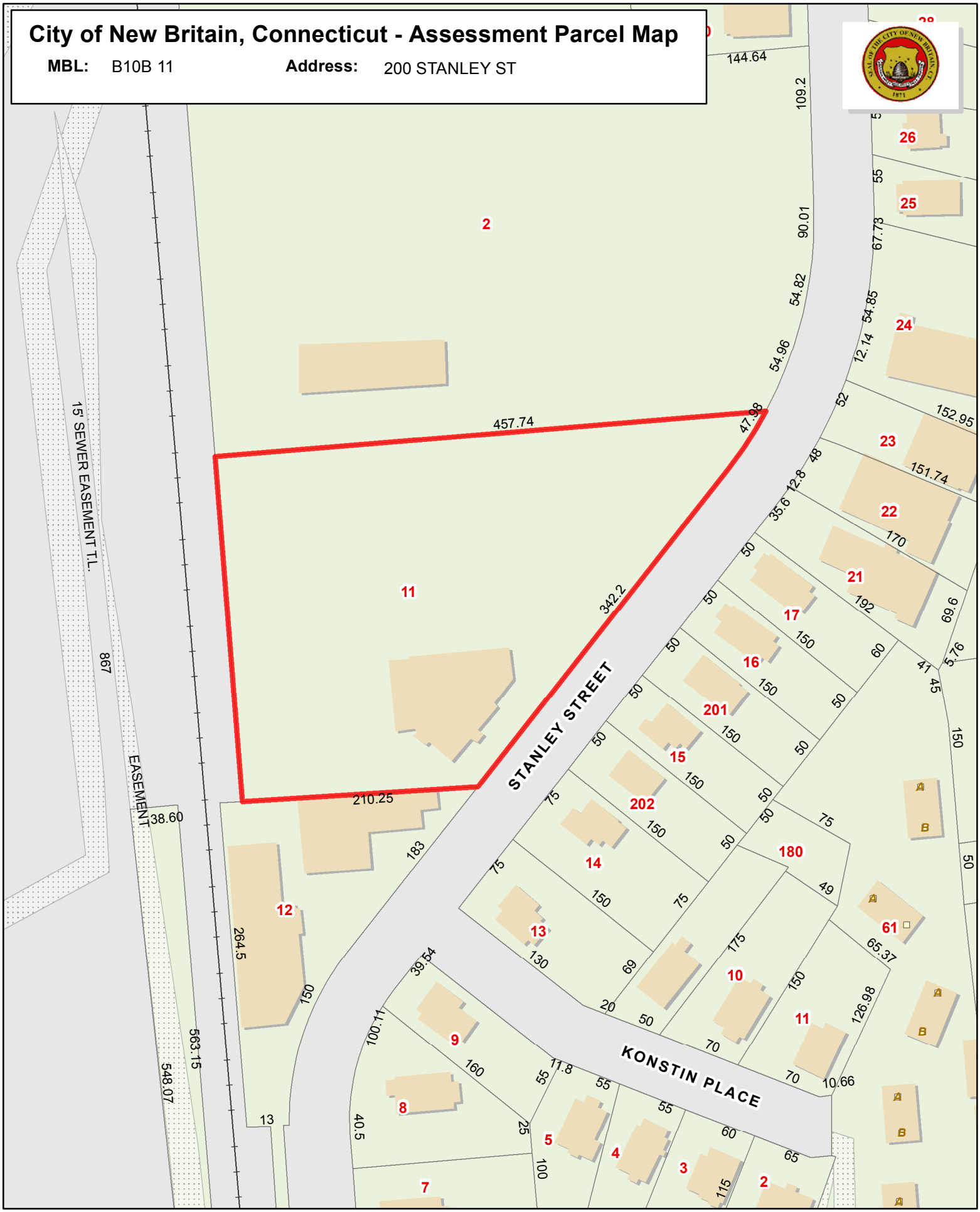
Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$645,500	$165,400	$810,900
2014	$645,500	$165,400	$810,900
2013	$645,500	$165,400	$810,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$451,850	$115,780	$567,630
2014	$451,850	$115,780	$567,630
2013	$451,850	$115,780	$567,630

City of New Britain, Connecticut - Assessment Parcel Map

MBL: B10B 11 **Address:** 200 STANLEY ST



Approximate Scale:

1 inch = 100 feet

Disclaimer:
This map is for informational purposes only.
All information is subject to verification by any user.
The City of New Britain and its mapping contractors
assume no legal responsibility for the information contained herein.

Map Produced January 2015

PROJECT INFORMATION

SCOPE OF WORK	UNMANNED COMMUNICATIONS FACILITY MODIFICATIONS INCLUDING THE REPLACEMENT OF EXISTING LTE PANELS WITH NEW QUINTEL/CCI 12 PORT LTE ANTENNAS IN POSITION #2. REPLACE EXISTING TOP MOUNTED (3) RRUS-11 WITH NEW (3) RRUS-32 B2, RE-USE EXISTING (2) FIBER TRUNKS, EXISTING (4) DC TRUNKS, EXISTING (2) RAYCAP SURGE ARRESTORS AND ASSOCIATED JUMPER CABLES.
SITE NUMBER:	CT5194
SITE NAME:	NEW BRITAIN SE
SITE ADDRESS:	200 STANLEY STREET NEW BRITAIN, CT 06051
TOWER OWNER:	CROWN ATLANTIC COMPANY 2000 CORPORATE DRIVE CANONSBURG , PA 15317
APPLICANT:	AT&T MOBILITY 550 COCHITUATE RD SUITES 13 & 14 FRAMINGHAM, MA 01701
NOC CONTACT:	TEL 866-915-5600
COORDINATES	LAT. N41°39'16.4" LONG. W72°46'09.5"
GROUND LEVEL:	±110'
DEED REFERENCE:	N/A
SITE PARCEL NO.:	N/A
CURRENT ZONING:	N/A
HORIZONTAL DATUM:	(NAD) 1983

at&t Mobility

SITE NUMBER: CT5194
SITE NAME: NEW BRITAIN SE
PROJECT: LTE BWE 1900

DRAWING INDEX

DRAWING INDEX		REV
01	TITLE SHEET	1
02	NOTES	1
03	SITE PLAN & EQUIPMENT PLAN	1
04	ELEVATION VIEW & ANTENNA LAYOUT	1
05	GROUNDING DETAILS	1

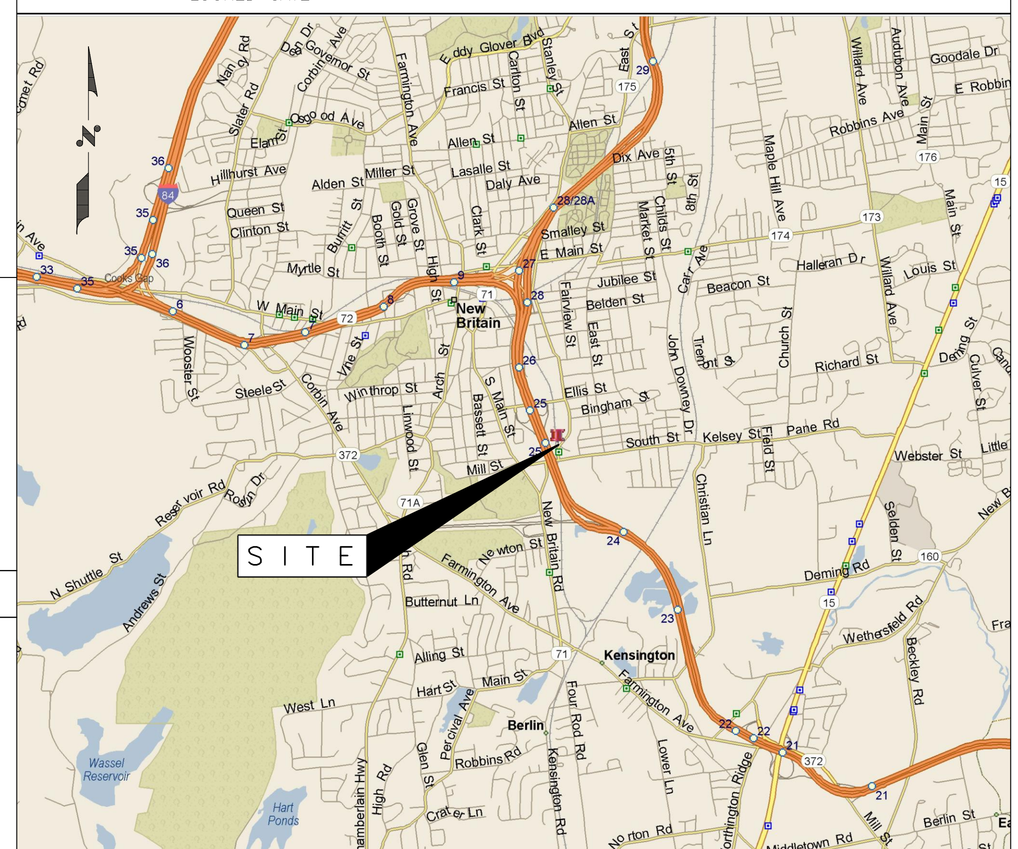
ONE CALL 1-800-922-4455

AT LEAST 2 WORKING DAYS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CONNECTICUT ONE CALL SYSTEM AT 1-800-922-4455

LOCATION MAP

DIRECTIONS: FROM ROCKY HILL, TAKE EXIT 22 OFF I-91, GO WEST TO ROUTE 9. TAKE ROUTE 9 WEST. TAKE ROUTE 9 WEST EXIT 25 (ELLIS ST). AT END OF OFF RAMP TURN RIGHT ONTO ELLIS ST. TAKE FIRST RIGHT ONTO STANLEY ST. SITE WILL BE ON RIGHT JUST BEFORE SOUTH ST.

SITE ACCESS: LOCKED GATE



APPLICABLE BUILDING CODES AND STANDARDS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH PROJECT STANDARDS AND SPECIFICATIONS. SUBCONTRACTOR WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
CONNECTICUT STATE BUILDING CODE

ELECTRICAL CODE:
NATIONAL ELECTRICAL CODE LATEST EDITION
SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS.
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
AMERICAN NATIONAL STANDARDS INSTITUTE/TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA) 222-F OR G AS APPLICABLE, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

CONTACT & UTILITY INFORMATION

CONTACT	CONTACT	COMPANY	PHONE NO.
ENGINEERING:	MIGUEL NOBRE	VRG	(508) 981-9590
SITE ACQUISITION:	DAVID COOPER	EMPIRE	(484) 683-5349
CONSTRUCTION:	BILL DANIELS	EMPIRE	(484) 683-5349
UTILITIES			
POWER:	WORK REQUEST GROUP	NATIONAL GRID	(800) 375-7405
TELCO:	-	VERIZON	(800) 941-9900

VRG
VERTICAL RESOURCES GRP.
489 Washington Street
Auburn, MA 01501
Tel. (508) 981- 9590
Fax (508) 519 - 8939
mnobre@verticalresourcesgrp.com

EMPIRE telecom
EMPIRE TELECOM USA, LLC
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT5194
SITE NAME: NEW BRITAIN
CROWN SITE ID: 803843
200 STANLEY ST
NEW BRITAIN, CT 06051
HARTFORD COUNTY

at&t Mobility
550 COCHITUATE RD
SUITES 13 & 14
FRAMINGHAM, MA 01701

NO.	DATE	REVISION	BY	CHK	APP'D
1	11/28/16	FOR CONSTRUCTION	E.L.P.	G.A.M.	
0	10/17/16	FOR REVIEW	E.L.P.	G.A.M.	

SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

STATE OF CONNECTICUT JAMES F. STROKE No. 8657 REGISTERED PROFESSIONAL ENGINEER

AT&T MOBILITY

TITLE SHEET

JOB NUMBER	DRAWING NUMBER	REV
50-145	01	1

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – PRIME CONTRACTOR
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T WIRELESS
   OEM – ORIGINAL EQUIPMENT MANUFACTURER

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO SCALE UNLESS OTHERWISE NOTED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. ROUTING OF CONDUIT FOR POWER AND TELCO SHALL BE APPROVED BY OWNER OF SITE.

9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

SITE WORK GENERAL NOTES

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES, TOP SOIL AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.

6. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.

7. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE OWNER SPECIFICATION FOR SITE SIGNAGE.

8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE TRANSMISSION EQUIPMENT AND TOWER AREAS.

9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION, SEE DETAIL 303.

11. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.

12. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTION'S GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

13. ALL EARTH WORK SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 (HOT–DIP) UNLESS NOTED OTHERWISE. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE PERFORMED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. STEEL FASTENER HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT–DIP)

4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.

5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD, HILTI OR APPROVED EQUAL.

6. ALL STRUCTURAL STEEL SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000 PSI) MAY BE USED.

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:

   #6 AND LARGER .....2 INCH
   #5 AND SMALLER & WWF.....1 1/2 INCH

   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:

   SLAB AND WALL .....3/4 INCH
   BEAMS AND COLUMNS.....1 1/2 INCH

5. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD HILTI OR APPROVED EQUAL.

7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC 1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TESTS PERFORMED AT THE SUPPLIER'S PLANT,

   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.

   FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. AS AN ALTERNATIVE TO ITEM 7, TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

10. ALL CONCRETE SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL, EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING 1" SIEVE.

5. AS AN ALTERNATIVE TO ITEMS 2 AND 3 PROOF ROLL THE SUBGRADE SOILS WITH 5 PASSES OF A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). ANY SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL, AND COMPACTED AS STATED ABOVE.

6. COMPACTION CRITERIA FOR OTHER FILL AREAS ON SITE SHALL MEET THE SAME REQUIREMENTS AS NOTED ABOVE.

7. SOIL COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

COMPACTION EQUIPMENT:

HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

ELECTRICAL INSTALLATION NOTES

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

5. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.

6. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PERMANENT LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S). NO HAND WRITTEN LABELS ALLOWED.

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED. NO HAND WRITTEN LABELS ALLOWED.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (SIZE 6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

13. ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

ELECTRICAL INSTALLATION NOTES (cont.)

15. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

17. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

18. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

19. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

20. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

21. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

22. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

23. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS

24. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

25. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

26. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

27. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

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SITE NUMBER: CT5194
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CROWN SITE ID: 803843
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HARTFORD COUNTY

at&t Mobility
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SUITES 13 & 14
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1	11/28/16	FOR CONSTRUCTION	E.L.P.	G.A.M.	
0	10/17/16	FOR REVIEW	E.L.P.	G.A.M.	

SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

STATE OF CONNECTICUT · JAMES P. STROHE · No. 8657 · REGISTERED PROFESSIONAL ENGINEER

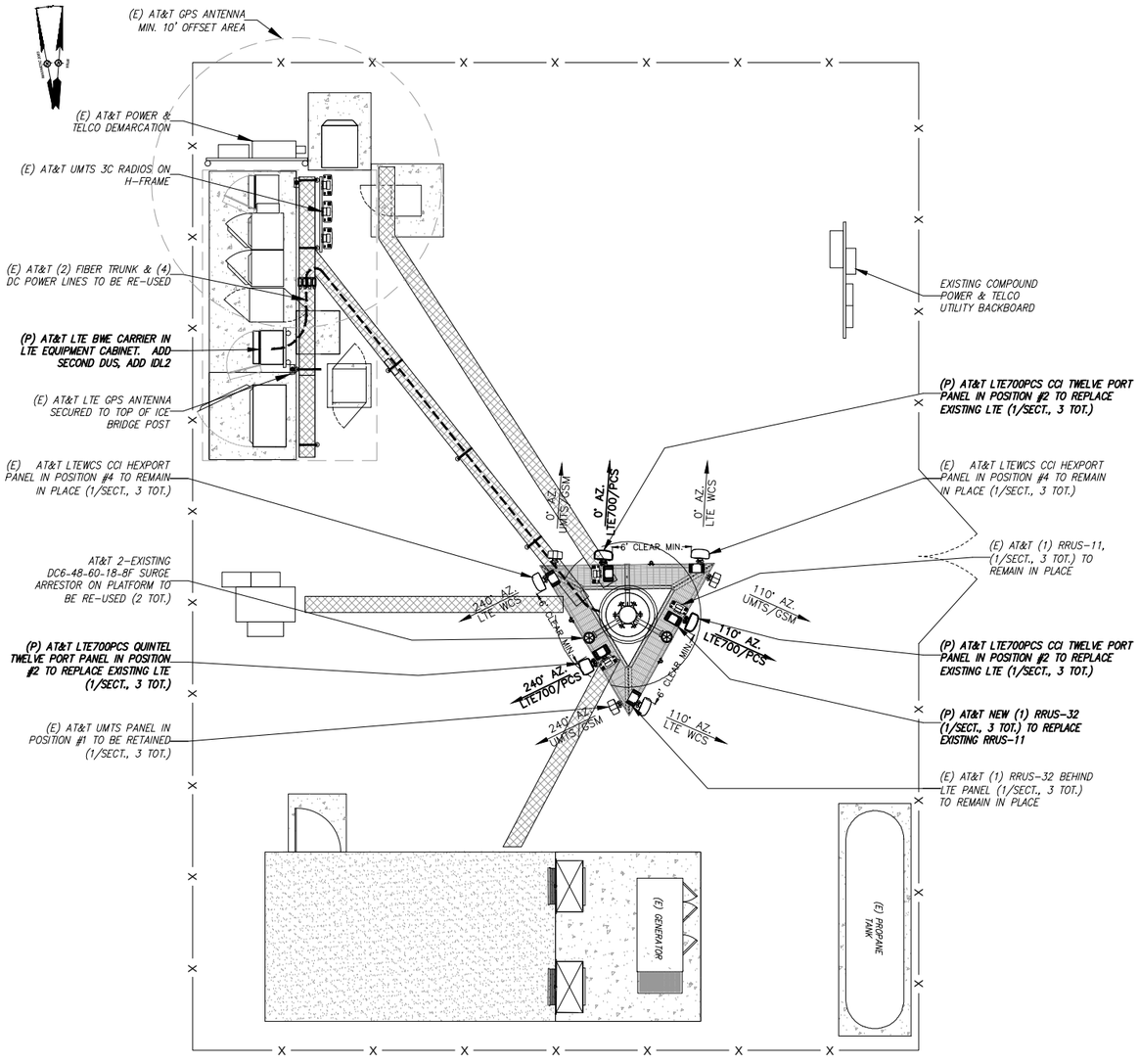
AT&T MOBILITY

NOTES

JOB NUMBER	DRAWING NUMBER	REV.
50–145	02	1

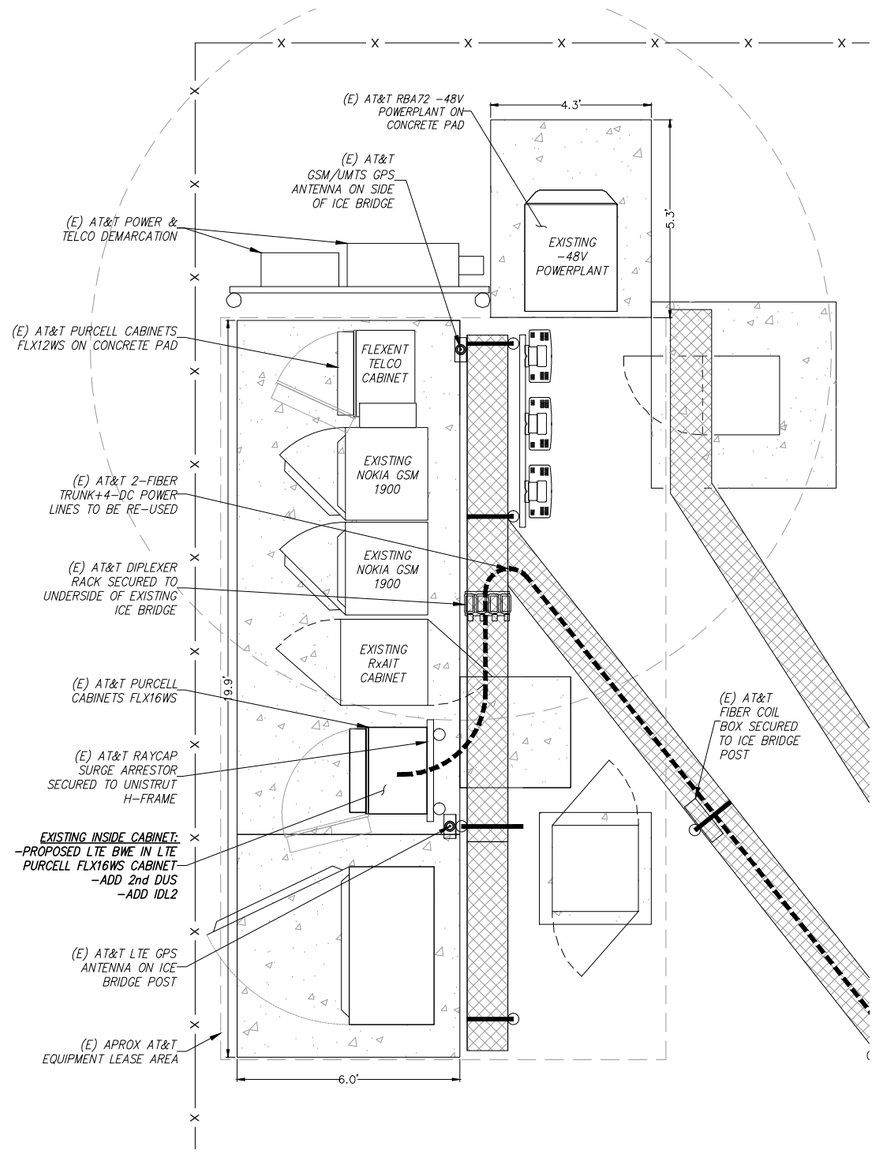
GENERAL NOTES

1. THE TYPE, DIMENSIONS, MOUNTING HARDWARE, AND THE POSITIONS OF ALL EQUIPMENT IN THE COMPOUND ARE SHOWN IN ILLUSTRATIVE FASHION. THESE DRAWINGS ARE NOT INTENDED FOR CONSTRUCTION. ACTUAL HARDWARE DETAILS AND FINAL LOCATIONS MAY DIFFER SLIGHTLY FROM WHAT IS SHOWN.
2. THE CELLULAR INSTALLATION IS AN UNMANNED PRIVATE AND SECURED COMPOUND. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONSTRUCTION, MAINTENANCE & OPERATION OF PROPOSED TOWER FACILITY WILL BE HELD IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE & FEDERAL REGULATIONS AND GUIDELINES.



COMPOUND PLAN 1/03
SCALE: 1" = 5'

GRAPHIC SCALE
5 0 2.5 5 10 20
(IN FEET)
1 inch = 5 ft.



EQUIPMENT PLAN 2/03
SCALE: 1" = 2'

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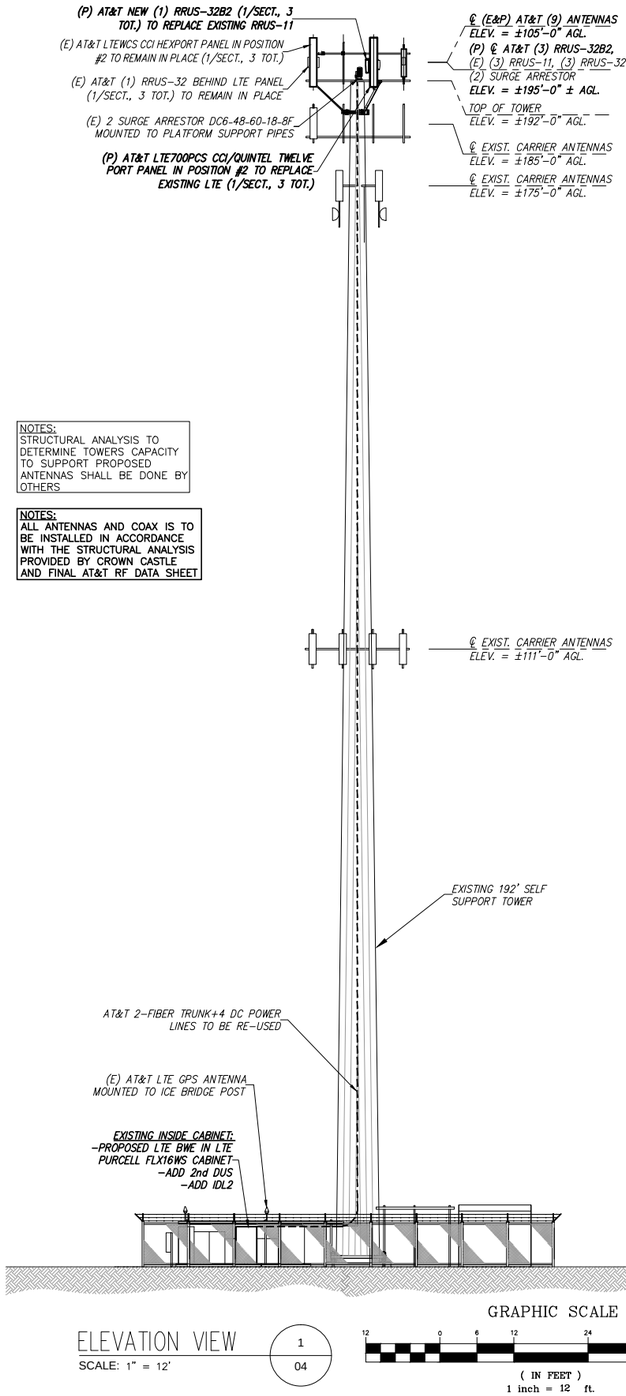
SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

STATE OF CONNECTION — JAMES P. STROHE — No. 9857 — REGISTERED PROFESSIONAL ENGINEER

AT&T MOBILITY

SITE PLAN & EQUIPMENT PLAN

JOB NUMBER	DRAWING NUMBER	REV.
50-145	03	1

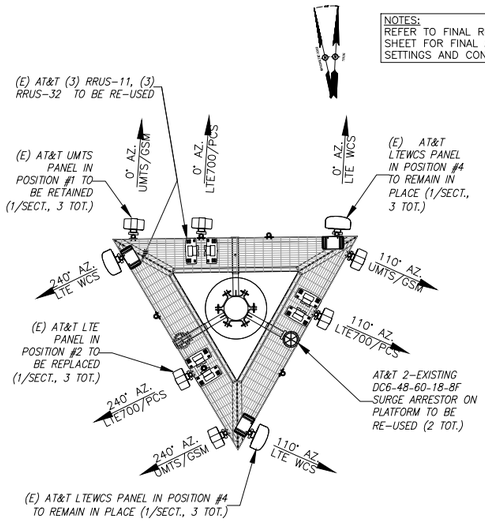


NOTES:
STRUCTURAL ANALYSIS TO DETERMINE TOWERS CAPACITY TO SUPPORT PROPOSED ANTENNAS SHALL BE DONE BY OTHERS

NOTES:
ALL ANTENNAS AND COAX IS TO BE INSTALLED IN ACCORDANCE WITH THE STRUCTURAL ANALYSIS PROVIDED BY CROWN CASTLE AND FINAL AT&T RF DATA SHEET

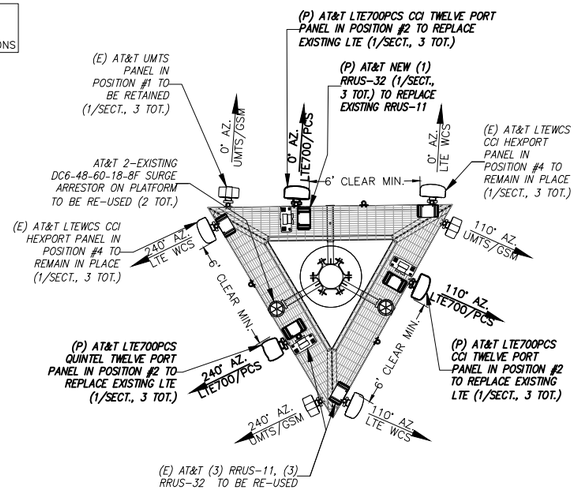
ELEVATION VIEW 1/04
SCALE: 1" = 12'

GRAPHIC SCALE
12 0 6 12 24 48
(IN FEET)
1 inch = 12 ft.

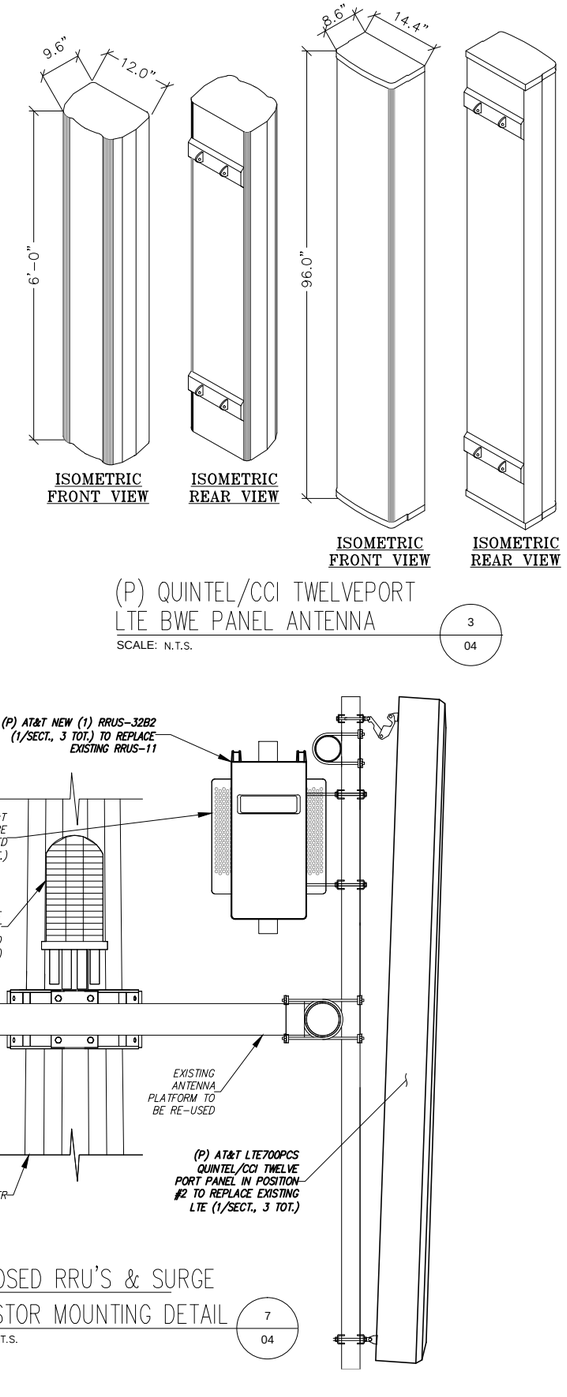


EXISTING

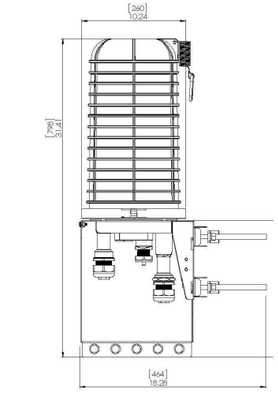
ANTENNA MOUNTING PLAN VIEW 2/04
SCALE: N.T.S.



PROPOSED



(P) QUINTEL/CCI TWELVEPORT LTE BWE PANEL ANTENNA 3/04
SCALE: N.T.S.



RAYCAP SURGE SUPPRESSOR DC64860188F 5/04
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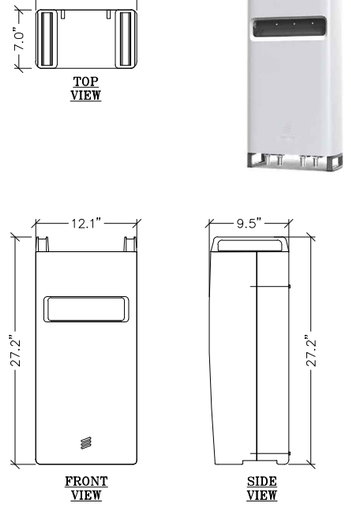

PROPOSED ERICSSON DUAL PA RRH 6/04
SCALE: N.T.S.

PROPOSED RRU'S & SURGE ARRESTOR MOUNTING DETAIL 7/04
SCALE: N.T.S.

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SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

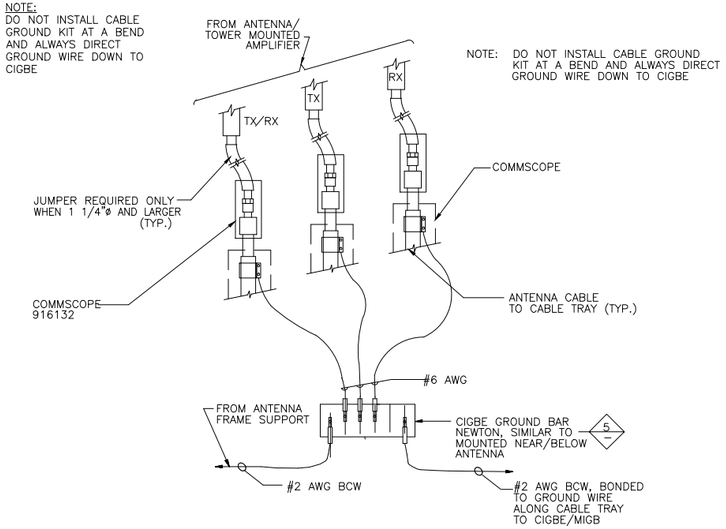
STATE OF CONNECTICUT JAMES P. STRONG No. 9857 REGISTERED PROFESSIONAL ENGINEER

AT&T MOBILITY

ELEVATION VIEW & ANTENNA LAYOUT

JOB NUMBER	DRAWING NUMBER	REV.
50-145	04	1

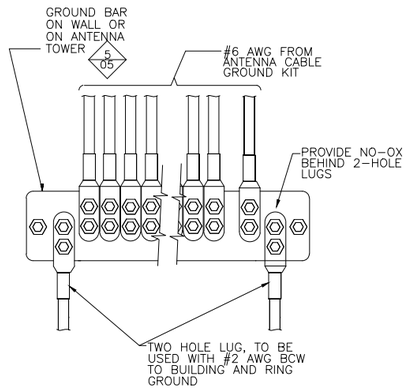
NOTE:
DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE



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

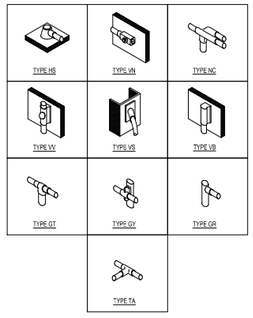
CONNECTION OF GROUND WIRES TO GROUNDING BAR (CIGBE) 1/05

SCALE: N.T.S.



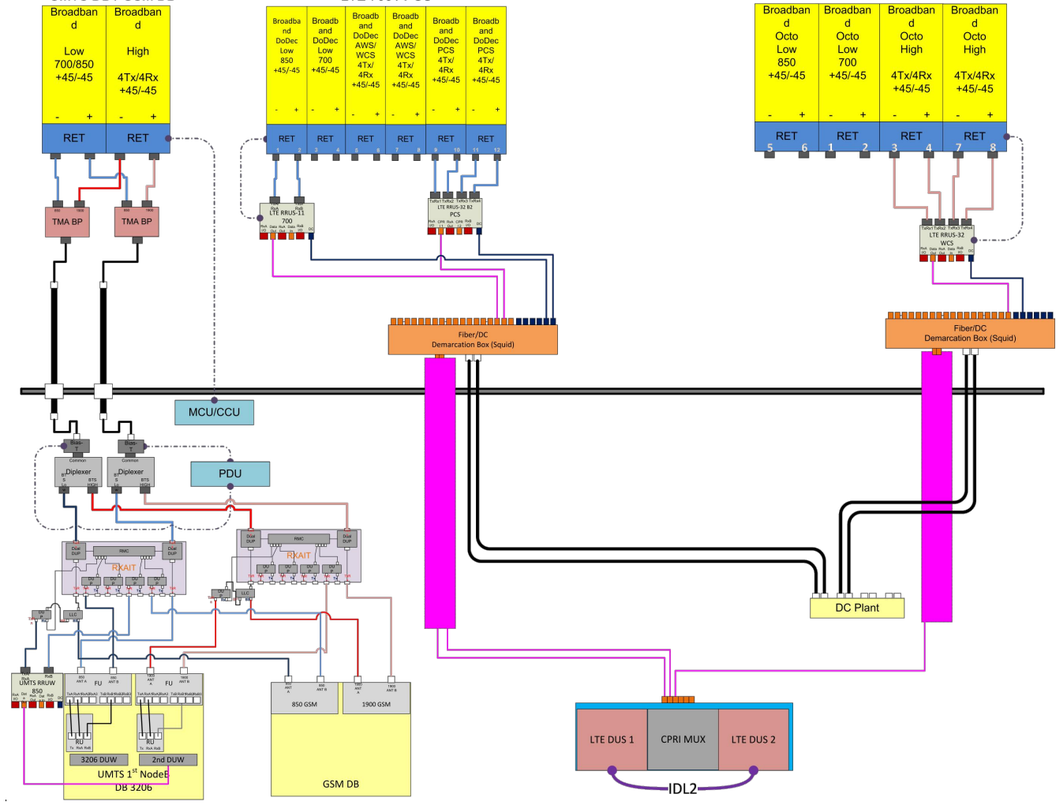
INSTALLATION OF GROUND WIRE TO GROUND BAR 2/05

SCALE: N.T.S.



GROUNDING CONNECTION DETAIL 5/05

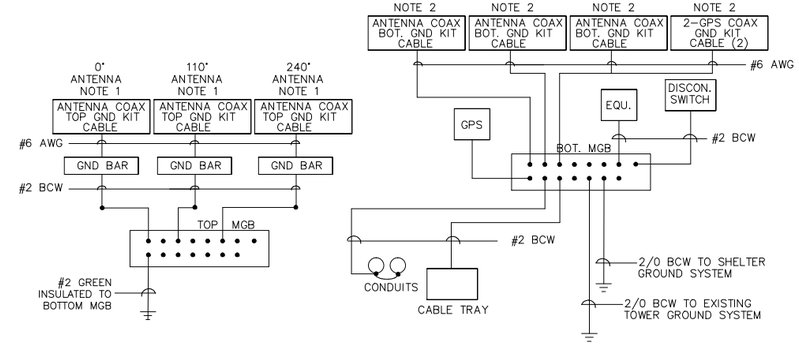
SCALE: N.T.S.



NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS
2. INSTALL ALL EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS

PLUMBING DIAGRAM FACE 3/05

SCALE: N.T.S.

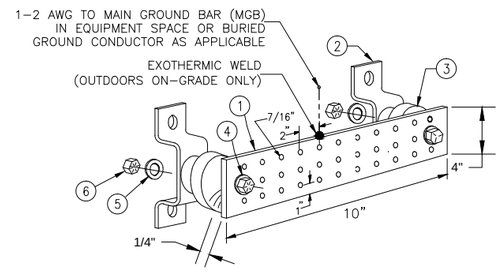


NOTE:
1. BOND ANTENNA GROUNDING KIT CABLE TO TOP CIGBE
2. BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIGBE

SCHEMATIC GROUNDING DIAGRAM 4/05

SCALE: N.T.S.

NEWTON INSTRUMENT COMPANY, INC. BUTNER, N.C. OR APPROVED EQUAL			
ITEM	REQ.	PART NO.	DESCRIPTION
1	1	1/4"x4"x12"	PRE DRILLED GND. BAR
2	2	A-6056	WALL MTG. BRKT.
3	2	3061-4	INSULATORS
4	2	3012-13	5/8"-11x4" H.H.C.S.
5	4	3015-8	5/8 LOCKWASHER
6	2	3014-8	5/8"-11 HEX NUT



GROUND BAR DETAIL 6/05

SCALE: N.T.S.

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STATE OF CONNECTICUT JAMES P. STROHE No. 8657 REGISTERED PROFESSIONAL ENGINEER

AT&T MOBILITY

GROUNDING DETAILS

JOB NUMBER	DRAWING NUMBER	REV
50-145	05	1

Date: **October 24, 2016**

Charles McGuirt
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject:	**Structural Analysis Report**	
Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Carrier Site Number:	CT5194
	Carrier Site Name:	New Britain SE
Crown Castle Designation:	**Crown Castle BU Number:**	803843
	Crown Castle Site Name:	CT NEW BRITAIN 4 CAC 803843
	Crown Castle JDE Job Number:	400982
	Crown Castle Work Order Number:	1316071
	Crown Castle Application Number:	365044 Rev. 3
Engineering Firm Designation:	**Crown Castle Project Number:**	1316071
Site Data:	**200 Stanley Street, New Britain, Hartford County, CT** **Latitude *41° 39' 16.4"*, Longitude *-72° 46' 9.59"*** **192 Foot - Monopole Tower**	

Dear Charles McGuirt,

Crown Castle is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 1316071, in accordance with application 365044, revision 3.

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

LC7: Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category B and Risk Category II were used in this analysis.

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

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

Structural analysis prepared by: Kayla D. Weimert, E.I.T. / Shan

Respectfully submitted by:

Maham Barimani, P.E.
Sr. Project Engineer

STATE OF CONNECTICUT
MAHAM BARIMANI
30501
LICENSED
PROFESSIONAL ENGINEER

tnxTower Report - version 7.0.5.1

10-27-2016

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 192 ft. Monopole tower designed by SUMMIT in April of 2001. The tower was originally designed for a wind speed of 80 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a 3-second gust wind speed of 97 mph with no ice, 50 mph with 1-inch ice thickness and 60 mph under service loads, exposure category B.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
193.0	195.0	3	cci antennas	OPA-65R-LCUU-H8 w/ Mount Pipe	2 1	3/4 3/8	-
		2	cci antennas	TPA-65R-LCUUUU-H8 w/ Mount Pipe			
		3	ericsson	RRUS 32 B2			
		3	ericsson	RRUS 32 B30			
		1	quintel tech.	QS66512-3 w/ Mount Pipe			
		1	raycap	DC6-48-60-18-8F			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
193.0	195.0	3	kathrein	800 10121 w/ Mount Pipe	6 2 1	1-5/8 3/4 3/8	1
		3	ericsson	RRUS-11			
		6	powerwave tech.	LGP21401			
		1	raycap	DC6-48-60-18-8F			
		1	andrew	SBNH-1D6565C w/ Mount Pipe	-	-	3
		1	kmw com.	AM-X-CD-16-65-00T-RET w/ Mount Pipe			
		1	powerwave tech.	P65-17-XLH-RR w/ Mount Pipe			
	193.0	3	ericsson	RRUS-11			
		1	tower mounts	Miscellaneous [NA 510-1]	-	-	1
		1	tower mounts	Platform Mount [LP 1201-1]			
185.0	185.0	3	rfs celwave	APXV18-206517S-C w/ Mount Pipe	6	1-5/8	1
		1	tower mounts	Platform Mount [LP 1201-1]			
175.0	177.0	1	andrew	PX2F-52	3 3 1 3	1/2 5/8 5/16 1/4	1
		2	andrew	VHLP2-23			
	176.0	3	argus tech.	LLPX310R w/ Mount Pipe			
	175.0	2	dragonwave	HORIZON COMPACT			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
		1	motorola	TIMING 2000			
		3	samsung telecom.	WIMAX DAP HEAD			
		1	tower mounts	Side Arm Mount [SO 101-3]			
100.0	102.0	3	alcatel lucent	RRH2X60-AWS	2	1-5/8	2
		3	alcatel lucent	RRH2X60-PCS			
		3	alcatel lucent	RRH2x60-700			
		9	andrew	SBNHH-1D65B w/ Mount Pipe			
		2	antel	BXA-80080/4CF w/ Mount Pipe	12	1-5/8	1
		1	antel	BXA-80090/4CF w/ Mount Pipe			
	100.0	1	tower mounts	T-Arm Mount [TA 602-3]			
		1	rfs celwave	DB-T1-6Z-8AB-0Z	-	-	2

Notes:
1) Existing Equipment
2) Reserved Equipment
3) Equipment To Be Removed, Not Considered In 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)
192.0	192.0	-	generic	panel antenna (CaAa = 75 sq. ft. total)	-	-
185.0	185.0	-	generic	panel antenna (CaAa = 75 sq. ft. total)	-	-
175.0	175.0	-	generic	panel antenna (CaAa = 75 sq. ft. total)	-	-
165.0	165.0	-	generic	microwave (CaAa = 110 sq. ft.)	-	-
145.0	145.0	-	generic	panel antenna (CaAa = 75 sq. ft. total)	-	-
135.0	135.0	-	generic	microwave (CaAa = 110 sq. ft.)	-	-
115.0	155.0	-	generic	panel antenna (CaAa = 75 sq. ft. total)	-	-

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Dr. Clarence Welti, P.E., P.C.	2384583	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Summit Manufacturing, LLC	1118798	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Summit Manufacturing, LLC	925033	CCISITES

3.1) Analysis Method

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

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	192 - 151.25	Pole	TP39.245x26x0.313	1	-13.33	2616.03	21.2	Pass
L2	151.25 - 111.25	Pole	TP51.621x36.995x0.438	2	-24.45	4908.93	21.2	Pass
L3	111.25 - 72.75	Pole	TP63.259x48.633x0.5	3	-43.56	6732.82	23.0	Pass
L4	72.75 - 35.75	Pole	TP74.285x59.659x0.563	4	-65.20	8776.63	23.5	Pass
L5	35.75 - 0	Pole	TP84.78x70.154x0.563	5	-97.34	9779.95	27.1	Pass
							Summary	
						Pole (L5)	27.1	Pass
						Rating =	27.1	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	39.1	Pass
1	Base Plate	0	30.3	Pass
1, 2	Base Foundation (Structure)	0	30.3	Pass
1, 2	Base Foundation (Soil Interaction)	0	40.3	Pass

Structure Rating (max from all components) =	40.3%

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
2) It is unknown whether the foundation is a drilled shaft or pier and pad. Both designs were analyzed and determined to be sufficient.

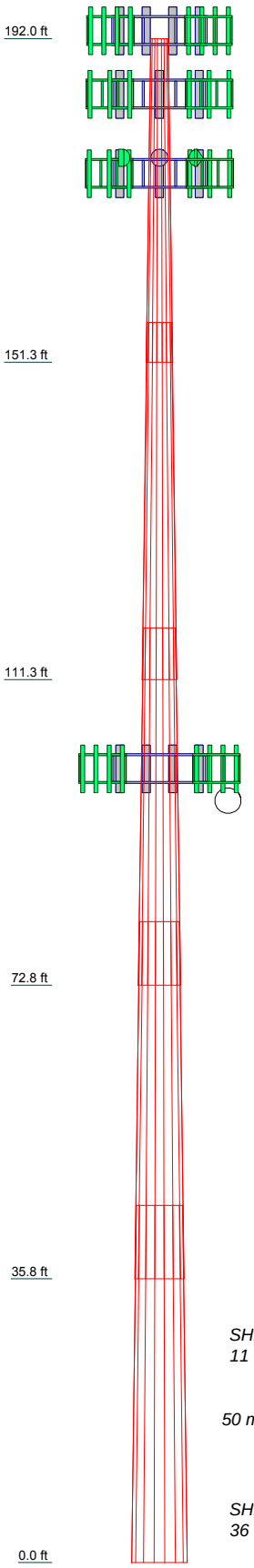
4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the existing, reserved, 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	40.75	18	0.313	5.00	26.000	39.245		4.4
2	45.00	18	0.438	6.50	36.995	51.621		9.3
3	45.00	18	0.500	8.00	48.633	63.259	A607-65	13.5
4	45.00	18	0.563	9.25	59.659	74.285		18.2
5	45.00	18	0.563		70.154	84.780		21.0



ALL REACTIONS ARE FACTORED

AXIAL 155 K

SHEAR 11 K *MOMENT 1378 kip-ft*

TORQUE 0 kip-ft
50 mph WIND - 1.000 in ICE

AXIAL 97 K

SHEAR 36 K *MOMENT 4420 kip-ft*

TORQUE 2 kip-ft
REACTIONS - 97 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
800 10121 w/ Mount Pipe	193	LLPX310R w/ Mount Pipe	175
800 10121 w/ Mount Pipe	193	LLPX310R w/ Mount Pipe	175
800 10121 w/ Mount Pipe	193	TIMING 2000	175
RRUS-11	193	WIMAX DAP HEAD	175
RRUS-11	193	WIMAX DAP HEAD	175
RRUS-11	193	WIMAX DAP HEAD	175
(2) LGP21401	193	HORIZON COMPACT	175
(2) LGP21401	193	HORIZON COMPACT	175
(2) LGP21401	193	Side Arm Mount [SO 101-3]	175
DC6-48-60-18-8F	193	6' x 2" Mount Pipe	175
OPA-65R-LCUU-H8 w/ Mount Pipe	193	6' x 2" Mount Pipe	175
OPA-65R-LCUU-H8 w/ Mount Pipe	193	6' x 2" Mount Pipe	175
OPA-65R-LCUU-H8 w/ Mount Pipe	193	VHLP2-23	175
TPA-65R-LCUUUU-H8 w/ Mount Pipe	193	PX2F-52	175
TPA-65R-LCUUUU-H8 w/ Mount Pipe	193	VHLP2-23	175
QS66512-3 w/ Mount Pipe	193	(3) SBNHH-1D65B w/ Mount Pipe	100
RRUS 32 B2	193	(3) SBNHH-1D65B w/ Mount Pipe	100
RRUS 32 B2	193	(3) SBNHH-1D65B w/ Mount Pipe	100
RRUS 32 B2	193	RRH2x60-700	100
RRUS 32 B30	193	RRH2x60-700	100
RRUS 32 B30	193	RRH2x60-700	100
RRUS 32 B30	193	RRH2X60-AWS	100
DC6-48-60-18-8F	193	RRH2X60-AWS	100
Platform Mount [LP 1201-1]	193	RRH2X60-AWS	100
Miscellaneous [NA 510-1]	193	RRH2X60-PCS	100
6' x 2" Mount Pipe	193	RRH2X60-PCS	100
6' x 2" Mount Pipe	193	RRH2X60-PCS	100
6' x 2" Mount Pipe	193	DB-T1-6Z-8AB-0Z	100
Lightning Rod 1"x10'	192	T-Arm Mount [TA 602-3]	100
APXV18-206517S-C w/ Mount Pipe	185	Pipe Mount [PM 501-3]	100
APXV18-206517S-C w/ Mount Pipe	185	(2) 4' ICE SHIELDS	100
APXV18-206517S-C w/ Mount Pipe	185	(2) 4' ICE SHIELDS	100
Platform Mount [LP 1201-1]	185	(2) 4' ICE SHIELDS	100
(3) 6' x 2" Mount Pipe	185	BXA-80080/4CF w/ Mount Pipe	100
(3) 6' x 2" Mount Pipe	185	BXA-80080/4CF w/ Mount Pipe	100
(3) 6' x 2" Mount Pipe	185	BXA-80090/4CF w/ Mount Pipe	100
LLPX310R w/ Mount Pipe	175		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 27.1%

CROWN CASTLE
The Foundation For A Wireless World

Crown Castle
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Canonsburg, PA 15317
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FAX: (724) 416-2254

Job: ***BU803843***			
Project: ***WO1316071***			
Client: Crown Castle	Drawn by: ashanubhogue	App'd:	
Code: TIA-222-G	Date: 10/24/16	Scale: NTS	
Path: X:\ENG Work Area\KWeimert\2 WIP\803843 WO 1316071\QA-Shan\803843.eri		Dwg No. E-1	

Tower Input Data

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

4) Tower is located in Hartford County, Connecticut.
5) Basic wind speed of 97 mph.
6) Structure Class II.
7) Exposure Category B.
8) Topographic Category 1.
9) Crest Height 0.00 ft.
10) Nominal ice thickness of 1.000 in.
11) Ice thickness is considered to increase with height.
12) Ice density of 56 pcf.
13) A wind speed of 50 mph is used in combination with ice.
14) Temperature drop of 50 °F.
15) Deflections calculated using a wind speed of 60 mph.
16) A non-linear (P-delta) analysis was used.
17) Pressures are calculated at each section.
18) Stress ratio used in pole design is 1.
19) 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 ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	192.00-151.25	40.75	5.00	18	26.000	39.245	0.313	1.250	A607-65 (65 ksi)
L2	151.25-111.25	45.00	6.50	18	36.995	51.621	0.438	1.750	A607-65 (65 ksi)
L3	111.25-72.75	45.00	8.00	18	48.633	63.259	0.500	2.000	A607-65 (65 ksi)
L4	72.75-35.75	45.00	9.25	18	59.659	74.285	0.563	2.250	A607-65 (65 ksi)
L5	35.75-0.00	45.00		18	70.154	84.780	0.563	2.250	A607-65 (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	26.401	25.479	2124.026	9.119	13.208	160.814	4250.848	12.742	4.026	12.883
	39.850	38.616	7394.882	13.821	19.936	370.923	14799.495	19.312	6.357	20.343
L2	39.216	50.764	8571.295	12.978	18.793	456.080	17153.868	25.387	5.741	13.122
	52.417	71.075	23524.065	18.170	26.223	897.062	47079.084	35.544	8.315	19.006
L3	51.529	76.388	22358.990	17.087	24.706	905.012	44747.401	38.201	7.679	15.359
	64.235	99.599	49561.269	22.279	32.136	1542.256	99187.753	49.809	10.254	20.507
L4	63.220	105.509	46553.202	20.979	30.307	1536.069	93167.660	52.765	9.510	16.907
	75.431	131.622	90378.902	26.171	37.737	2394.982	180876.727	65.824	12.084	21.483
L5	74.289	124.246	76019.762	24.705	35.638	2133.110	152139.553	62.135	11.357	20.19
	86.088	150.360	134732.986	29.897	43.068	3128.361	269643.257	75.194	13.931	24.767

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 192.00-151.25				1	1	1			
L2 151.25-111.25				1	1	1			
L3 111.25-72.75				1	1	1			
L4 72.75-35.75				1	1	1			
L5 35.75-0.00				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 plf
***										

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 plf
***								
LDF7-50A(1-5/8")	A	No	Inside Pole	192.00 - 0.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
FB-L98B-002-75000(3/8")	A	No	Inside Pole	192.00 - 0.00	1	No Ice	0.00	0.06
						1/2" Ice	0.00	0.06
						1" Ice	0.00	0.06
WR-VG86ST-BRD(3/4")	A	No	Inside Pole	192.00 - 0.00	2	No Ice	0.00	0.58
						1/2" Ice	0.00	0.58
						1" Ice	0.00	0.58
FB-L98B-034-XXXXXX(3/8")	A	No	Inside Pole	192.00 - 0.00	1	No Ice	0.00	0.05
						1/2" Ice	0.00	0.05
						1" Ice	0.00	0.05
WR-VG86ST-	A	No	Inside Pole	192.00 - 0.00	2	No Ice	0.00	0.58

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
BRD(3/4")						1/2" Ice	0.00	0.58
						1" Ice	0.00	0.58
2" Rigid Conduit	A	No	Inside Pole	192.00 - 0.00	1	No Ice	0.00	2.80
						1/2" Ice	0.00	2.80
						1" Ice	0.00	2.80
***								
LCF158-50JL(1-5/8)	C	No	Inside Pole	185.00 - 0.00	6	No Ice	0.00	0.52
						1/2" Ice	0.00	0.52
						1" Ice	0.00	0.52
***								
FSJ1-50A(1/4")	B	No	Inside Pole	175.00 - 0.00	3	No Ice	0.00	0.04
						1/2" Ice	0.00	0.04
						1" Ice	0.00	0.04
FSJ4-50B(1/2")	B	No	Inside Pole	175.00 - 0.00	3	No Ice	0.00	0.14
						1/2" Ice	0.00	0.14
						1" Ice	0.00	0.14
HJ4.5-50(5/8")	B	No	Inside Pole	175.00 - 0.00	3	No Ice	0.00	0.40
						1/2" Ice	0.00	0.40
						1" Ice	0.00	0.40
9207(5/16")	B	No	Inside Pole	175.00 - 0.00	1	No Ice	0.00	0.60
						1/2" Ice	0.00	0.60
						1" Ice	0.00	0.60
2" Rigid Conduit	B	No	Inside Pole	175.00 - 0.00	2	No Ice	0.00	2.80
						1/2" Ice	0.00	2.80
						1" Ice	0.00	2.80
***								
LDF7-50A(1-5/8")	A	No	Inside Pole	100.00 - 0.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
HB158-1-08U8-S8J18(	A	No	Inside Pole	100.00 - 0.00	2	No Ice	0.00	1.30
1-5/8")						1/2" Ice	0.00	1.30
						1" Ice	0.00	1.30
***								

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	192.00-151.25	A	0.000	0.000	0.000	0.000	0.41
		B	0.000	0.000	0.000	0.000	0.19
		C	0.000	0.000	0.000	0.000	0.11
L2	151.25-111.25	A	0.000	0.000	0.000	0.000	0.41
		B	0.000	0.000	0.000	0.000	0.32
		C	0.000	0.000	0.000	0.000	0.12
L3	111.25-72.75	A	0.000	0.000	0.000	0.000	0.73
		B	0.000	0.000	0.000	0.000	0.31
		C	0.000	0.000	0.000	0.000	0.12
L4	72.75-35.75	A	0.000	0.000	0.000	0.000	0.84
		B	0.000	0.000	0.000	0.000	0.29
		C	0.000	0.000	0.000	0.000	0.12
L5	35.75-0.00	A	0.000	0.000	0.000	0.000	0.81
		B	0.000	0.000	0.000	0.000	0.28
		C	0.000	0.000	0.000	0.000	0.11

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	192.00-151.25	A	2.357	0.000	0.000	0.000	0.000	0.41
		B		0.000	0.000	0.000	0.000	0.19
		C		0.000	0.000	0.000	0.000	0.11

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
L2	151.25-111.25	A	2.295	0.000	0.000	0.000	0.000	0.41
		B		0.000	0.000	0.000	0.000	0.32
		C		0.000	0.000	0.000	0.000	0.12
L3	111.25-72.75	A	2.215	0.000	0.000	0.000	0.000	0.73
		B		0.000	0.000	0.000	0.000	0.31
		C		0.000	0.000	0.000	0.000	0.12
L4	72.75-35.75	A	2.102	0.000	0.000	0.000	0.000	0.84
		B		0.000	0.000	0.000	0.000	0.29
		C		0.000	0.000	0.000	0.000	0.12
L5	35.75-0.00	A	1.876	0.000	0.000	0.000	0.000	0.81
		B		0.000	0.000	0.000	0.000	0.28
		C		0.000	0.000	0.000	0.000	0.11

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	192.00-151.25	0.000	0.000	0.000	0.000
L2	151.25-111.25	0.000	0.000	0.000	0.000
L3	111.25-72.75	0.000	0.000	0.000	0.000
L4	72.75-35.75	0.000	0.000	0.000	0.000
L5	35.75-0.00	0.000	0.000	0.000	0.000

Shielding Factor Ka

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

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lightning Rod 1"x10'	C	None		0.00	192.00	No Ice	1.00	1.00	0.04
						1/2" Ice	2.02	2.02	0.05
						1" Ice	3.05	3.05	0.06
193									
800 10121 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.00	193.00	No Ice 1/2" Ice 1" Ice	5.39 5.81 6.23	4.60 5.35 6.05	0.07 0.11 0.17
800 10121 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.00	193.00	No Ice 1/2" Ice 1" Ice	5.39 5.81 6.23	4.60 5.35 6.05	0.07 0.11 0.17
800 10121 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.00	193.00	No Ice 1/2" Ice 1" Ice	5.39 5.81 6.23	4.60 5.35 6.05	0.07 0.11 0.17
RRUS-11	A	From Leg	4.00 0.00	0.00	193.00	No Ice 1/2"	2.78 2.99	1.19 1.33	0.05 0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			2.00			Ice	3.21	1.49	0.09
						1" Ice			
RRUS-11	A	From Leg	4.00	0.00	193.00	No Ice	2.78	1.19	0.05
			0.00			1/2"	2.99	1.33	0.07
			2.00			Ice	3.21	1.49	0.09
						1" Ice			
RRUS-11	B	From Leg	4.00	0.00	193.00	No Ice	2.78	1.19	0.05
			0.00			1/2"	2.99	1.33	0.07
			2.00			Ice	3.21	1.49	0.09
						1" Ice			
(2) LGP21401	A	From Leg	4.00	0.00	193.00	No Ice	1.10	0.21	0.01
			0.00			1/2"	1.24	0.27	0.02
			2.00			Ice	1.38	0.35	0.03
						1" Ice			
(2) LGP21401	B	From Leg	4.00	0.00	193.00	No Ice	1.10	0.21	0.01
			0.00			1/2"	1.24	0.27	0.02
			2.00			Ice	1.38	0.35	0.03
						1" Ice			
(2) LGP21401	C	From Leg	4.00	0.00	193.00	No Ice	1.10	0.21	0.01
			0.00			1/2"	1.24	0.27	0.02
			2.00			Ice	1.38	0.35	0.03
						1" Ice			
DC6-48-60-18-8F	B	From Leg	4.00	0.00	193.00	No Ice	0.79	0.79	0.02
			0.00			1/2"	1.27	1.27	0.04
			2.00			Ice	1.45	1.45	0.05
						1" Ice			
OPA-65R-LCUU-H8 w/ Mount Pipe	A	From Leg	4.00	0.00	193.00	No Ice	12.98	9.32	0.12
			0.00			1/2"	13.67	10.79	0.21
			2.00			Ice	14.36	12.24	0.32
						1" Ice			
OPA-65R-LCUU-H8 w/ Mount Pipe	B	From Leg	4.00	0.00	193.00	No Ice	12.98	9.32	0.12
			0.00			1/2"	13.67	10.79	0.21
			2.00			Ice	14.36	12.24	0.32
						1" Ice			
OPA-65R-LCUU-H8 w/ Mount Pipe	C	From Leg	4.00	0.00	193.00	No Ice	12.98	9.32	0.12
			0.00			1/2"	13.67	10.79	0.21
			2.00			Ice	14.36	12.24	0.32
						1" Ice			
TPA-65R-LCUUUU-H8 w/ Mount Pipe	A	From Leg	4.00	0.00	193.00	No Ice	13.54	10.96	0.11
			0.00			1/2"	14.24	12.49	0.22
			2.00			Ice	14.95	14.04	0.33
						1" Ice			
TPA-65R-LCUUUU-H8 w/ Mount Pipe	B	From Leg	4.00	0.00	193.00	No Ice	13.54	10.96	0.11
			0.00			1/2"	14.24	12.49	0.22
			2.00			Ice	14.95	14.04	0.33
						1" Ice			
QS66512-3 w/ Mount Pipe	C	From Leg	4.00	0.00	193.00	No Ice	8.37	8.46	0.13
			0.00			1/2"	8.93	9.66	0.21
			2.00			Ice	9.46	10.55	0.29
						1" Ice			
RRUS 32 B2	A	From Leg	4.00	0.00	193.00	No Ice	2.73	1.67	0.05
			0.00			1/2"	2.95	1.86	0.07
			2.00			Ice	3.18	2.05	0.10
						1" Ice			
RRUS 32 B2	B	From Leg	4.00	0.00	193.00	No Ice	2.73	1.67	0.05
			0.00			1/2"	2.95	1.86	0.07
			2.00			Ice	3.18	2.05	0.10
						1" Ice			
RRUS 32 B2	C	From Leg	4.00	0.00	193.00	No Ice	2.73	1.67	0.05
			0.00			1/2"	2.95	1.86	0.07
			2.00			Ice	3.18	2.05	0.10
						1" Ice			
RRUS 32 B30	A	From Leg	4.00	0.00	193.00	No Ice	2.69	1.57	0.06
			0.00			1/2"	2.91	1.76	0.08
			2.00			Ice	3.14	1.95	0.10

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
						1" Ice			
RRUS 32 B30	B	From Leg	4.00 0.00 2.00	0.00	193.00	No Ice 1/2" Ice 1" Ice	2.69 2.91 3.14	1.57 1.76 1.95	0.06 0.08 0.10
RRUS 32 B30	C	From Leg	4.00 0.00 2.00	0.00	193.00	No Ice 1/2" Ice 1" Ice	2.69 2.91 3.14	1.57 1.76 1.95	0.06 0.08 0.10
DC6-48-60-18-8F	A	From Leg	4.00 0.00 2.00	0.00	193.00	No Ice 1/2" Ice 1" Ice	0.79 1.27 1.45	0.79 1.27 1.45	0.02 0.04 0.05
Platform Mount [LP 1201-1]	C	None		0.00	193.00	No Ice 1/2" Ice 1" Ice	23.10 26.80 30.50	23.10 26.80 30.50	2.10 2.50 2.90
Miscellaneous [NA 510-1]	C	None		0.00	193.00	No Ice 1/2" Ice 1" Ice	6.00 8.50 11.00	6.00 8.50 11.00	0.26 0.34 0.42
6' x 2" Mount Pipe	A	From Leg	3.00 0.00 0.00	0.00	193.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
6' x 2" Mount Pipe	B	From Leg	3.00 0.00 0.00	0.00	193.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
6' x 2" Mount Pipe	C	From Leg	3.00 0.00 0.00	0.00	193.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
185									
APXV18-206517S-C w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.00	185.00	No Ice 1/2" Ice 1" Ice	5.40 5.96 6.48	4.70 5.86 6.73	0.05 0.10 0.15
APXV18-206517S-C w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.00	185.00	No Ice 1/2" Ice 1" Ice	5.40 5.96 6.48	4.70 5.86 6.73	0.05 0.10 0.15
APXV18-206517S-C w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.00	185.00	No Ice 1/2" Ice 1" Ice	5.40 5.96 6.48	4.70 5.86 6.73	0.05 0.10 0.15
Platform Mount [LP 1201-1]	C	None		0.00	185.00	No Ice 1/2" Ice 1" Ice	23.10 26.80 30.50	23.10 26.80 30.50	2.10 2.50 2.90
(3) 6' x 2" Mount Pipe	A	From Leg	3.00 0.00 0.00	0.00	185.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
(3) 6' x 2" Mount Pipe	B	From Leg	3.00 0.00 0.00	0.00	185.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
(3) 6' x 2" Mount Pipe	C	From Leg	3.00 0.00 0.00	0.00	185.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
175									
LLPX310R w/ Mount Pipe	A	From Leg	3.00 0.00	0.00	175.00	No Ice 1/2"	4.54 4.89	2.98 3.53	0.05 0.08

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
			1.00			Ice	5.25	4.09	0.13
						1" Ice			
LLPX310R w/ Mount Pipe	B	From Leg	3.00	0.00	175.00	No Ice	4.54	2.98	0.05
			0.00			1/2"	4.89	3.53	0.08
			1.00			Ice	5.25	4.09	0.13
						1" Ice			
LLPX310R w/ Mount Pipe	C	From Leg	3.00	0.00	175.00	No Ice	4.54	2.98	0.05
			0.00			1/2"	4.89	3.53	0.08
			1.00			Ice	5.25	4.09	0.13
						1" Ice			
TIMING 2000	C	From Leg	3.00	0.00	175.00	No Ice	0.11	0.11	0.00
			0.00			1/2"	0.15	0.15	0.00
			0.00			Ice	0.20	0.20	0.01
						1" Ice			
WIMAX DAP HEAD	A	From Leg	3.00	0.00	175.00	No Ice	1.55	0.68	0.03
			0.00			1/2"	1.70	0.80	0.04
			0.00			Ice	1.87	0.92	0.06
						1" Ice			
WIMAX DAP HEAD	B	From Leg	3.00	0.00	175.00	No Ice	1.55	0.68	0.03
			0.00			1/2"	1.70	0.80	0.04
			0.00			Ice	1.87	0.92	0.06
						1" Ice			
WIMAX DAP HEAD	C	From Leg	3.00	0.00	175.00	No Ice	1.55	0.68	0.03
			0.00			1/2"	1.70	0.80	0.04
			0.00			Ice	1.87	0.92	0.06
						1" Ice			
HORIZON COMPACT	A	From Leg	3.00	0.00	175.00	No Ice	0.72	0.37	0.01
			0.00			1/2"	0.83	0.45	0.02
			0.00			Ice	0.94	0.54	0.03
						1" Ice			
HORIZON COMPACT	C	From Leg	3.00	0.00	175.00	No Ice	0.72	0.37	0.01
			0.00			1/2"	0.83	0.45	0.02
			0.00			Ice	0.94	0.54	0.03
						1" Ice			
Side Arm Mount [SO 101-3]	C	None		0.00	175.00	No Ice	7.50	7.50	0.25
						1/2"	8.90	8.90	0.33
						Ice	10.30	10.30	0.41
						1" Ice			
6' x 2" Mount Pipe	A	From Leg	3.00	0.00	175.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice			
6' x 2" Mount Pipe	B	From Leg	3.00	0.00	175.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice			
6' x 2" Mount Pipe	C	From Leg	3.00	0.00	175.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice			
100									
BXA-80080/4CF w/ Mount Pipe	A	From Leg	4.00	0.00	100.00	No Ice	5.04	4.03	0.03
			0.00			1/2"	5.42	4.65	0.08
			2.00			Ice	5.81	5.28	0.13
						1" Ice			
BXA-80080/4CF w/ Mount Pipe	B	From Leg	4.00	0.00	100.00	No Ice	5.04	4.03	0.03
			0.00			1/2"	5.42	4.65	0.08
			2.00			Ice	5.81	5.28	0.13
						1" Ice			
BXA-80090/4CF w/ Mount Pipe	C	From Leg	4.00	0.00	100.00	No Ice	3.83	3.88	0.03
			0.00			1/2"	4.20	4.49	0.07
			2.00			Ice	4.57	5.11	0.11
						1" Ice			
(3) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.00	0.00	100.00	No Ice	8.39	7.08	0.08
			0.00			1/2"	8.95	8.28	0.15

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
			2.00			Ice	9.48	9.19	0.22
						1" Ice			
(3) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.00	0.00	100.00	No Ice	8.39	7.08	0.08
			0.00			1/2"	8.95	8.28	0.15
			2.00			Ice	9.48	9.19	0.22
						1" Ice			
(3) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.00	0.00	100.00	No Ice	8.39	7.08	0.08
			0.00			1/2"	8.95	8.28	0.15
			2.00			Ice	9.48	9.19	0.22
						1" Ice			
RRH2x60-700	A	From Leg	4.00	0.00	100.00	No Ice	3.50	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			2.00			Ice	4.03	2.29	0.11
						1" Ice			
RRH2x60-700	B	From Leg	4.00	0.00	100.00	No Ice	3.50	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			2.00			Ice	4.03	2.29	0.11
						1" Ice			
RRH2x60-700	C	From Leg	4.00	0.00	100.00	No Ice	3.50	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			2.00			Ice	4.03	2.29	0.11
						1" Ice			
RRH2X60-AWS	A	From Leg	4.00	0.00	100.00	No Ice	3.50	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			2.00			Ice	4.03	2.29	0.11
						1" Ice			
RRH2X60-AWS	B	From Leg	4.00	0.00	100.00	No Ice	3.50	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			2.00			Ice	4.03	2.29	0.11
						1" Ice			
RRH2X60-AWS	C	From Leg	4.00	0.00	100.00	No Ice	3.50	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			2.00			Ice	4.03	2.29	0.11
						1" Ice			
RRH2X60-PCS	A	From Leg	4.00	0.00	100.00	No Ice	2.20	1.72	0.06
			0.00			1/2"	2.39	1.90	0.08
			2.00			Ice	2.59	2.09	0.10
						1" Ice			
RRH2X60-PCS	B	From Leg	4.00	0.00	100.00	No Ice	2.20	1.72	0.06
			0.00			1/2"	2.39	1.90	0.08
			2.00			Ice	2.59	2.09	0.10
						1" Ice			
RRH2X60-PCS	C	From Leg	4.00	0.00	100.00	No Ice	2.20	1.72	0.06
			0.00			1/2"	2.39	1.90	0.08
			2.00			Ice	2.59	2.09	0.10
						1" Ice			
DB-T1-6Z-8AB-0Z	A	From Leg	4.00	0.00	100.00	No Ice	4.80	2.00	0.04
			0.00			1/2"	5.07	2.19	0.08
			0.00			Ice	5.35	2.39	0.12
						1" Ice			
T-Arm Mount [TA 602-3]	C	None		0.00	100.00	No Ice	11.59	11.59	0.77
						1/2"	15.44	15.44	0.99
						Ice	19.29	19.29	1.21
						1" Ice			
Pipe Mount [PM 501-3]	C	None		0.00	100.00	No Ice	5.78	5.78	0.16
						1/2"	7.37	7.37	0.18
						Ice	8.96	8.96	0.20
						1" Ice			
(2) 4' ICE SHIELDS	A	From Leg	2.00	0.00	100.00	No Ice	1.40	0.47	0.03
			0.00			1/2"	1.88	0.64	0.10
			0.00			Ice	2.38	0.82	0.17
						1" Ice			
(2) 4' ICE SHIELDS	B	From Leg	2.00	0.00	100.00	No Ice	1.40	0.47	0.03
			0.00			1/2"	1.88	0.64	0.10
			0.00			Ice	2.38	0.82	0.17

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) 4' ICE SHIELDS	C	From Leg	2.00 0.00 0.00	0.00	100.00	1" Ice No Ice 1/2" Ice 1" Ice	1.40 1.88 2.38	0.47 0.64 0.82	0.03 0.10 0.17
***									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
***											
VHLP2-23	A	Paraboloid w/Shroud (HP)	From Leg	3.00 0.00 2.00	0.00		175.00	2.17	No Ice 1/2" Ice 1" Ice	3.72 4.00 4.31	0.03 0.03 0.04
PX2F-52	B	Paraboloid w/Radome	From Leg	3.00 0.00 2.00	0.00		175.00	2.09	No Ice 1/2" Ice 1" Ice	3.44 3.72 3.99	0.01 0.02 0.02
VHLP2-23	C	Paraboloid w/Shroud (HP)	From Leg	3.00 0.00 2.00	0.00		175.00	2.17	No Ice 1/2" Ice 1" Ice	3.72 4.00 4.31	0.03 0.03 0.04
***											

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	192 - 151.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.79	-1.61	2.32
			Max. Mx	8	-13.35	-407.08	-1.06
			Max. My	2	-13.33	1.32	414.98
			Max. Vy	20	-13.63	406.85	3.22
			Max. Vx	2	-13.83	1.32	414.98
			Max. Torque	12			1.26
L2	151.25 - 111.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.55	-1.61	2.32
			Max. Mx	8	-24.46	-1008.46	-0.98
			Max. My	2	-24.45	0.96	1024.23
			Max. Vy	20	-17.71	1008.28	5.22
			Max. Vx	2	-17.92	0.96	1024.23
			Max. Torque	22			-1.21
L3	111.25 - 72.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.22	-1.80	3.99
			Max. Mx	8	-43.57	-1836.26	-0.91
			Max. My	2	-43.56	0.93	1861.99
			Max. Vy	20	-26.51	1836.13	7.74
			Max. Vx	2	-26.82	0.93	1861.99
			Max. Torque	22			-1.58
L4	72.75 - 35.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-112.55	-1.80	3.99
			Max. Mx	8	-65.21	-2863.23	-1.36
			Max. My	2	-65.20	1.12	2900.07
			Max. Vy	20	-30.87	2863.15	10.10
			Max. Vx	2	-31.18	1.12	2900.07
			Max. Torque	22			-1.58
L5	35.75 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-154.59	-1.80	3.99
			Max. Mx	8	-97.34	-4367.86	-1.92
			Max. My	2	-97.34	1.36	4418.53
			Max. Vy	20	-35.96	4367.84	13.03
			Max. Vx	2	-36.27	1.36	4418.53

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	22			-1.58

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	154.59	-0.00	0.00
	Max. H_x	20	97.34	35.95	0.06
	Max. H_z	2	97.34	0.01	36.25
	Max. M_x	2	4418.53	0.01	36.25
	Max. M_z	8	4367.86	-35.95	-0.01
	Max. Torsion	10	1.56	-31.16	-18.19
	Min. Vert	7	73.01	-31.05	18.10
	Min. H_x	8	97.34	-35.95	-0.01
	Min. H_z	14	97.34	-0.02	-36.24
	Min. M_x	14	-4415.23	-0.02	-36.24
	Min. M_z	20	-4367.84	35.95	0.06
	Min. Torsion	22	-1.58	31.17	18.20

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	81.12	0.00	0.00	-0.69	-0.11	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	97.34	-0.01	-36.25	-4418.53	1.36	0.98
0.9 Dead+1.6 Wind 0 deg - No Ice	73.01	-0.01	-36.25	-4396.60	1.38	0.98
1.2 Dead+1.6 Wind 30 deg - No Ice	97.34	17.89	-31.36	-3819.88	-2168.87	0.16
0.9 Dead+1.6 Wind 30 deg - No Ice	73.01	17.89	-31.36	-3800.90	-2158.21	0.16
1.2 Dead+1.6 Wind 60 deg - No Ice	97.34	31.05	-18.10	-2204.76	-3767.30	-0.73
0.9 Dead+1.6 Wind 60 deg - No Ice	73.01	31.05	-18.10	-2193.71	-3748.80	-0.73
1.2 Dead+1.6 Wind 90 deg - No Ice	97.34	35.95	0.01	1.92	-4367.86	-1.42
0.9 Dead+1.6 Wind 90 deg - No Ice	73.01	35.95	0.01	2.12	-4346.39	-1.42
1.2 Dead+1.6 Wind 120 deg - No Ice	97.34	31.16	18.19	2220.96	-3788.74	-1.56
0.9 Dead+1.6 Wind 120 deg - No Ice	73.01	31.16	18.19	2210.25	-3770.10	-1.56
1.2 Dead+1.6 Wind 150 deg - No Ice	97.34	17.98	31.48	3840.00	-2186.39	-1.29
0.9 Dead+1.6 Wind 150 deg - No Ice	73.01	17.98	31.48	3821.33	-2175.63	-1.29
1.2 Dead+1.6 Wind 180 deg - No Ice	97.34	0.02	36.24	4415.23	-4.94	-0.85
0.9 Dead+1.6 Wind 180 deg - No Ice	73.01	0.02	36.24	4393.76	-4.88	-0.85
1.2 Dead+1.6 Wind 210 deg - No Ice	97.34	-17.91	31.35	3816.68	2171.15	-0.18
0.9 Dead+1.6 Wind 210 deg - No Ice	73.01	-17.91	31.35	3798.15	2160.55	-0.18
1.2 Dead+1.6 Wind 240 deg - No Ice	97.34	-31.05	18.12	2206.68	3766.73	0.59
0.9 Dead+1.6 Wind 240 deg	73.01	-31.05	18.12	2196.06	3748.30	0.58

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
- No Ice 1.2 Dead+1.6 Wind 270 deg	97.34	-35.95	-0.06	-13.03	4367.84	1.40
- No Ice 0.9 Dead+1.6 Wind 270 deg	73.01	-35.95	-0.06	-12.74	4346.44	1.39
- No Ice 1.2 Dead+1.6 Wind 300 deg	97.34	-31.17	-18.20	-2223.42	3789.74	1.58
- No Ice 0.9 Dead+1.6 Wind 300 deg	73.01	-31.17	-18.20	-2212.26	3771.17	1.58
- No Ice 1.2 Dead+1.6 Wind 330 deg	97.34	-18.03	-31.45	-3837.25	2194.39	1.33
- No Ice 0.9 Dead+1.6 Wind 330 deg	73.01	-18.03	-31.45	-3818.16	2183.64	1.33
- No Ice 1.2 Dead+1.0 Ice+1.0 Temp	154.59	0.00	-0.00	-3.99	-1.80	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	154.59	0.01	-11.27	-1378.41	-3.38	0.30
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	154.59	5.60	-9.75	-1193.61	-682.65	0.06
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	154.59	9.70	-5.64	-691.72	-1181.71	-0.20
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	154.59	11.21	-0.01	-5.38	-1367.38	-0.41
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	154.59	9.71	5.64	684.37	-1184.97	-0.47
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	154.59	5.60	9.77	1188.52	-683.65	-0.40
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	154.59	-0.00	11.27	1369.60	-1.25	-0.27
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	154.59	-5.60	9.75	1184.81	679.40	-0.06
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	154.59	-9.70	5.64	684.13	1177.79	0.17
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	154.59	-11.21	-0.01	-5.30	1363.59	0.40
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	154.59	-9.72	-5.64	-693.00	1181.43	0.47
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	154.59	-5.61	-9.77	-1195.90	681.77	0.41
Dead+Wind 0 deg - Service	81.12	-0.00	-7.76	-942.92	0.21	0.21
Dead+Wind 30 deg - Service	81.12	3.83	-6.71	-815.24	-462.67	0.04
Dead+Wind 60 deg - Service	81.12	6.64	-3.87	-470.77	-803.58	-0.16
Dead+Wind 90 deg - Service	81.12	7.69	0.00	-0.12	-931.67	-0.31
Dead+Wind 120 deg - Service	81.12	6.67	3.89	473.16	-808.15	-0.34
Dead+Wind 150 deg - Service	81.12	3.85	6.73	818.47	-466.40	-0.28
Dead+Wind 180 deg - Service	81.12	0.01	7.75	941.16	-1.14	-0.18
Dead+Wind 210 deg - Service	81.12	-3.83	6.71	813.50	462.99	-0.04
Dead+Wind 240 deg - Service	81.12	-6.64	3.88	470.11	803.30	0.12
Dead+Wind 270 deg - Service	81.12	-7.69	-0.01	-3.31	931.50	0.30
Dead+Wind 300 deg - Service	81.12	-6.67	-3.89	-474.74	808.20	0.34
Dead+Wind 330 deg - Service	81.12	-3.86	-6.73	-818.95	467.94	0.28

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-81.12	0.00	0.00	81.12	0.00	0.000%
2	-0.01	-97.34	-36.25	0.01	97.34	36.25	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
3	-0.01	-73.01	-36.25	0.01	73.01	36.25	0.000%
4	17.89	-97.34	-31.36	-17.89	97.34	31.36	0.000%
5	17.89	-73.01	-31.36	-17.89	73.01	31.36	0.000%
6	31.05	-97.34	-18.10	-31.05	97.34	18.10	0.000%
7	31.05	-73.01	-18.10	-31.05	73.01	18.10	0.000%
8	35.95	-97.34	0.01	-35.95	97.34	-0.01	0.000%
9	35.95	-73.01	0.01	-35.95	73.01	-0.01	0.000%
10	31.16	-97.34	18.19	-31.16	97.34	-18.19	0.000%
11	31.16	-73.01	18.19	-31.16	73.01	-18.19	0.000%
12	17.98	-97.34	31.48	-17.98	97.34	-31.48	0.000%
13	17.98	-73.01	31.48	-17.98	73.01	-31.48	0.000%
14	0.02	-97.34	36.24	-0.02	97.34	-36.24	0.000%
15	0.02	-73.01	36.24	-0.02	73.01	-36.24	0.000%
16	-17.91	-97.34	31.35	17.91	97.34	-31.35	0.000%
17	-17.91	-73.01	31.35	17.91	73.01	-31.35	0.000%
18	-31.05	-97.34	18.12	31.05	97.34	-18.12	0.000%
19	-31.05	-73.01	18.12	31.05	73.01	-18.12	0.000%
20	-35.95	-97.34	-0.06	35.95	97.34	0.06	0.000%
21	-35.95	-73.01	-0.06	35.95	73.01	0.06	0.000%
22	-31.17	-97.34	-18.20	31.17	97.34	18.20	0.000%
23	-31.17	-73.01	-18.20	31.17	73.01	18.20	0.000%
24	-18.03	-97.34	-31.45	18.03	97.34	31.45	0.000%
25	-18.03	-73.01	-31.45	18.03	73.01	31.45	0.000%
26	0.00	-154.59	0.00	-0.00	154.59	0.00	0.000%
27	0.01	-154.59	-11.27	-0.01	154.59	11.27	0.000%
28	5.60	-154.59	-9.75	-5.60	154.59	9.75	0.000%
29	9.70	-154.59	-5.64	-9.70	154.59	5.64	0.000%
30	11.21	-154.59	-0.01	-11.21	154.59	0.01	0.000%
31	9.71	-154.59	5.64	-9.71	154.59	-5.64	0.000%
32	5.60	-154.59	9.77	-5.60	154.59	-9.77	0.000%
33	-0.00	-154.59	11.27	0.00	154.59	-11.27	0.000%
34	-5.60	-154.59	9.75	5.60	154.59	-9.75	0.000%
35	-9.70	-154.59	5.64	9.70	154.59	-5.64	0.000%
36	-11.21	-154.59	-0.01	11.21	154.59	0.01	0.000%
37	-9.72	-154.59	-5.64	9.72	154.59	5.64	0.000%
38	-5.61	-154.59	-9.77	5.61	154.59	9.77	0.000%
39	-0.00	-81.12	-7.76	0.00	81.12	7.76	0.000%
40	3.83	-81.12	-6.71	-3.83	81.12	6.71	0.000%
41	6.64	-81.12	-3.87	-6.64	81.12	3.87	0.000%
42	7.69	-81.12	0.00	-7.69	81.12	-0.00	0.000%
43	6.67	-81.12	3.89	-6.67	81.12	-3.89	0.000%
44	3.85	-81.12	6.73	-3.85	81.12	-6.73	0.000%
45	0.01	-81.12	7.75	-0.01	81.12	-7.75	0.000%
46	-3.83	-81.12	6.71	3.83	81.12	-6.71	0.000%
47	-6.64	-81.12	3.88	6.64	81.12	-3.88	0.000%
48	-7.69	-81.12	-0.01	7.69	81.12	0.01	0.000%
49	-6.67	-81.12	-3.89	6.67	81.12	3.89	0.000%
50	-3.86	-81.12	-6.73	3.86	81.12	6.73	0.000%

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	0.00006699
3	Yes	4	0.00000001	0.00003942
4	Yes	4	0.00000001	0.00050553
5	Yes	4	0.00000001	0.00034330
6	Yes	4	0.00000001	0.00050957
7	Yes	4	0.00000001	0.00034635
8	Yes	4	0.00000001	0.00007233
9	Yes	4	0.00000001	0.00004393
10	Yes	4	0.00000001	0.00048739
11	Yes	4	0.00000001	0.00033021
12	Yes	4	0.00000001	0.00053642

13	Yes	4	0.00000001	0.00036488
14	Yes	4	0.00000001	0.00006530
15	Yes	4	0.00000001	0.00003802
16	Yes	4	0.00000001	0.00049499
17	Yes	4	0.00000001	0.00033595
18	Yes	4	0.00000001	0.00049141
19	Yes	4	0.00000001	0.00033362
20	Yes	4	0.00000001	0.00007479
21	Yes	4	0.00000001	0.00004586
22	Yes	4	0.00000001	0.00053921
23	Yes	4	0.00000001	0.00036691
24	Yes	4	0.00000001	0.00049249
25	Yes	4	0.00000001	0.00033342
26	Yes	4	0.00000001	0.00000401
27	Yes	5	0.00000001	0.00005887
28	Yes	5	0.00000001	0.00006012
29	Yes	5	0.00000001	0.00005983
30	Yes	5	0.00000001	0.00005825
31	Yes	5	0.00000001	0.00005953
32	Yes	5	0.00000001	0.00005958
33	Yes	5	0.00000001	0.00005800
34	Yes	5	0.00000001	0.00005907
35	Yes	5	0.00000001	0.00005891
36	Yes	5	0.00000001	0.00005776
37	Yes	5	0.00000001	0.00005963
38	Yes	5	0.00000001	0.00006005
39	Yes	4	0.00000001	0.00000939
40	Yes	4	0.00000001	0.00001209
41	Yes	4	0.00000001	0.00001216
42	Yes	4	0.00000001	0.00000934
43	Yes	4	0.00000001	0.00001188
44	Yes	4	0.00000001	0.00001266
45	Yes	4	0.00000001	0.00000932
46	Yes	4	0.00000001	0.00001188
47	Yes	4	0.00000001	0.00001181
48	Yes	4	0.00000001	0.00000933
49	Yes	4	0.00000001	0.00001275
50	Yes	4	0.00000001	0.00001196

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	192 - 151.25	8.60	50	0.45	0.00
L2	156.25 - 111.25	5.47	50	0.36	0.00
L3	117.75 - 72.75	2.99	50	0.25	0.00
L4	80.75 - 35.75	1.38	50	0.16	0.00
L5	45 - 0	0.43	50	0.09	0.00

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
193.00	800 10121 w/ Mount Pipe	50	8.60	0.45	0.00	108242
192.00	Lightning Rod 1"x10'	50	8.60	0.45	0.00	108242
185.00	APXV18-206517S-C w/ Mount Pipe	50	7.95	0.44	0.00	77316
177.00	VHLP2-23	50	7.23	0.42	0.00	36080
175.00	LLPX310R w/ Mount Pipe	50	7.05	0.41	0.00	31836
100.00	BXA-80080/4CF w/ Mount Pipe	50	2.13	0.20	0.00	24661

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	192 - 151.25	40.30	24	2.13	0.01
L2	156.25 - 111.25	25.65	24	1.69	0.00
L3	117.75 - 72.75	14.00	24	1.17	0.00
L4	80.75 - 35.75	6.45	24	0.75	0.00
L5	45 - 0	2.04	24	0.40	0.00

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
193.00	800 10121 w/ Mount Pipe	24	40.30	2.13	0.01	23209
192.00	Lightning Rod 1"x10'	24	40.30	2.13	0.01	23209
185.00	APXV18-206517S-C w/ Mount Pipe	24	37.28	2.05	0.01	16578
177.00	VHLP2-23	24	33.88	1.95	0.00	7736
175.00	LLPX310R w/ Mount Pipe	24	33.04	1.93	0.00	6825
100.00	BXA-80080/4CF w/ Mount Pipe	24	9.99	0.96	0.00	5259

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	192 - 151.25 (1)	TP39.245x26x0.313	40.75	0.00	0.0	37.004	-13.33	2616.03	0.005
L2	151.25 - 111.25 (2)	TP51.621x36.995x0.438	45.00	0.00	0.0	68.141	-24.45	4908.93	0.005
L3	111.25 - 72.75 (3)	TP63.259x48.633x0.5	45.00	0.00	0.0	95.472	-43.56	6732.82	0.006
L4	72.75 - 35.75 (4)	TP74.285x59.659x0.563	45.00	0.00	0.0	126.255	-65.20	8776.63	0.007
L5	35.75 - 0 (5)	TP84.78x70.154x0.563	45.00	0.00	0.0	150.360	-97.34	9779.95	0.010

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	192 - 151.25 (1)	TP39.245x26x0.313	415.78	2005.88	0.207	0.00	2005.88	0.000
L2	151.25 - 111.25 (2)	TP51.621x36.995x0.438	1025.63	4948.21	0.207	0.00	4948.21	0.000
L3	111.25 - 72.75 (3)	TP63.259x48.633x0.5	1863.70	8325.20	0.224	0.00	8325.20	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L4	72.75 - 35.75 (4)	TP74.285x59.659x0.563	2901.85	12761.33	0.227	0.00	12761.33	0.000
L5	35.75 - 0 (5)	TP84.78x70.154x0.563	4420.39	16956.67	0.261	0.00	16956.67	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	192 - 151.25 (1)	TP39.245x26x0.313	13.85	1308.01	0.011	1.11	4016.68	0.000
L2	151.25 - 111.25 (2)	TP51.621x36.995x0.438	17.93	2454.46	0.007	1.11	9908.50	0.000
L3	111.25 - 72.75 (3)	TP63.259x48.633x0.5	26.82	3366.41	0.008	1.33	16670.75	0.000
L4	72.75 - 35.75 (4)	TP74.285x59.659x0.563	31.18	4388.32	0.007	1.33	25554.00	0.000
L5	35.75 - 0 (5)	TP84.78x70.154x0.563	36.27	4889.97	0.007	1.33	33954.83	0.000

Pole Interaction Design Data

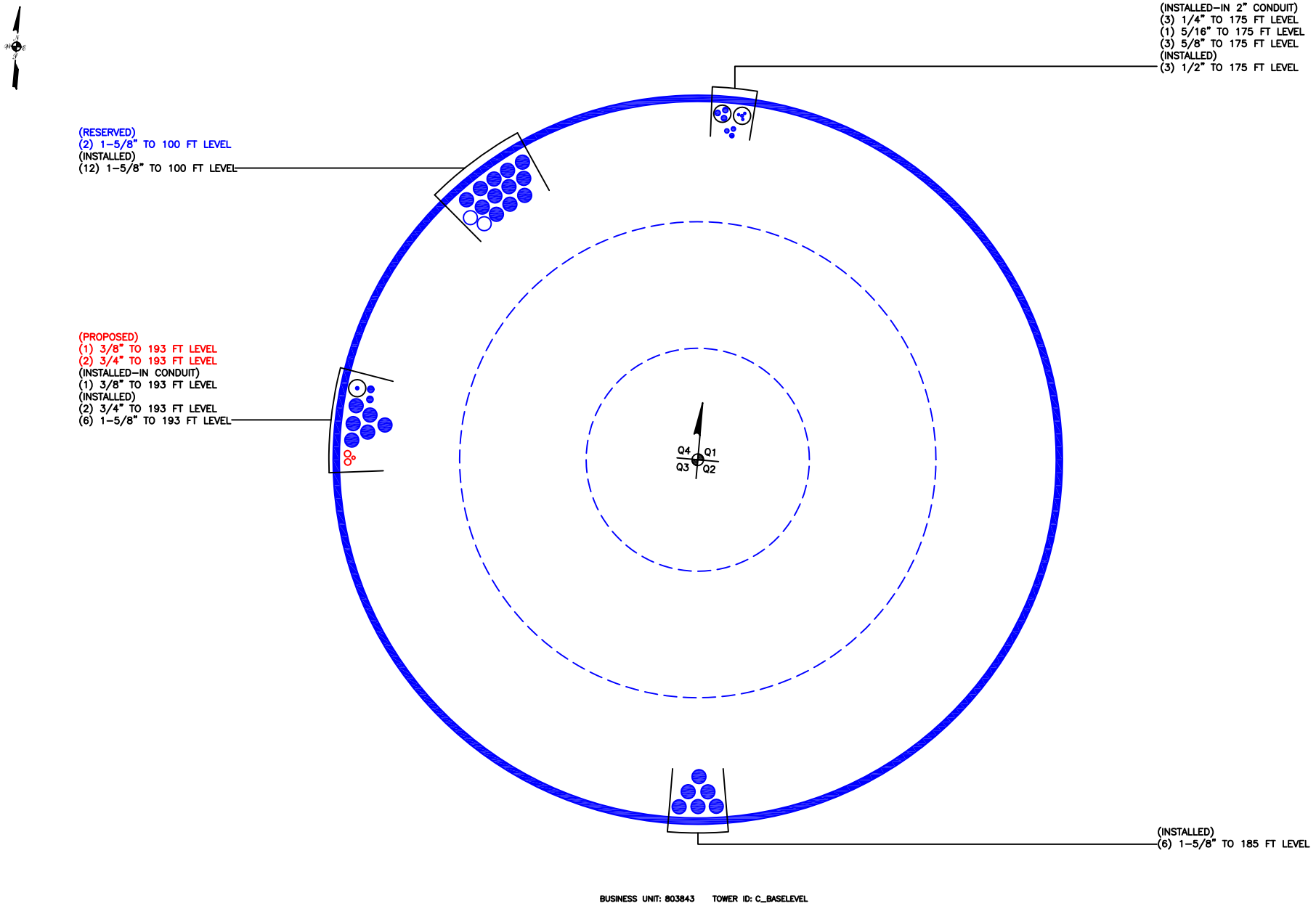
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	192 - 151.25 (1)	0.005	0.207	0.000	0.011	0.000	0.212 ✔	1.000	4.8.2 ✔
L2	151.25 - 111.25 (2)	0.005	0.207	0.000	0.007	0.000	0.212 ✔	1.000	4.8.2 ✔
L3	111.25 - 72.75 (3)	0.006	0.224	0.000	0.008	0.000	0.230 ✔	1.000	4.8.2 ✔
L4	72.75 - 35.75 (4)	0.007	0.227	0.000	0.007	0.000	0.235 ✔	1.000	4.8.2 ✔
L5	35.75 - 0 (5)	0.010	0.261	0.000	0.007	0.000	0.271 ✔	1.000	4.8.2 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	192 - 151.25	Pole	TP39.245x26x0.313	1	-13.33	2616.03	21.2	Pass
L2	151.25 - 111.25	Pole	TP51.621x36.995x0.438	2	-24.45	4908.93	21.2	Pass
L3	111.25 - 72.75	Pole	TP63.259x48.633x0.5	3	-43.56	6732.82	23.0	Pass
L4	72.75 - 35.75	Pole	TP74.285x59.659x0.563	4	-65.20	8776.63	23.5	Pass
L5	35.75 - 0	Pole	TP84.78x70.154x0.563	5	-97.34	9779.95	27.1	Pass
							Summary	
						Pole (L5)	27.1	Pass
						RATING =	**27.1**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 803843 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

Square, Stiffened / Unstiffened Base Plate, Any Rod Material - Rev. F /G

Assumptions: 1) Rod groups at corners. Total # rods divisible by 4. Maximum total # of rods = 48 (12 per Corner).
2) Rod Spacing = Straight Center-to-Center distance between any (2) adjacent rods (same corner)
3) Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#: *803843*
Site Name: *CT NEW BRITAIN 4 CAC 803*
App #: *365044 Rev. 3*

Anchor Rod Data		
Eta Factor, η	0.5	TIA G (Fig. 4-4)
Qty:	24	
Diam:	2.25	in
Rod Material:	A615-J	
Yield, Fy:	75	ksi
Strength, Fu:	100	ksi
Bolt Circle:	93	in
Anchor Spacing:	6	in

Plate Data		
W=Side:	91	in
Thick:	3.25	in
Grade:	55	ksi
Clip Distance:	9	in

Stiffener Data (Welding at both sides)		
Configuration:	Unstiffened	
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

Pole Data		
Diam:	84.78	in
Thick:	0.5625	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round

Base Reactions		
TIA Revision:	G	
Factored Moment, Mu:	4420	ft-kips
Factored Axial, Pu:	97	kips
Factored Shear, Vu:	36	kips

Anchor Rod Results

TIA G --> Max Rod (Cu+ Vu/η):	101.7	Kips
Axial Design Strength, Φ*Fu*Anet:	260.0	Kips
Anchor Rod Stress Ratio:	39.1%	**Pass**

Base Plate Results Flexural Check

Base Plate Stress:	15.0	ksi
PL Design Bending Strength, Φ*Fy:	49.5	ksi
Base Plate Stress Ratio:	30.3%	**Pass**

PL Ref. Data	
Yield Line (in):	43.91
Max PL Length:	43.91

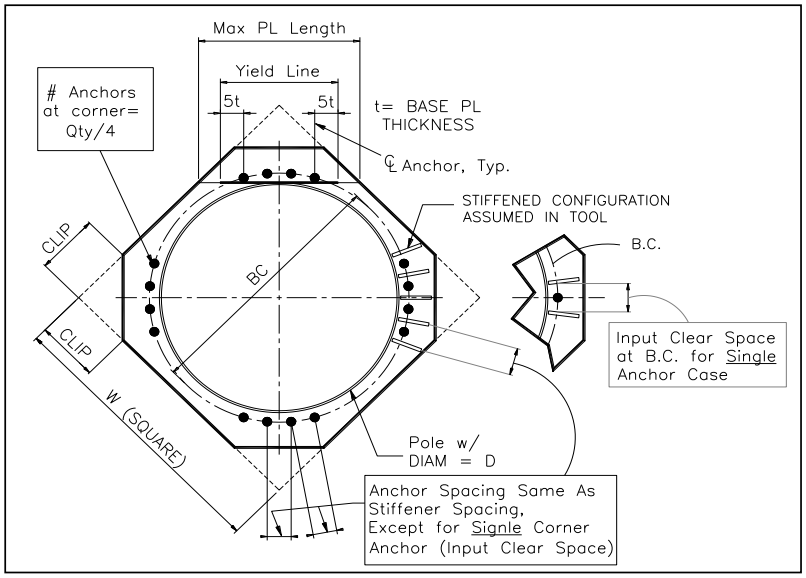
N/A - Unstiffened

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



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

CCI Foundation Tool Suite - Monopole Pier

CCIFTS 1.2.108.14286 - Phase 1-2 Date: 10/24/2016

BU:	803843
Site Name:	CT NEW BRITAIN 4 CAC 803843
App Number:	365044 Rev. 3
Work Order:	1316071

Monopole Drilled Pier

Input

Criteria

TIA Revision:	G
ACI 318 Revision:	2008
Seismic Category:	B

Forces

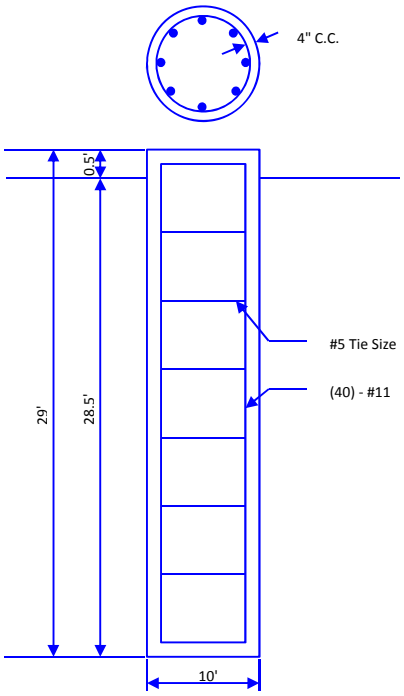
Compression	97 kips
Shear	36 kips
Moment	4420 k-ft
Swelling Force	0 kips

Foundation Dimensions

Pier Diameter:	10 ft
Ext. above grade:	0.5 ft
Depth below grade:	28.5 ft

Material Properties

Number of Rebar:	40
Rebar Size:	11
Tie Size	5
Rebar tensile strength:	60 ksi
Concrete Strength:	3000 psi
Ultimate Concrete Strain	0.003 in/in
Clear Cover to Ties:	4 in



Soil Profile: 803843

Layer	Thickness (ft)	From (ft)	To (ft)	Unit Weight (pcf)	Cohesion (psf)	Friction Angle (deg)	Ultimate Uplift Skin Friction (ksf)	Ultimate Comp. Skin Friction (ksf)	Ultimate Bearing Capacity (ksf)	SPT 'N' Counts
1	5	0	5	115	0	0	0	0	0	
2	8	5	13	115	0	30			0	
3	2	13	15	52.6	0	30			0	
4	13.5	15	28.5	70	0	34			24	

Analysis Results

Soil Lateral Capacity

Depth to Zero Shear:	7.25 ft
Max Moment, Mu:	4712.32 k-ft
Soil Safety Factor:	3.96
Safety Factor Req'd:	1.33
RATING:	33.6%

Soil Axial Capacity

Skin Friction (k):	359.67 kips
End Bearing (k):	1413.72 kips
Comp. Capacity (k), ϕCn:	1773.38 kips
Comp. (k), Cu:	97.00 kips
RATING:	5.5%

Concrete/Steel Check

Mu (from soil analysis)	4712.32	k-ft
ϕMn	14439.79	k-ft
RATING:	32.6%	
rho provided	0.55	
rho required	0.33	OK
Rebar Spacing	7.18	
Spacing required	22.56	OK
Dev. Length required	20.91	
Dev. Length provided	61.78	OK

Overall Foundation Rating: 33.6%

Monopole Pier and Pad Foundation

BU # : 803843
Site Name: CT NEW BRITAIN 4 CAC 80
App. Number: 365044 Rev. 3

TIA-222 Revision: G

Design Reactions		
Shear, **S**:	36	kips
Moment, **M**:	4420	ft-kips
Tower Height, **H**:	192	ft
Tower Weight, **Wt**:	97	kips
Base Diameter, **BD**:	7.07	ft

Foundation Dimensions		
Depth, **D**:	7	ft
Pad Width, **W**:	32.5	ft
Neglected Depth, **N**:	5.00	ft
Thickness, **T**:	4.00	ft
Pier Diameter, **Pd**:	10.00	ft
Ext. Above Grade, **E**:	0.50	ft
BP Dist. Above Pier:	3	in.
Clear Cover, **Cc**:	3.0	in

Soil Properties		
Soil Unit Weight, **γ**:	0.125	kcf
Ult. Bearing Capacity, Bc:	6.0	ksf
Angle of Friction, **Φ**:	32	deg
Cohesion, **Co**:	0.000	ksf
Passive Pressure, **Pp**:	0.000	ksf
Base Friction, **μ**:	0.50	

Material Properties		
Rebar Yield Strength, **Fy**:	60000	psi
Concrete Strength, **F'c**:	3000	psi
Concrete Unit Weight, **δc**:	0.150	kcf
Seismic Zone, **z**:	1	

Rebar Properties		
Pier Rebar Size, **Sp**:	11	
Pier Rebar Quanity, **mp**:	64	37
Pad Rebar Size, **Spad**:	11	
Pad Rebar Quanity, **mpad**:	60	11
Pier Tie Size, **St**:	4	4
Tie Quanity, **mt**:	10	5

Design Checks	Capacity/ Availability	Demand/ Limits	Check
Req'd Pier Diam.(ft)	10	9.065	**OK**
Overturning (ft-kips)	12730.77	4420.00	**34.7%**
Shear Capacity (kips)	444.78	36.00	**8.1%**
Bearing (ksf)	4.50	1.82	**40.3%**
Pad Shear - 1-way (kips)	1419.29	430.39	**30.3%**
Pad Shear - 2-way (kips)	3756.74	185.36	**4.9%**
Pad Moment Capacity (k-ft)	17467.78	1485.72	**8.5%**
Pier Moment Capacity (k-ft)	18688.75	4546.00	**24.3%**

Maximum Allowable Moment of a Circular Pier

Axial Load (Negative for Compression) = -97.00 kips

Pier Properties

Concrete:

Pier Diameter = 10.0 ft

Concrete Area = 11309.7 in^2

Reinforcement:

Clear Cover = 3.00 in

Cage Diameter = 9.38 ft

Bar Size = 11

Bar Diameter = 1.41 in

Bar Area = 1.56 in^2

Number of Bars = 64

Material Properties

Concrete compressive strength = 3000 psi

Reinforcement yield strength = 60000 psi

Modulus of elasticity = 29000 ksi

Reinforcement yield strain = 0.00207

Limiting compressive strain = 0.003

Seismic Properties

Seismic Zone = 1

Minimum Area of Steel

Required area of steel = 56.55 in^2

Provided area of steel = 99.84 in^2 **OK**

Axial Loading

Load factor = 1

Reduction factor = 0.9

Factored axial load = -108.889 kips

Neutral Axis

Distance from extreme edge to neutral axis =	20.12	in
Equivalent compression zone factor =	0.85	
Distance from extreme edge to equivalent compression zone factor =	17.10	in
Distance from centroid to neutral axis =	39.88	in

Compression Zone

Area of steel in compression zone =	23.40	in^2
Angle from centroid of pier to intersection of equivalent compression zone and edge of pier =	44.36	deg
Area of concrete in compression =	987.40	in^2
Force in concrete = 0.85 * f`c * Acc =	2517.86	kips
Total reinforcement forces =	-2408.97	kips
Factored axial load =	-108.89	kips
Force in concrete =	-2517.86	kips
Sum of the forces in concrete =	0.00	kips **OK**

Maximum Moment

First moment of the concrete area in compression about the centoid =	49203.62	in^3
Distance between centroid of concrete in compression and centroid of pier =	49.83	in
Moment of concrete in compression =	125469.23	in-kips
Total reinforcement moment =	123714.09	in-kips
Nominal moment strength of column =	249183.31	in-kips
Factored moment strength of column =	224264.98	in-kips

Maximum Allowable Moment = 18688.75 ft-kips

Individual Bars

Bar #	Angle from first bar (deg)	Distance to centroid (in)	Distance to neutral axis (in)	Distance to equivalent comp. zone (in)	Strain	Area of steel in compression (in^2)	Stress (ksi)	Axial force (kips)
1	0.00	0.00	-39.88	-42.90	-0.0059478	0.00	-60.00	-93.60
2	5.63	5.52	-34.37	-37.38	-0.005125	0.00	-60.00	-93.60
3	11.25	10.98	-28.90	-31.92	-0.00431	0.00	-60.00	-93.60
4	16.88	16.34	-23.54	-26.56	-0.0035108	0.00	-60.00	-93.60
5	22.50	21.54	-18.34	-21.36	-0.0027351	0.00	-60.00	-93.60
6	28.13	26.54	-13.35	-16.36	-0.0019903	0.00	-57.72	-90.04
7	33.75	31.28	-8.61	-11.63	-0.0012837	0.00	-37.23	-58.07
8	39.38	35.71	-4.17	-7.19	-0.0006219	0.00	-18.04	-28.14
9	45.00	39.81	-0.08	-3.09	-1.146E-05	0.00	-0.33	-0.52
10	50.63	43.52	3.63	0.62	0.0005418	1.56	15.71	20.53
11	56.25	46.81	6.92	3.91	0.0010326	1.56	29.95	42.74
12	61.88	49.65	9.76	6.75	0.0014562	1.56	42.23	61.90
13	67.50	52.01	12.13	9.11	0.0018084	1.56	52.44	77.83
14	73.13	53.87	13.99	10.97	0.002086	1.56	60.00	89.62
15	78.75	55.21	15.33	12.31	0.0022862	1.56	60.00	89.62
16	84.38	56.02	16.14	13.12	0.002407	1.56	60.00	89.62
17	90.00	56.30	16.41	13.39	0.0024475	1.56	60.00	89.62
18	95.63	56.02	16.14	13.12	0.002407	1.56	60.00	89.62
19	101.25	55.21	15.33	12.31	0.0022862	1.56	60.00	89.62
20	106.88	53.87	13.99	10.97	0.002086	1.56	60.00	89.62
21	112.50	52.01	12.13	9.11	0.0018084	1.56	52.44	77.83
22	118.13	49.65	9.76	6.75	0.0014562	1.56	42.23	61.90
23	123.75	46.81	6.92	3.91	0.0010326	1.56	29.95	42.74
24	129.38	43.52	3.63	0.62	0.0005418	1.56	15.71	20.53
25	135.00	39.81	-0.08	-3.09	-1.146E-05	0.00	-0.33	-0.52
26	140.63	35.71	-4.17	-7.19	-0.0006219	0.00	-18.04	-28.14
27	146.25	31.28	-8.61	-11.63	-0.0012837	0.00	-37.23	-58.07
28	151.88	26.54	-13.35	-16.36	-0.0019903	0.00	-57.72	-90.04
29	157.50	21.54	-18.34	-21.36	-0.0027351	0.00	-60.00	-93.60
30	163.13	16.34	-23.54	-26.56	-0.0035108	0.00	-60.00	-93.60
31	168.75	10.98	-28.90	-31.92	-0.00431	0.00	-60.00	-93.60
32	174.38	5.52	-34.37	-37.38	-0.005125	0.00	-60.00	-93.60
33	180.00	0.00	-39.88	-42.90	-0.0059478	0.00	-60.00	-93.60
34	185.63	-5.52	-45.40	-48.42	-0.0067707	0.00	-60.00	-93.60
35	191.25	-10.98	-50.87	-53.88	-0.0075857	0.00	-60.00	-93.60
36	196.88	-16.34	-56.23	-59.24	-0.0083849	0.00	-60.00	-93.60
37	202.50	-21.54	-61.43	-64.44	-0.0091606	0.00	-60.00	-93.60
38	208.13	-26.54	-66.42	-69.44	-0.0099054	0.00	-60.00	-93.60
39	213.75	-31.28	-71.16	-74.18	-0.010612	0.00	-60.00	-93.60
40	219.38	-35.71	-75.60	-78.61	-0.0112738	0.00	-60.00	-93.60
41	225.00	-39.81	-79.69	-82.71	-0.0118842	0.00	-60.00	-93.60
42	230.63	-43.52	-83.40	-86.42	-0.0124375	0.00	-60.00	-93.60
43	236.25	-46.81	-86.69	-89.71	-0.0129283	0.00	-60.00	-93.60
44	241.88	-49.65	-89.53	-92.55	-0.0133519	0.00	-60.00	-93.60
45	247.50	-52.01	-91.89	-94.91	-0.0137041	0.00	-60.00	-93.60
46	253.13	-53.87	-93.75	-96.77	-0.0139817	0.00	-60.00	-93.60
47	258.75	-55.21	-95.10	-98.11	-0.0141818	0.00	-60.00	-93.60

CCISeismic - Design Category

Per *2012/2015 IBC*

Site BU: 803843
Work Order: 1316071
Application: 365044 Rev. 3

	Degrees	Minutes	Seconds		
Site Latitude =	41	39	16.40	41.6546	degrees
Site Longitude =	-72	46	9.59	-72.7693	degrees
Ground Supported Structure =	Yes				
Structure Class =	II			*(Table 2-1)*	
Site Class =	D - Stiff Soil			*(Table 2-11)*	

Spectral response acceleration short periods, S_S =	0.183	USGS Seismic Tool
Spectral response acceleration 1 s period, S_1 =	0.064	

Importance Factor, I =	1.0	*(Table 2-3)*
Acceleration-based site coefficient, F_a =	1.6	*(Table 2-12)*
Velocity-based site coefficient, F_v =	2.4	*(Table 2-13)*

Design spectral response acceleration short period, S_{DS} =	0.195	*(2.7.6)*
Design spectral response acceleration 1 s period, S_{D1} =	0.102	*(2.7.6)*

Seismic Design Category - Short Period Response =	B	*ASCE 7-05 Table 11.6-1*
Seismic Design Category - 1s Period Response =	B	*ASCE 7-05 Table 11.6-2*

Worst Case Seismic Design Category =	B	*ASCE 7-05 Tables 11.6-1 and 6-2*

EBI Consulting
environmental | engineering | due diligence

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

AT&T Existing Facility

Site ID: CT5194

New Britain SE
200 Stanley Street
New Britain, CT 06051

October 31, 2016

EBI Project Number: 6216004905

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	7.47 %

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

October 31, 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: **CT5194 – New Britain SE**

EBI Consulting was directed to analyze the proposed AT&T facility located at **200 Stanley Street, New Britain, 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 **200 Stanley Street, New Britain, 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 GSM channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 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.

5) 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.

6) 2 LTE channels (2300 MHz (WCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 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.

8) 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.

9) The antennas used in this modeling are the **Kathrein 800-10121, CCI TPA-65R-LCUUUU-H8 and the Quintel QS66512-3** for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

10) The antenna mounting height centerlines of the proposed antennas are **195 feet** above ground level (AGL) for **Sector A**, **195 feet** above ground level (AGL) for **Sector B** and **195 feet** above ground level (AGL) for Sector C.

11) 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:	Kathrein 800-10121	Make / Model:	Kathrein 800-10121	Make / Model:	Kathrein 800-10121
Gain:	11.45 / 14.35 dBd	Gain:	11.45 / 14.35 dBd	Gain:	11.45 / 14.35 dBd
Height (AGL):	**195 feet**	Height (AGL):	**195 feet**	Height (AGL):	**195 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	6	Channel Count	6	Channel Count	6
Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts
ERP (W):	4,105.06	ERP (W):	4,105.06	ERP (W):	4,105.06
Antenna A1 MPE%	**0.48 %**	Antenna B1 MPE%	**0.48 %**	Antenna C1 MPE%	**0.48 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	CCI TPA-65R-LCUUUU-H8	Make / Model:	CCI TPA-65R-LCUUUU-H8	Make / Model:	Quintel QS66512-3
Gain:	12.95 / 13.75 dBd	Gain:	12.95 / 13.75 dBd	Gain:	11.1 / 12.78 dBd
Height (AGL):	**195 feet**	Height (AGL):	**195 feet**	Height (AGL):	**195 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):	5,212.56	ERP (W):	5,212.56	ERP (W):	3,821.95
Antenna A2 MPE%	**0.80 %**	Antenna B2 MPE%	**0.80 %**	Antenna C2 MPE%	**0.56 %**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	CCI OPA-65R-LCUU-H8	Make / Model:	CCI OPA-65R-LCUU-H8	Make / Model:	CCI OPA-65R-LCUU-H8
Gain:	14.95 dBd	Gain:	14.95 dBd	Gain:	14.95 dBd
Height (AGL):	**195 feet**	Height (AGL):	**195 feet**	Height (AGL):	**195 feet**
Frequency Bands	2300 MHz (WCS)	Frequency Bands	2300 MHz (WCS)	Frequency Bands	2300 MHz (WCS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	3,751.30	ERP (W):	3,751.30	ERP (W):	3,751.30
Antenna A3 MPE%	**0.38 %**	Antenna B3 MPE%	**0.38 %**	Antenna C3 MPE%	**0.38 %**

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max per sector	**1.65 %**
Clearwire	0.07 %
MetroPCS	0.38 %
Verizon Wireless	5.37 %
Site Total MPE %:	**7.47 %**

AT&T Sector A Total:	1.65 %
AT&T Sector B Total:	1.65 %
AT&T Sector C Total:	1.42 %
Site Total:	7.47 %

AT&T _ Frequency Band / Technology (Max Values: Sectors A&B)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	418.91	195	0.84	850 MHz	567	0.15%
AT&T 1900 MHz (PCS) UMTS	2	816.81	195	1.64	1900 MHz (PCS)	1000	0.16%
AT&T 1900 MHz (PCS) GSM	2	816.81	195	1.64	1900 MHz (PCS)	1000	0.16%
AT&T 700 MHz LTE	2	1,183.45	195	2.38	700 MHz	467	0.51%
AT&T 1900 MHz (PCS) LTE	2	1,422.82	195	2.86	1900 MHz (PCS)	1000	0.29%
AT&T 2300 MHz (WCS) LTE	2	1,875.65	195	3.78	2300 MHz (WCS)	1000	0.38%
						Total:	1.65%

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:	1.65 %
Sector B:	1.65 %
Sector C:	1.42 %
AT&T Maximum Total (per sector):	1.65 %
Site Total:	7.47 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **7.47 %** 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.