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

October 12, 2018

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

RE: **Notice of Exempt Modification for T-Mobile Crown Site BU: 842869**
T-Mobile Site ID: CT11733B
450-478 West Main Street, Meriden, CT 06451
Latitude: 41° 32′ 24.24″/ Longitude: -72° 49′ 9.06″

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) existing antennas at the 90' level of the existing 100' monopole tower at 450-478 West Main Street in Meriden, CT. The tower is owned by Crown Castle. The property is owned by Hunters Ambulance Service Inc. T-Mobile now intends to replace six (6) of its existing antennas with six (6) proposed antennas. T-Mobile also intends to replace (3) RRUs and swap out (1) coax for (1) new hybrid fiber cable.

This facility was approved by the by the Connecticut Siting Council on March 11, 2003. This approval was given without conditions.

This modification complies with the aforementioned condition(s).

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 Kevin Scarpati, Mayor, City of Meriden, Bob Seale, Director of Development & Enforcement, as well as the property owner, and Crown Castle is the tower owner.

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

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

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

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

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

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

For the foregoing reasons, T-Mobile 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: William Stone.

Sincerely,

William Stone
Real Estate Specialist
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
518-373-3543
William.stone@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 Kevin Scarpati, Mayor, City of Meriden
142 East Main Street
Meriden, CT 06450

Bob Seale, Director of Development & Enforcement
142 East Main Street
Meriden, CT 06450

Hunters Ambulance Service Inc
450 West Main Street
Meriden, CT 06451

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

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Petition No. 614
AT&T Wireless PCS, LLC
Staff Report
March 11, 2003

On March 5, 2003, Connecticut Siting Council (Council) member Philip T. Ashton and Christina Lepage of the Council staff met with AT&T Wireless PCS, LLC (AT&T) representatives Anthony Gioffre III, and Charisma King at 450-478 West Main Street, Meriden, Connecticut for the inspection of an existing tower site. The existing property and structure are owned by Hunters Family Limited Partnership. AT&T proposes to replace the existing structure and is petitioning the Council for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (Certificate) is required for the modification.

The existing facility consists of a 100-foot guyed lattice tower, which is currently used by Hunter's Ambulance Company. AT&T proposes to replace the existing guyed lattice tower with a 100-foot monopole approximately 15 feet to the southeast. Existing antennas used by the ambulance company would be relocated to the top of the monopole. AT&T proposes to install 6 panel antennas at the 100-foot level of the proposed monopole. The proposed monopole would be designed to accommodate the antennas of two additional carriers.

The proposed equipment would be located at the base of the tower within 7-foot by 16-foot equipment pad. An 8-foot high stockade fence would surround the equipment compound. AT&T proposes to install a retaining wall along the southern portion of the equipment compound.

Access to the site would be via an existing driveway. AT&T proposes to provide utilities to the site overhead from an existing utility pole to the south. The utility corridor would cross over property recently purchased by Hunter's Ambulance Company. Two new poles would be necessary to install a utility line to the site. AT&T submits that the proposed overhead utility installation would cause the least amount of disturbance to the site and surrounding area, due to the presence of bedrock, sidewalks and a parking lot.

Surrounding land uses include a mix of residential and commercial uses. The proposed site is zoned Commercial. The calculated cumulative worst-case radio frequency power density would not exceed the applicable standard.

AT&T contends that it would not need to construct a telecommunications tower to provide coverage to this area of Meriden, and the proposed modification of the existing structure would not cause a substantial adverse environmental effect. Staff recommends approval, with the condition that the tower be situated so as to avoid the removal of an existing tree.

CITY OF MERIDEN
GIS Services

Property Information: Address: 450 WEST MAIN ST Map/Lot: 0612-0202-0001-0002 Card Number: 1

Owner Information: HUNTER FAMILY LTD PRTSHP Owner Address: 450 W MAIN ST
MERIDEN, CT 06451

Building Information:

Units:
Living Area: 13948
Year Built: 1980
Eff. Age:
Rooms:
Bedrooms:

Full Bath:
Full Bath Rating:
Half Bath:
Half Bath Rating:

Heat Type: Forced Air
Style: Mixed Use-M
Ext Wall: Brick
Roof Mat: Asphalt
Roof Struct: Gable
Fireplaces:
Grade: C

Special Features:

Description	Condition	YearBuilt	AssessedValue
FENCE-5 CHAIN	AV	1980	$3,700
PAVING ASPHALT	AV	1980	$9,600

Appraisal Information: **Tax District:** 2 **District Name:** INNER DISTRICT **District Mill Rate:** 39.70

Current Building Value: $640,100
Current Yard Items: $13,300
Current Land Value: $487,400
Current Total: $1,140,800
Assessment: $798,560
(Assessment is 70% of appraised value)

Special Land Value: $0

Previous Year: 2015
Previous Building Value: $1,549,300
Previous Yard Items: $40,500
Previous Land Value: $487,400
Previous Total: $2,077,200

Land Information:

Type	Lot Size	Lot Unit	Zoning*
Commercial Building	113,286.00	SF	C-2
Commercial Building	0.00	SF	C-2
Commercial Building	0.00	SF	C-2

Total Acreage:2.60
*Confirm zoning with Planning Office. Zoning map is the official document.

Sales Information:

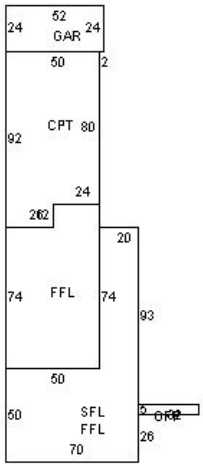
Book	Page	Grantor	Sale Date	Sale Price	Deed Type
2322	336		12/31/1997	$650,000	

Assessor's Permit History:

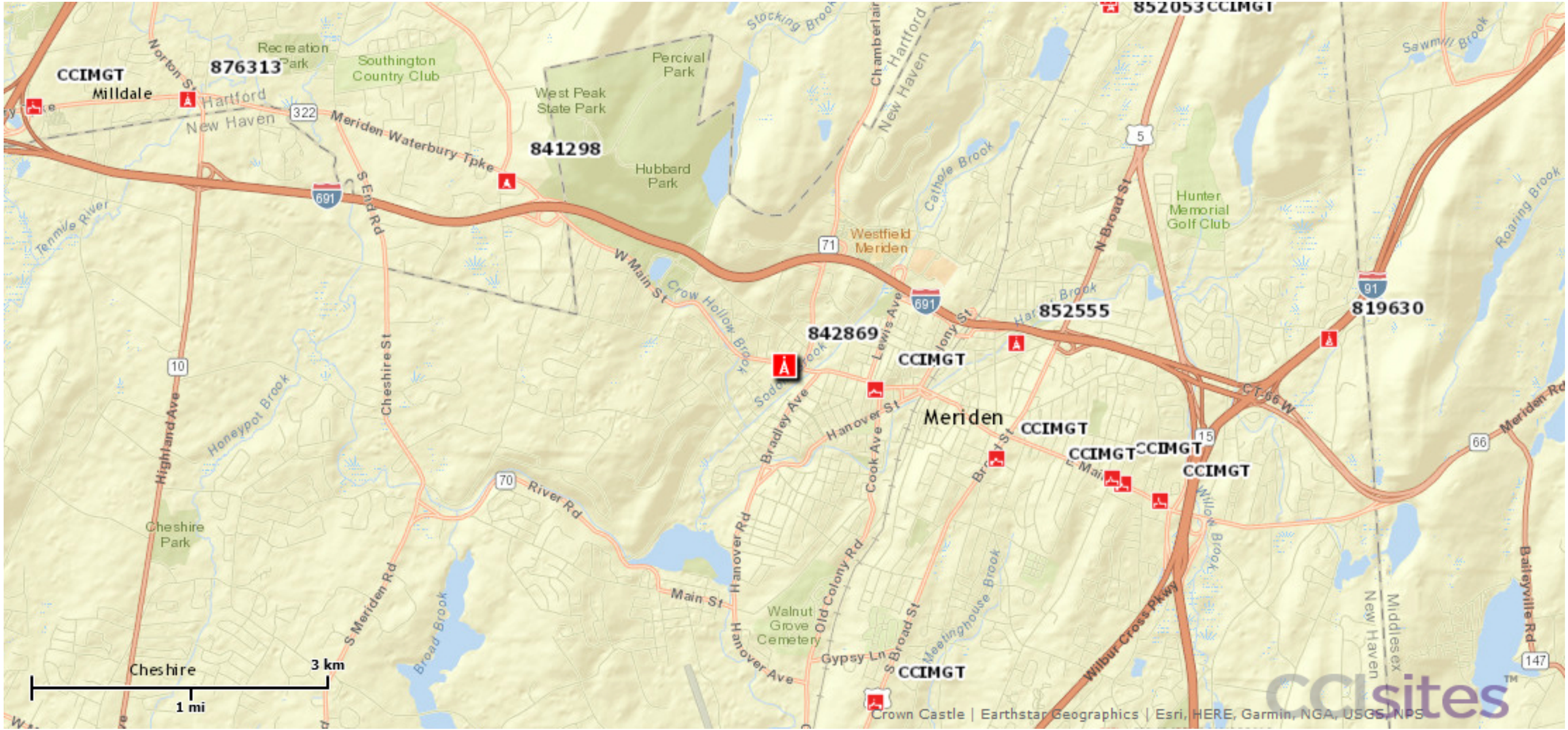
Date	Permit Number	Notes	Type
7/15/2016	B-16-659	REPLACE 3 ANTENNAI W/NEW.	
9/24/2015	B-15-743	AT&T ADD 3 ANTENNAE/3 RRU`S/1 FIBER LINE TO EXISTING EQUIPMENT ON TOWER.	
6/22/2015	E-15-295		

		INSTALL NEW 150A SERVICE (VERIZON).aPPROVED BY BLDG DEPT.	
5/18/2015	E-15-210	NEW 200A/3PH/4W/ SERVICE FROM MDP TO SHELTER BLDG.	
4/6/2015	P-15-64	NEW GAS SUPPLY TO GENEERATOR INSTALLED.Est complete.	
2/20/2015	B-15-61	INSTALL ANTENNAE & GROUND EQUIPMENT FOR VERIZON WIRELESS TELE.Appears complete.	
1/5/2015	B-14-285	ADD ANTENNAE TO EXISTING TOWER.aPPEARS COMPLETE.	
7/21/2014	2157	3 NEW SPRINT ANTENNAS.Est complete.	
6/6/2014	1664	RRU`S TO TOWER/RADIO UNITS.Est complete.	
6/6/2014	1665	WIRE NEW RXAIT TOWER.Est complete.	
2/25/2013	473	SPRINT - MODIF. TO TELEC. INSTALLATION ON MONOPOLE TOWER, REPL. 3 ANTENNA & CABLES AND ADD RRH`S AND NOTCH FILTERS BEHIND THE NEW ANTENNA ON TOWER, ADD CIENA EQUIP. ENCL. & FIBER JUNCTION BOX & EITHER RETROFIT OR REPLACE BTS CABINET WITHIN EQUIP. SHELTER.	
12/21/2012	3950	AT&T - REMOVE & REPLACE ONE D.C. POWER CABINET, INSTALL NEW LTE EQUIPMENT ON OPEN SLAB, CONDUITS, AC & DC CIRCUITS, FIBER OPTICS, GROUNDING & BONDING.	
11/1/2012	3422	AT&T - ADD 3 LTE ANTENNAS, SURGE ARRESTOR, RRU`S, PURCELL CABINET, CONCRETE PAD & DC/FIBER LINES	
12/5/2003	4261	AT&T WIRELESS CELLSITE	CA
12/5/2003	4261	200 AMP SERV	CA
8/28/2003	3042	REP EX COMMUNI TOWER	CA
8/28/2003	3042	INSTALL COMMUNICA EQUIPME	CA

Property Images



96630612-0202-0001-0002 1


852053 CCIMGT
CCIMGT
Milldale
876313
Recreation Park
Southington Country Club
Percival Park
West Peak State Park
841298
Hubbard Park
Hartford
New Haven
322
Meriden Waterbury Tpke
691
S End Rd
Tenmile River
71
W Main St
Crow Hollow Brook
Westfield Meriden
Cathole Brook
Chamberlain Hartford New Haven
Stocking Brook
Sawmill Brook
5
N Broad St
Hunter Memorial Golf Club
Roaring Brook
91
819630
852555
842869
CCIMGT
Lewis Ave
Colony St
Hanover St
Meriden
CCIMGT
CCIMGT
CCIMGT
CCIMGT
CT-66 W
15
66
Meriden Rd
Bradley Ave
Cook Ave
Broad St
E Main St
Willow Brook
10
Highland Ave
Honeypot Brook
Cheshire St
70
River Rd
Cheshire Park
S Meriden Rd
Broad Brook
Main St
Hanover Rd
Hanover Ave
Old Colony Rd
Walnut Grove Cemetery
Gypsy Ln
Meetinghouse Brook
S Broad St
CCIMGT
Wilbur Cross Pkwy
Middlesex New Haven
Baileyville Rd
147
Cheshire
3 km
1 mi
Crown Castle | Earthstar Geographics | Esri, HERE, Garmin, NGA, USGS, NPS
cclsites™

SHEET INDEX

NO.	DESCRIPTION
T1	TITLE PAGE
N1	NOTES
C1	PLAN & ELEVATION
C2	RF CHART AND ORIENTATION
D1	EQUIPMENT DETAILS
E1	GROUNDING DIAGRAM
E2	RF PLUMBING DIAGRAM

TOWER OWNER NOTIFICATION

ONCE THE CONTRACTOR HAS RECEIVED AND ACCEPTED THE NOTICE TO PROCEED, CONTRACTOR WILL CONTACT THE CROWN CASTLE CONSTRUCTION MANAGER OF RECORD (NOTED ON THE FIRST PAGE ON THIS CONSTRUCTION DRAWING) A MINIMUM OF 48 HOURS PRIOR TO WORK START. UPON ARRIVAL TO THE JOB SITE, CONTRACTOR CREW IS REQUIRED CALL 1-800-788-7011 TO NOTIFY THE CROWN CASTLE NOC WORK HAS BEGUN.

T··Mobile·

CROWN CASTLE

CBU

CBU # 842869

SITE ID

CT11733B

SITE NAME

CT733/AT&THNTR AMBLNCE FT

SITE ADDRESS

462 WEST MAIN ST.
MERIDEN, CT 06451

CONFIGURATION

67D92M

PROJECT SITE INFORMATION

SITE ID:	CT11733B	
SITE NAME:	CT733/AT&THNTR AMBLNCE FT	
SITE ADDRESS:	462 WEST MAIN ST. MERIDEN, CT 06451	
PERMITTING JURISDICTION:	TOWN OF MERIDEN	
COUNTY:	NEW HAVEN COUNTY	
ZONING:	C-2	
SITE COORDINATES: LATITUDE: LONGITUDE:	 41.540031° -72.819019°	 (NAD 83) (NAD 83)
APPLICANT:	T-MOBILE NORTHEAST LLC 103 MONARCH DRIVE LIVERPOOL, NY 13088	

STRUCTURAL ANALYSIS INFORMATION

TOWER ANALYSIS

BASED ON THE STRUCTURAL ANALYSIS COMPLETED BY **B&T GROUP** DATED **07/30/2018.** THE EXISTING TOWER IS CAPABLE OF SUPPORTING THE PROPOSED EQUIPMENT CONFIGURATION.

ANTENNA MOUNTS

BASED ON THE MOUNT ANALYSIS COMPLETED BY **INFINIGY ENGINEERING, PLC** DATED **07/23/2018.** THE EXISTING ANTENNA MOUNTS ARE CAPABLE OF SUPPORTING THE PROPOSED EQUIPMENT CONFIGURATION

PROJECT TEAM INFORMATION

CLIENT REPRESENTATIVE:	CROWN CASTLE 3 CORPORATE PARK DRIVE SUITE 101 CLIFTON PARK, NY 12065
CLIENT REP. CONTACT:	WILL STONE (518) 373-3543
ENGINEER:	INFINIGY 6865 DEERPATH ROAD SUITE 152 ELKRIDGE, MD 21075
ENGINEER CONTACT:	MATTHEW LIVERETTE (518) 690-0790

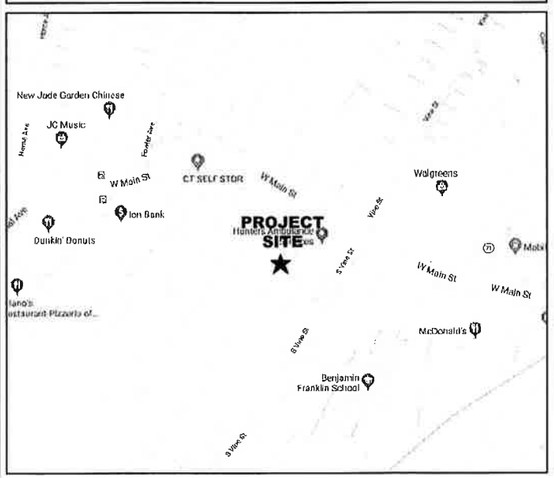
SCOPE OF WORK

SCOPE OF WORK:
TMO L700 4X2 67D92M (CONNECTICUT MARKET) REPLACING (6) EXISTING ANTENNAS WITH NEW MODELS. REMOVING (1) COAX LINE AND REPLACING WITH (1) HYBRID FIBER CABLE. REPLACING (3) RRUS WITH NEW MODELS AND ADDING (3) NEW RRUS.
CURRENT INSTALL: (9) ANTENNAS, (11) COAX, (2) HYBRID FIBER CABLES, (3) TMA'S, AND (3) RRUS. NO CHANGES MADE TO LEASED GROUND SPACE.
FINAL CONFIGURATION: (9) ANTENNAS, (10) COAX, (3) HYBRID FIBER CABLES, (3) TMA'S, AND (6) RRUS.

811 Know what's below. Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN CONNECTICUT, CONTACT CALL BEFORE YOU DIG
TOLL FREE: 1-800-822-4455 OR www.cbyd.com
CONNECTICUT STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

LOCATION MAP



GENERAL NOTES

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRH AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.
- THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON STORMWATER DRAINAGE.
- NO SANITARY SEWER, POTABLE WATER, OR TRASH DISPOSAL SERVICE IS REQUIRED
- NO COMMERCIAL SIGNAGE IS PROPOSED

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED WITH ANY LOCAL AMENDMENTS BY THE LOCAL GOVERNING AUTHORITIES:

- INTERNATIONAL BUILDING CODE
- NATIONAL ELECTRICAL CODE
- NATIONAL FIRE PROTECTION ASSOCIATION 101
- NATIONAL FIRE PROTECTION ASSOCIATION 1
- LOCAL BUILDING CODES
- CITY/COUNTY ORDINANCES
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATIONS (AISC)
- UNDERWRITERS LABORATORIES APPROVED ELECTRICAL PRODUCTS.
- ANSI EIA/TIA 222 REV. G
- TIA 607
- INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS 81
- IEEE C2 (LATEST EDITION)
- TELCORDIA GR-1275
- ANSI T1.311

T··Mobile·
T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088

INFINIGY
6865 DEERPATH ROAD SUITE 152
ELKRIDGE, MD 21075
TEL (443) 592-3143

STATE OF CONNECTICUT · JOHN S. STEVENS · No. 24705 · LICENSED PROFESSIONAL ENGINEER
OCT 2 0 2018

No.	Submittal / Revision	App'd	Date
0	ISSUED FOR CONSTRUCTION	RCD	09/19/18
B	RFDS/ORDER UPDATED	RCD	09/13/18
A	ISSUED FOR REVIEW	RCD	08/02/18

Drawn: RCD
Designed: MRL
Checked: AMD

Project Number: 600-007

Project Title:
CT11733B
CT733/AT&THNTR AMBLNCE FT
462 WEST MAIN ST.
MERIDEN, CT 06451

Prepared For: CROWN CASTLE

Drawing Title
TITLE PAGE

Drawing Number
T1

GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
- A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
- B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
- C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
- D. AND NFPA 101 (LIFE SAFETY CODE).
- E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
- F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).

1.2 DEFINITIONS:
A: WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B: COMPANY: T-MOBILE CORPORATION
C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
D: CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
E: THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.

1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.7 NOTICE TO PROCEED:
A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE T-MOBILE WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY T-MOBILE TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.

2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR T-MOBILE PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
- A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
- B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
- C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
- D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO T-MOBILE OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
- E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
- F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.

4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

5.1 TESTS AND INSPECTIONS:
- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
- C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
- D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
- E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
- F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
- G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.

A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.

B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.

C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.

E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.

F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.

G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
F	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
T	TRANSFORMER
KWH	KILOWATT HOUR METER
JB	JUNCTION BOX
PB	PULL BOX TO NEC/TELCO STANDARDS
	UNDERGROUND UTILITIES
	EXOTHERMIC WELD CONNECTION
	MECHANICAL CONNECTION
OR	GROUND ROD
OR	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	120AC DUPLEX RECEPTACLE
G	GROUND CONDUCTOR
	DC POWER AND FIBER OPTIC TRUNK CABLES
E	DC POWER CABLES
# / #	REPRESENTS DETAIL NUMBER / REF. DRAWING NUMBER

ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL

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JOHN S. STEVENS
PROFESSIONAL ENGINEER
LICENSED
SEP 20 2018

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A	ISSUED FOR REVIEW	RCD	08/02/18

Drawn: RCD
Designed: MRL
Checked: AJD

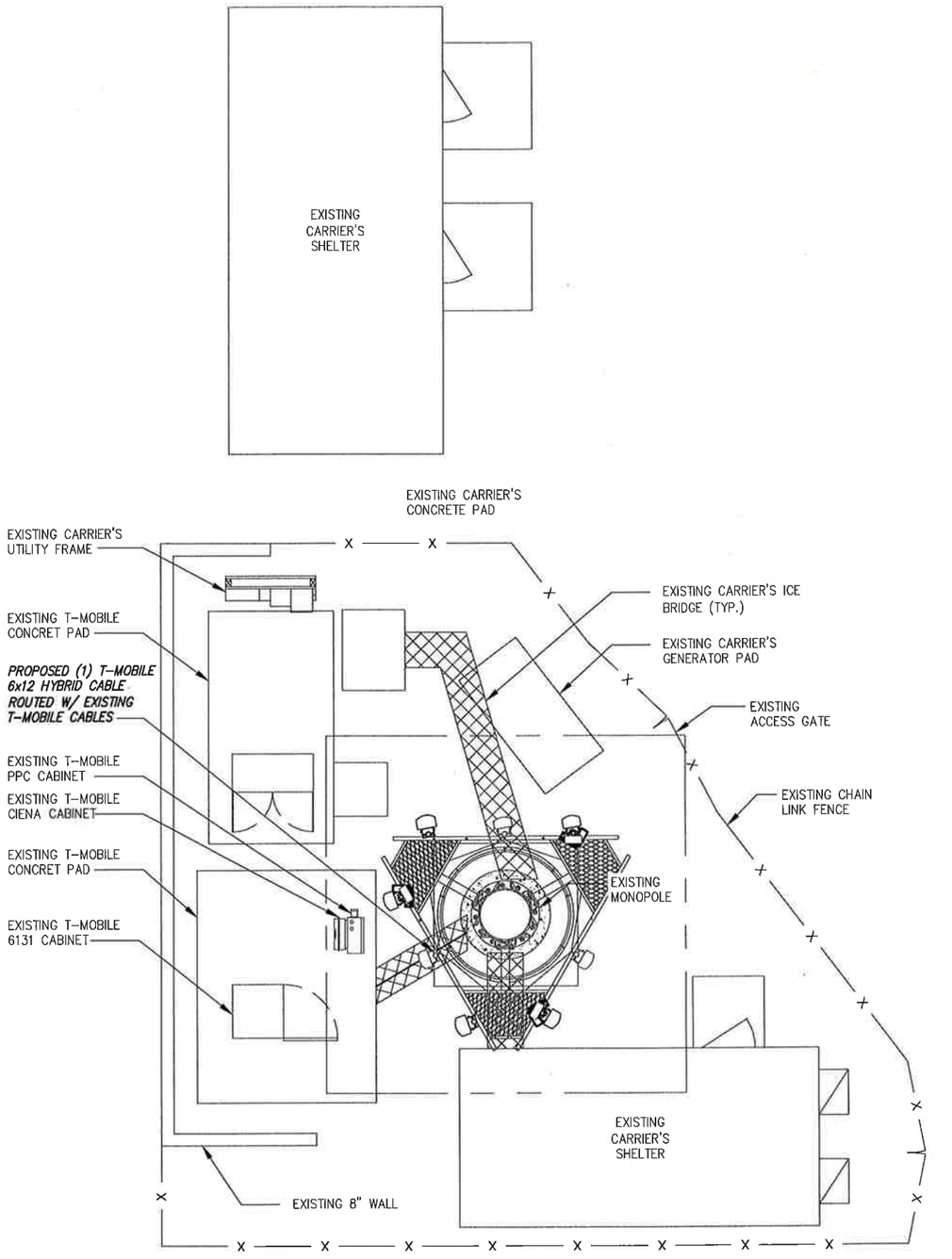
Project Number: 600-007

Project Title:
CT11733B
CT733/AT&THNTR
AMBLNCE FT
462 WEST MAIN ST.
MERIDEN, CT 06451

Prepared For: CROWN CASTLE

Drawing Title: **NOTES**

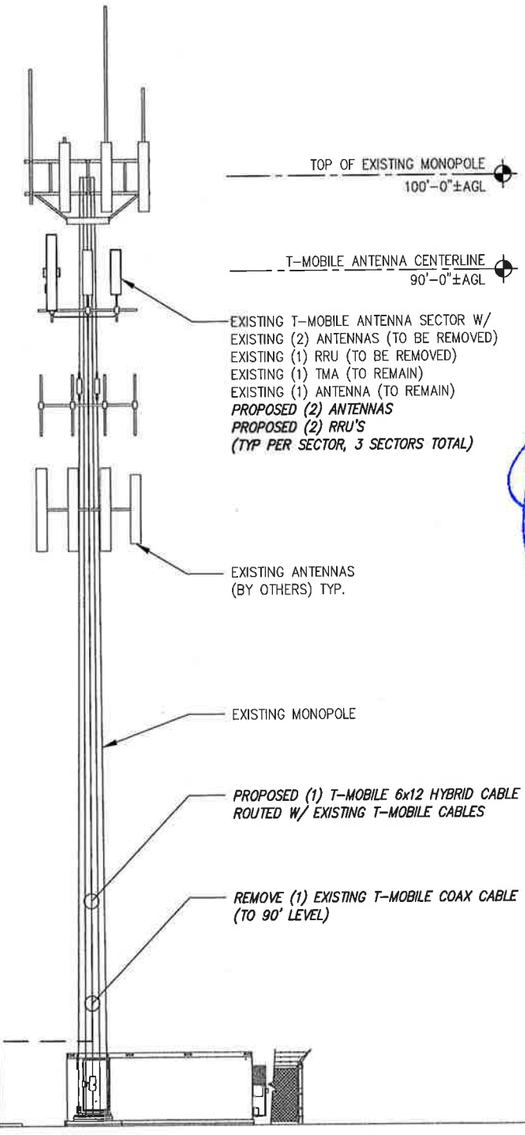
Drawing Number: **N1**



NORTH

1 / C1 PLAN VIEW
SCALE: AS NOTED

GRAPHIC SCALE:
10' 5' 0 5' 10'
SCALE (11x17): 1" = 10'-0"
SCALE (22x34): 1" = 5'-0"



2 / C1 ELEVATION
SCALE: NOT TO SCALE

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No. 24705
SEP 20 2018
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Drawing Title
PLAN AND ELEVATION

Drawing Number
C1

SECTOR	ANTENNA POSITION	ANTENNA MODEL #	VENDOR	AZIMUTH	M-TILT	E-TILT	ANTENNA CENTERLINE	TMA/RRU MODEL #	CABLE LENGTH	CABLE TYPE AND QUANTITY
ALPHA	A-1	**AIR3246 B66**	**ERICSSON**	**60°**	TBD	2°/2°	90'-0"	–	**140'±**	**(1) 6X12 HYBRID TRUNK CABLE (SHARED)**
	A-2	AIR32 KRD901146-1_B66A_B2A	ERICSSON	60°	TBD	2°/2°	90'-0"	–	140'±	(1) 6X12 HYBRID TRUNK CABLE (SHARED)
	A-3	**APXVAARR24_43-U-NA20**	**RFS**	**60°**	TBD	2°/2°	90'-0"	**4449 B71+B12** **2217 B2**	**140'±**	**(1) 6X12 HYBRID TRUNK CABLE (SHARED)**
								TWIN STYLE 1B TMA	140'±	(4) 7/8" COAX
BETA	B-1	**AIR3246 B66**	**ERICSSON**	**190°**	TBD	2°/2°	90'-0"	–	**140'±**	**(1) 6X12 HYBRID TRUNK CABLE (SHARED)**
	B-2	AIR32 KRD901146-1_B66A_B2A	ERICSSON	190°	TBD	2°/2°	90'-0"	–	140'±	(1) 6X12 HYBRID TRUNK CABLE (SHARED)
	B-3	**APXVAARR24_43-U-NA20**	**RFS**	**190°**	TBD	2°/2°	90'-0"	**4449 B71+B12** **2217 B2**	**140'±**	**(1) 6X12 HYBRID TRUNK CABLE (SHARED)**
								TWIN STYLE 1B TMA	140'±	(4) 7/8" COAX
GAMMA	C-1	**AIR3246 B66**	**ERICSSON**	**290°**	TBD	2°/2°	90'-0"	–	**140'±**	**(1) 6X12 HYBRID TRUNK CABLE (SHARED)**
	C-2	AIR32 KRD901146-1_B66A_B2A	ERICSSON	290°	TBD	2°/2°	90'-0"	–	140'±	(1) 6X12 HYBRID TRUNK CABLE (SHARED)
	C-3	**APXVAARR24_43-U-NA20**	**RFS**	**290°**	TBD	2°/2°	90'-0"	**4449 B71+B12** **2217 B2**	**140'±**	**(1) 6X12 HYBRID TRUNK CABLE (SHARED)**
								TWIN STYLE 1B TMA	140'±	(2) 7/8" COAX

1 C2 RF SYSTEM CHART
SCALE: NOT TO SCALE

KEY

EXISTING
PROPOSED

ANTENNA LOCATION KEY

VIEWED FROM BEHIND

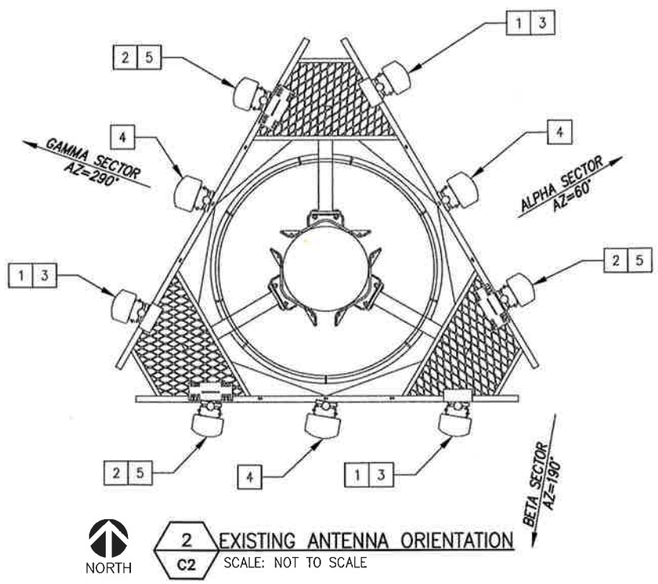
#1 #2 #3

GENERAL NOTES:

1. CONTRACTOR TO VERIFY PROPOSED ANTENNA INFORMATION IS THE MOST CURRENT AT TIME OF CONSTRUCTION.
2. CONTRACTOR TO CONFIRM CABLE LENGTHS FOR ANY PROPOSED CABLES/JUMPERS PRIOR TO CONSTRUCTION.

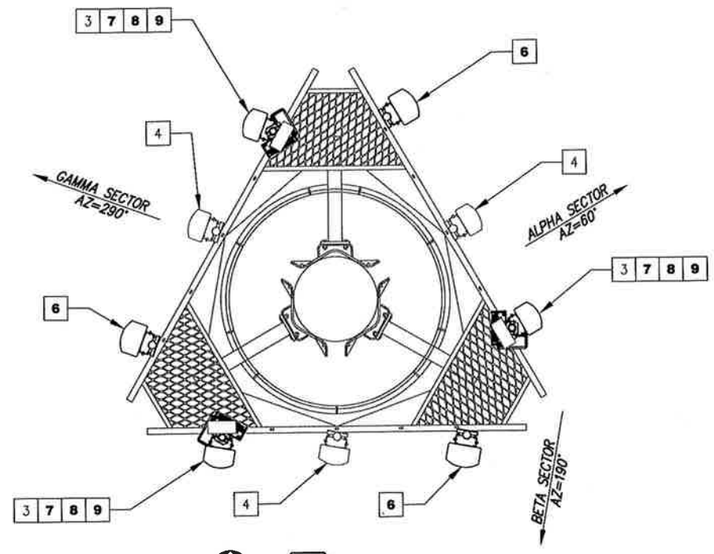
ORIENTATION PLAN KEY

KEY	DESCRIPTION	TYPE	QTY	STATUS
1	AIR21 KRC118023-1_B2A_B4P	ANTENNA	3	REMOVED
2	LNX-6515DS-A1M	ANTENNA	3	REMOVED
3	GENERIC TWIN STYLE 1B	TMA	3	REMAIN
4	AIR32 KRD901146-1_B66A_B2A	ANTENNA	3	REMAIN
5	RRUS11 B12	RRU	3	REMOVED
6	**AIR3246 B66**	**ANTENNA**	**3**	**PROPOSED**
7	**APXVAARR24_43-U-NA20**	**ANTENNA**	**3**	**PROPOSED**
8	**4449 B12/B71**	**RRU**	**3**	**PROPOSED**
9	**2217 B2**	**RRU**	**3**	**PROPOSED**



NORTH

2 C2 EXISTING ANTENNA ORIENTATION
SCALE: NOT TO SCALE



NORTH

3 C2 PROPOSED ANTENNA ORIENTATION
SCALE: NOT TO SCALE

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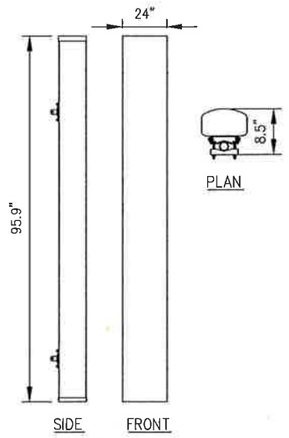
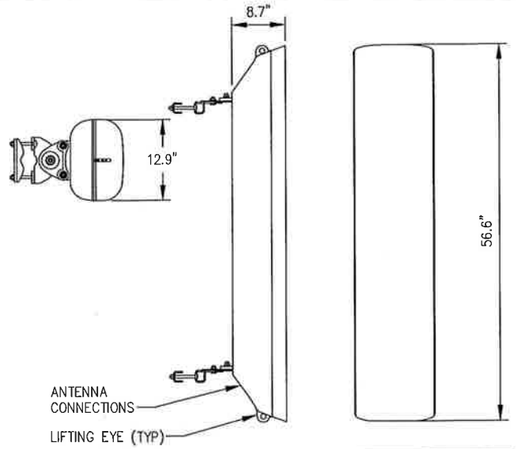
Drawing Title
RF CHART

Drawing Number
C2



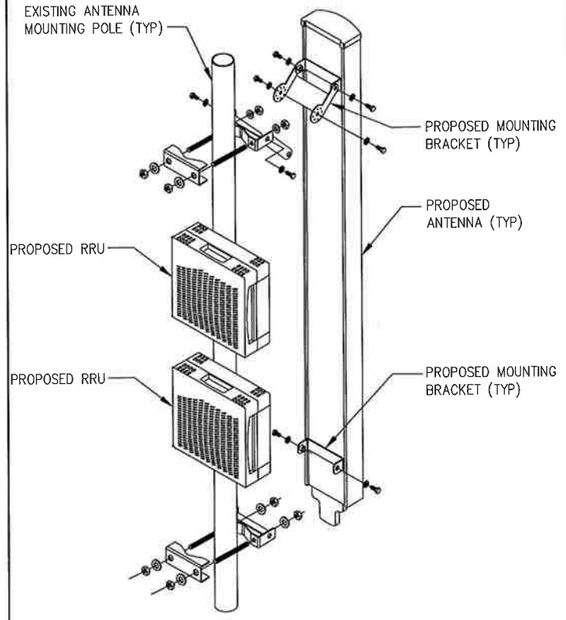
RFS MODEL NO.:	APXVAARR24_43-U-NA20
RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GREY
DIMENSIONS, HxWxD:	95.9"x24"x8.5"
WEIGHT, W/O MOUNTING KIT:	128 LBS

1 D1 APX ANTENNA DETAIL
SCALE: NOT TO SCALE

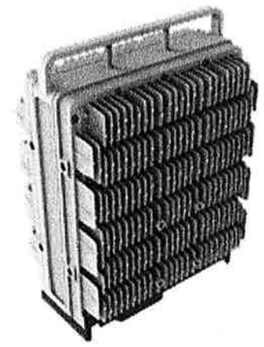


ERICSSON MODEL NO.:	AIR32 B66
RADOME MATERIAL:	FIBERGLASS, UV RESISTANT
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	56.6"x12.9"x8.7"
WEIGHT, W/ PRE-MOUNTED BRACKETS:	132.2 LBS

2 D1 AIR 32 B66 ANTENNA DETAIL
SCALE: NOT TO SCALE



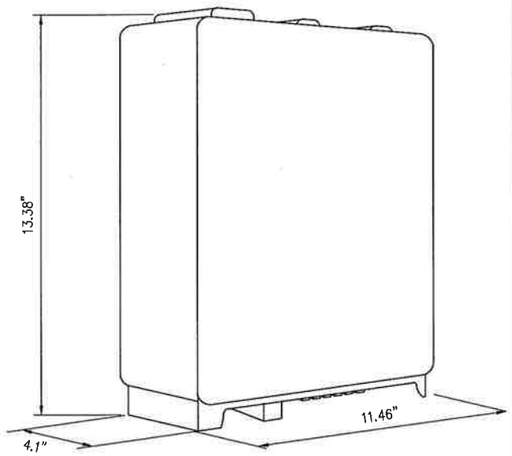
3 D1 ANTENNA/RRU MOUNTING DETAIL
SCALE: NOT TO SCALE



ERICSSON 4449 B71+B12 SPECIFICATIONS

- HxWxD, (INCHES) : 17.91"x13.15"x10.63"
- WEIGHT (LBS) : 74.96
- COLOR : GRAY

4 D1 4449 B71+B12 RRU DETAIL
SCALE: NOT TO SCALE



ERICSSON 2217 SPECIFICATIONS

- HxWxD, (INCHES) : 13.38"x11.46"x4.1"
- WEIGHT (LBS) : 26.45
- COLOR : GRAY

5 D1 2217 B2 RRU DETAIL
SCALE: NOT TO SCALE

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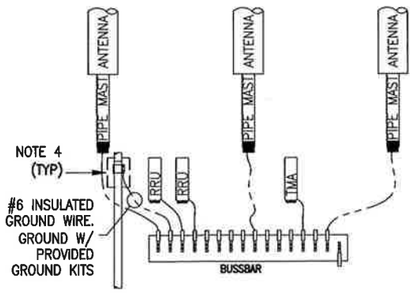
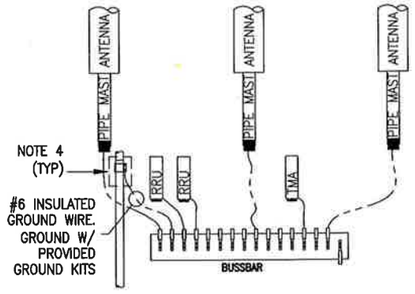
Drawing Title
EQUIPMENT DETAILS

Drawing Number
D1

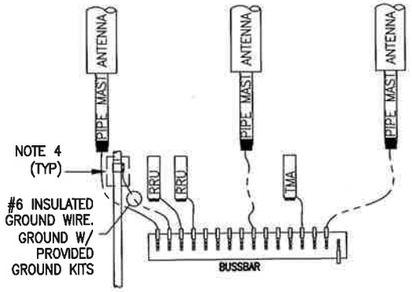
ALPHA SECTOR
(LAYOUT SHOWN GENERICALLY, SEE ANTENNA ORIENTATION)



BETA SECTOR
(LAYOUT SHOWN GENERICALLY, SEE ANTENNA ORIENTATION)

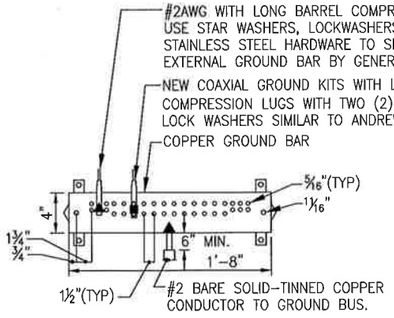


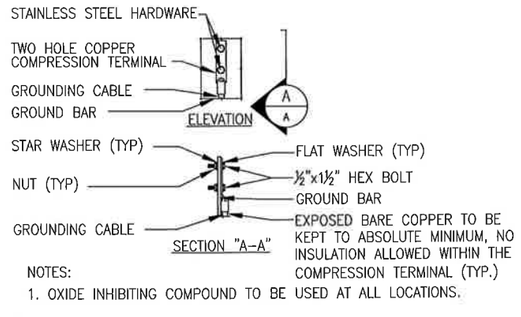
GAMMA SECTOR
(LAYOUT SHOWN GENERICALLY, SEE ANTENNA ORIENTATION)



NOTES:
1. PROVIDE #2AWG GROUNDING CONDUCTOR, U.O.N.
2. PROVIDE BONDING AND GROUNDING CONDUCTORS WITH GREEN TYPE THWN INSULATION, U.O.N.
3. PROVIDE SOLID TINNED BARE COPPER WIRE (BCW) GROUNDING CONDUCTOR.
4. PROVIDE STANDARD COAX OR HYBRID CABLE GROUNDING KIT OR FIELD FABRICATE TO SUIT CONDITIONS. TOTAL LENGTH OF GROUNDING CONDUCTOR SHALL NOT EXCEED 10'-0".
5. PROVIDE GROUNDING ELECTRODES QUANTITY, TYPE AND SIZE AS INDICATED ON SITE GROUNDING PLAN.
6. LEAVE GROUND WIRE COILED UP ABOVE GRADE. CAP END OF CONDUIT.
7. ADD COAX OR HYBRID CABLE GROUND KIT CONNECTION TO BUSSBAR WHEN LENGTH OF CABLE TRAY (FROM TOWER OR MONOPOLE TO EQUIPMENT) IS GREATER THAN 20'-0".
8. ADD #2/0 GREEN INSULATED CONDUCTOR BETWEEN CABLE TRAY AND GRIPSTRUT/COVER.
9. BUSSBARS ARE TO BE TINNED COPPER BARS (¼"X2"X12") MOUNTED ON INSULATORS, U.O.N.
10. GROUND ALL PROPOSED ANTENNAS, DIPLEXERS, TMAS, AND RRUS PER MANU. SPECS.

1 / E1 GROUNDING DIAGRAM
SCALE: NOT TO SCALE

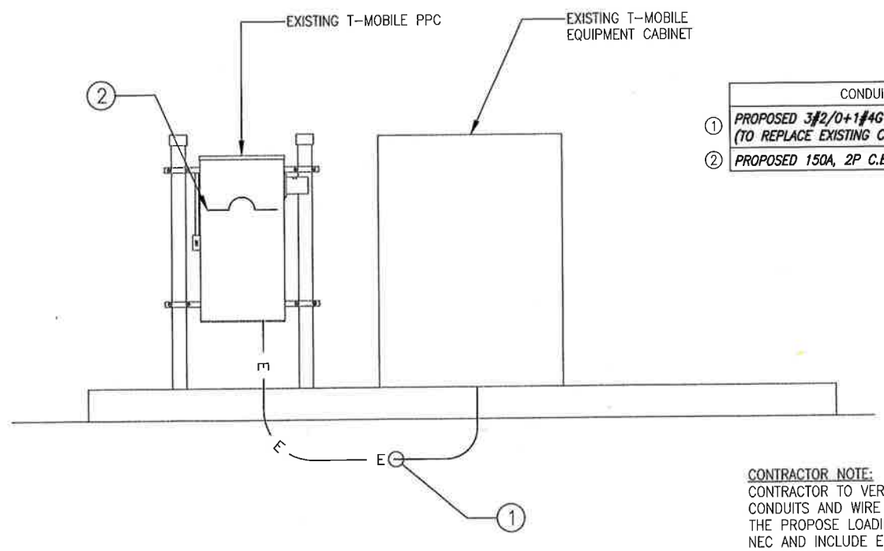




NOTES:
1. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

NOTES:
1. ALL HARDWARE STAINLESS STEEL COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
3. ALL HOLES ARE COUNTERSUNK 1/16".

2 / E1 GROUND BAR CONNECTION DETAIL
SCALE: NOT TO SCALE



CONDUIT SCHEDULE
① PROPOSED 3#2/0+1#4G IN 2" CONDUIT (TO REPLACE EXISTING CONDUCTOR AND CONDUIT)
② PROPOSED 150A, 2P C.B.

CONTRACTOR NOTE:
CONTRACTOR TO VERIFY THAT THE EXISTING CONDUITS AND WIRE SIZES ARE ADEQUATE FOR THE PROPOSE LOADING IN ACCORDANCE WITH NEC AND INCLUDE ELECTRICAL UPGRADES IN THE SCOPE OF WORK AS REQUIRED.

3 / E1 ONE LINE DIAGRAM
SCALE: NOT TO SCALE

T-Mobile
T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088

INFINIGY
6865 DEERPATH ROAD SUITE 152
ELKRIDGE, MD 21075
TEL (443) 592-3143

STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
PROFESSIONAL ENGINEER
SEP 20 2018

No.	Submittal / Revision	App'd	Date
0	ISSUED FOR CONSTRUCTION	RCD	09/19/18
B	RFDS/ORDER UPDATED	RCD	09/13/18
A	ISSUED FOR REVIEW	RCD	08/02/18

Drawn: RCD
Designed: MRL
Checked: AJD

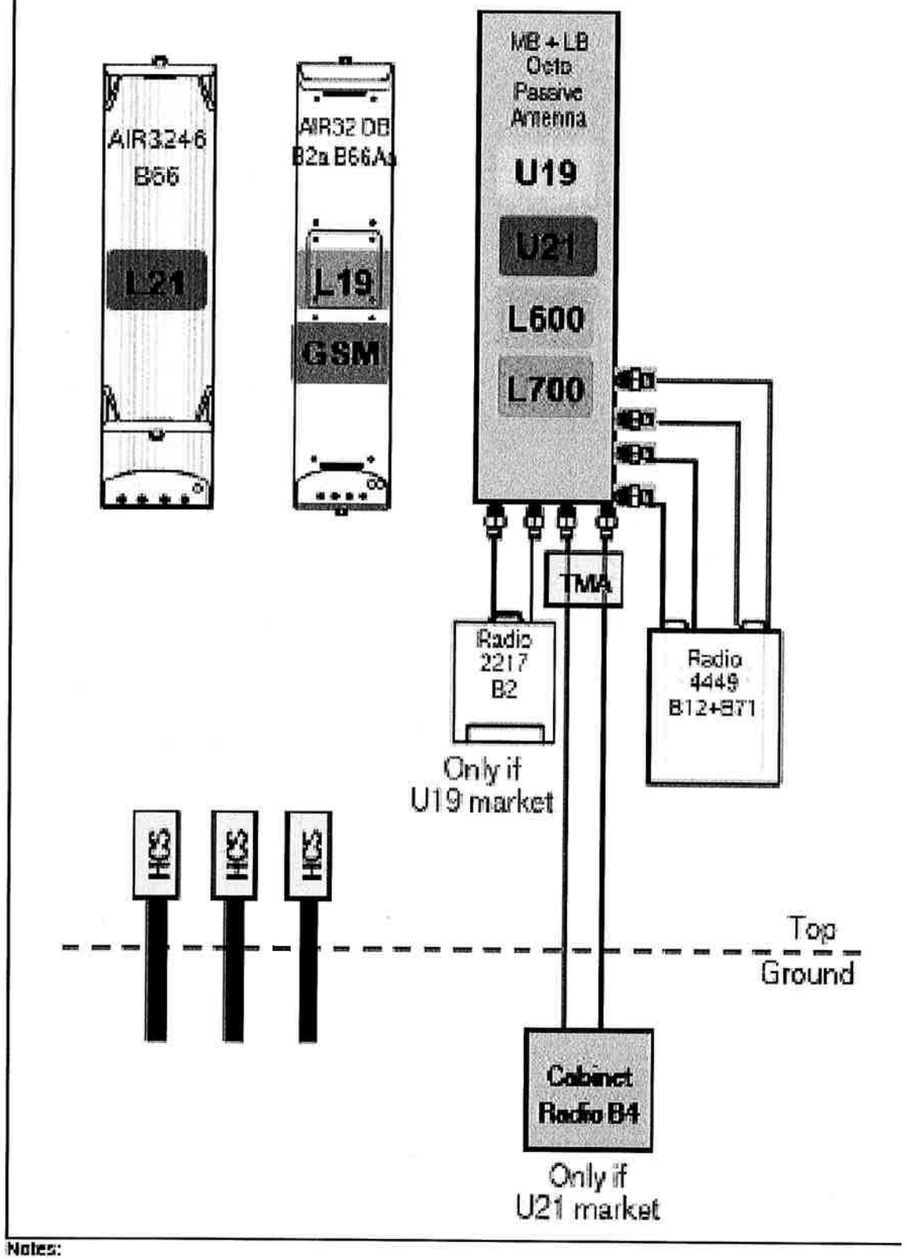
Project Number: 600-007

Project Title:
CT11733B
CT733/AT&THNTR
AMBLNCE FT
462 WEST MAIN ST.
MERIDEN, CT 06451

Prepared For:
CROWN CASTLE

Drawing Title
RISER AND ONE-LINE DIAGRAMS

Drawing Number
E1



Notes:

1 / E2 RF PLUMBING DIAGRAM
SCALE: AS NOTED

T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088

INFINIGY
6865 DEERPATH ROAD SUITE 152
ELKRIDGE, MD 21075
TEL (443) 592-3143

STATE OF CONNECTICUT
JOHN S. STEVENS
LICENSED PROFESSIONAL ENGINEER
SEP 20 2016

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Project Number: 600-007

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CT11733B
CT733/AT&THNTR
AMBLNCE FT
462 WEST MAIN ST.
MERIDEN, CT 06451

Prepared For: CROWN CASTLE

Drawing Title
RF PLUMBING DIAGRAM

Drawing Number
E2

Date: **September 18, 2018**

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

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

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	CT11733B
	Carrier Site Name:	CT733/AT&THntr Amblnce FT
Crown Castle Designation:	**Crown Castle BU Number:**	842869
	Crown Castle Site Name:	Meriden West Central
	Crown Castle JDE Job Number:	511473
	Crown Castle Work Order Number:	1633861
	Crown Castle Order Number:	445375 Rev. 4
Engineering Firm Designation:	**B+T Group Project Number:**	92699.004.01
Site Data:	**450-478 West Main Street, Meriden, New Haven County, CT** **Latitude *41° 32' 24.11"*, Longitude *-72° 49' 8.47"*** **100 Foot - Monopole Tower**	

Dear Denice Nicholson,

B+T Group is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower.

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: Proposed Equipment Configuration **Sufficient Capacity**

The analysis has been performed in accordance with the TIA-222-H Standard. This analysis utilizes a 3-second gust wind speed of 97 mph (converted to an equivalent 125 mph ultimate wind speed) as required by the 2016 Connecticut State Building Code. Exposure Category B and Risk Category II were used in this analysis.

Structural analysis prepared by: Abigail Contreras

Respectfully submitted by: B+T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2019

Scott S. Vance, P.E.

tnxTower Report - version 8.0.4.0

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 100 ft Monopole tower designed by Glen Martin Engineering, Inc. in December of 2003. The tower was originally designed for a wind speed of 85 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

Building Code:	2016 Connecticut State Building Code, (2012 IBC)
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	125 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
86.0	90.0	3	Ericsson	AIR -32 B2A/B66AA	3 10	1-5/8 7/8
		3	Ericsson	AIR 3246 B66		
		3	Ericsson	KRY 112 144/1		
		3	Ericsson	RADIO 2217 B2		
		3	Ericsson	RADIO 4449 B12/B71		
		3	Rfs Celwave	APXVAARR24_43-U-NA20		
	86.0	1	--	Platform Mount [LP 306-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
100.0	100.0	3	Cci Antennas	DTMABP7819VG12A	6 6 2	1-1/4 3/4 3/8
		3	Cci Antennas	OPA-65R-LCUU-H6		
		3	Ericsson	RRUS 11		
		3	Ericsson	RRUS 32		
		3	Ericsson	RRUS 32 B2		
		3	Ericsson	RRUS 32 B66		
		3	Ericsson	RRUS 4478 B14		
		3	Kathrein	80010965		
		3	Kmw Comm.	AM-X-CD-16-65-00T-RET		
		3	Quintel Tech	QS66512-2		
		1	Raycap	DC6-48-60-0-8F		
		2	Raycap	DC6-48-60-18-8F		
		1	--	Platform Mount [LP 1302-1]		
78.0	80.0	3	Alcatel Lucent	1900MHz RRH	--	--
		3	Alcatel Lucent	800 External Notch Filter		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	Alcatel Lucent	TME-800MHZ RRH		
	78.0	1	--	Side Arm Mount [SO 104-3]		
76.0	79.0	3	Alcatel Lucent	TD-RRH8x20-25	3	1-1/4
		3	Rfs Celwave	APXVSPP18-C-A20	1	3/4
		3	Rfs Celwave	APXVTM14-C-120	1	5/8
	76.0	1	--	Platform Mount [LP 303-1]		
65.0	67.0	3	Alcatel Lucent	B4 RRH2X60-4R	2	1-5/8
		3	Alcatel Lucent	RRH2x60-700		
		2	Rfs Celwave	DB-T1-6Z-8AB-0Z		
	65.0	3	Antel	BXA-171063/12CF		
		3	Antel	BXA-70063/6CF		
		6	Commscope	SBNHH-1D45B		
		1	--	Platform Mount [LP 304-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
Online Order Information	T-Mobile Co-Locate, Rev# 4	445375	CCI Sites
Tower Manufacturer Drawing	GM Engineering, Inc., Dwg No: SP13462	4713237	CCI Sites
Mount Analysis	Infinigy Engineering, Date: 07/23/2018	7691930	CCI Sites
Foundation Drawings	GM Engineering, Inc., Date: 12/15/2003	4529387	CCI Sites
Geotech Report	Tectonic, Date: 08/28/2002	4529388	CCI Sites
Antenna Configuration	Crown CAD Package	Date: 09/12/2018	CCI Sites

3.1) Analysis Method

tnxTower (version 8.0.4.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	100 - 47	Pole	TP40.72x28x0.313	1	-22.894	2767.663	31.4	Pass
L2	47 - 0	Pole	TP51.37x38.655x0.375	2	-37.583	4199.758	44.2	Pass
							Summary	
						Pole (L2)	44.2	Pass
						Rating =	44.2	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	Base	37.7	Pass
1	Base Plate	Base	29.7	Pass
1	Base Foundation (Structure)	Base	43.6	Pass
1	Base Foundation (Soil Interaction)	Base	55.5	Pass

Structure Rating (max from all components) =	**55.5%**

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.
2) Rating per TIA-222-H Section 15.5

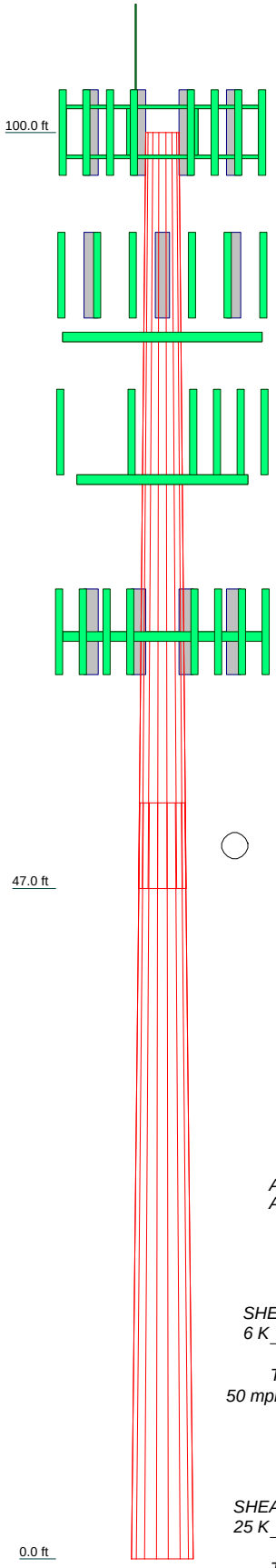
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section	1	2
Length (ft)	53.000	53.000
Number of Sides	16	16
Thickness (in)	0.313	0.375
Socket Length (ft)	6.000	
Top Dia (in)	28.000	38.655
Bot Dia (in)	40.720	51.370
Grade	A572-65	
Weight (K)	6.1	9.6



ALL REACTIONS ARE FACTORED

AXIAL 61 K
SHEAR 6 K
MOMENT 446 kip-ft
TORQUE 0 kip-ft
50 mph WIND - 1.275 in ICE

AXIAL 38 K
SHEAR 25 K
MOMENT 1900 kip-ft
TORQUE 3 kip-ft
REACTIONS - 125 mph WIND

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.27 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 44.2%

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

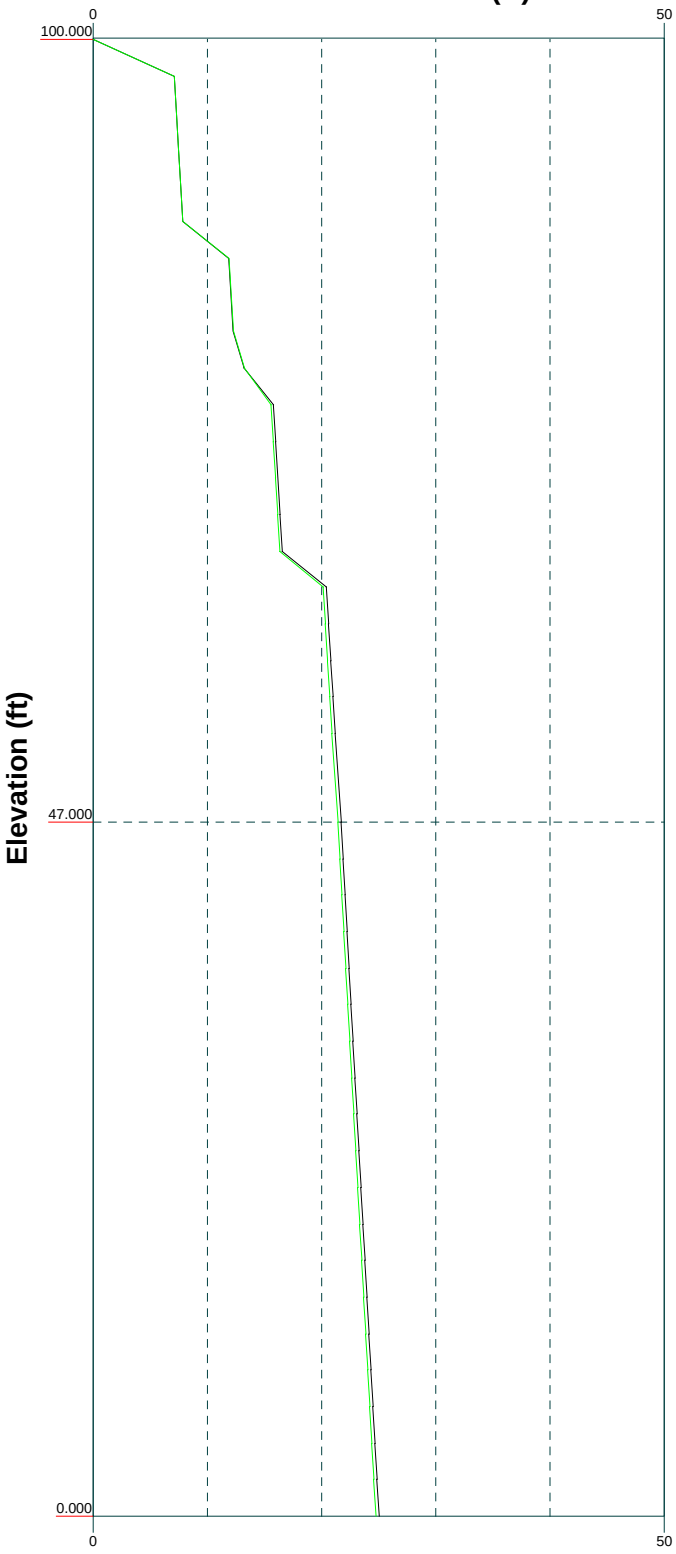
Job: ***92699.004.01 - MERIDEN WEST CENTRAL, CT (BU# 84286***			
Project:			
Client: Crown Castle	Drawn by: Rakshak	App'd:	
Code: TIA-222-H	Date: 09/18/18	Scale: NTS	
Path:		Dwg No. E-1	

TIA-222-H - 125 mph/50 mph 1.275 in Ice Exposure B

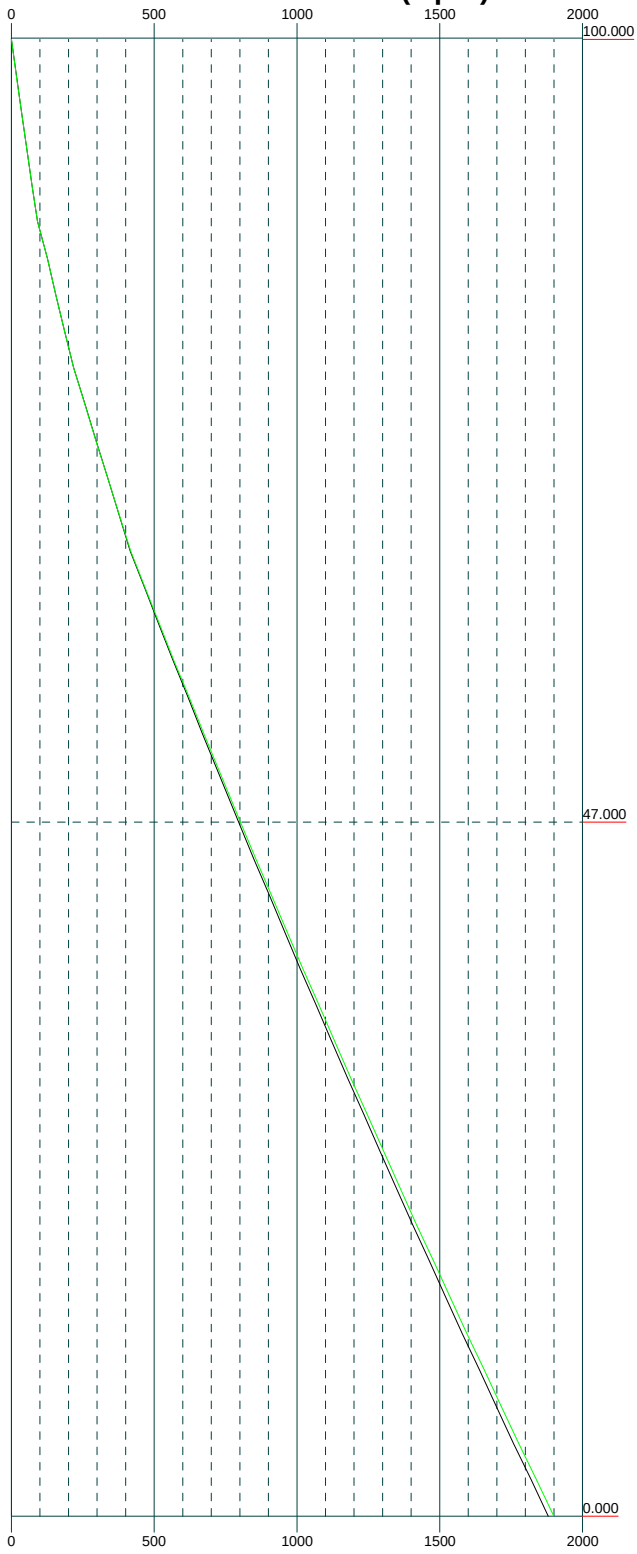
Maximum Values

Vx Vz Mx Mz

Global Mast Shear (K)



Global Mast Moment (kip-ft)



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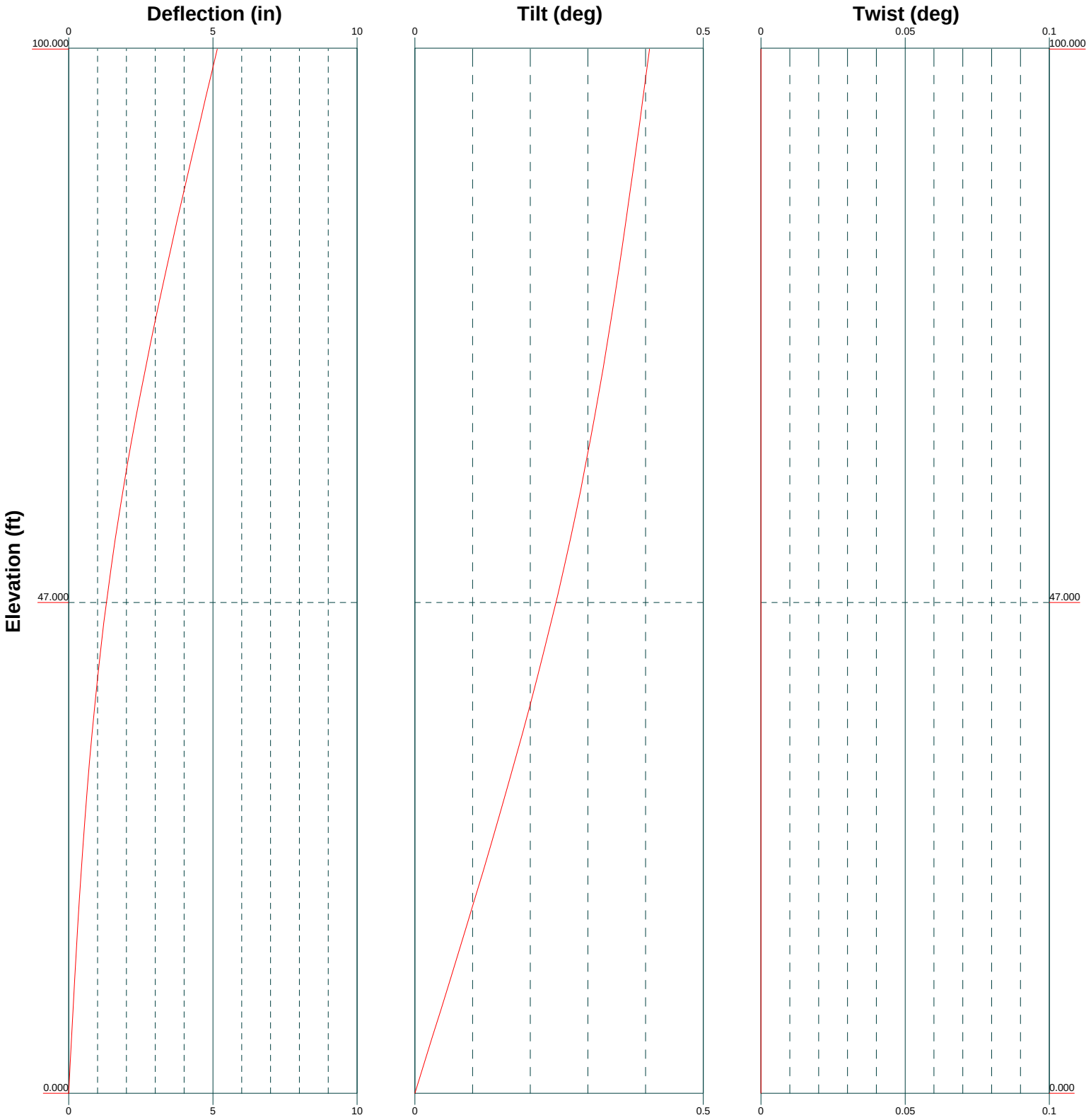
Job: ***92699.004.01 - MERIDEN WEST CENTRAL, CT (BU# 84286***			
Project:			
Client: Crown Castle	Drawn by: Rakshak	App'd:	
Code: TIA-222-H	Date: 09/18/18	Scale: NTS	
Path:		Dwg No. E-4	

TIA-222-H - Service - 60 mph

Maximum Values



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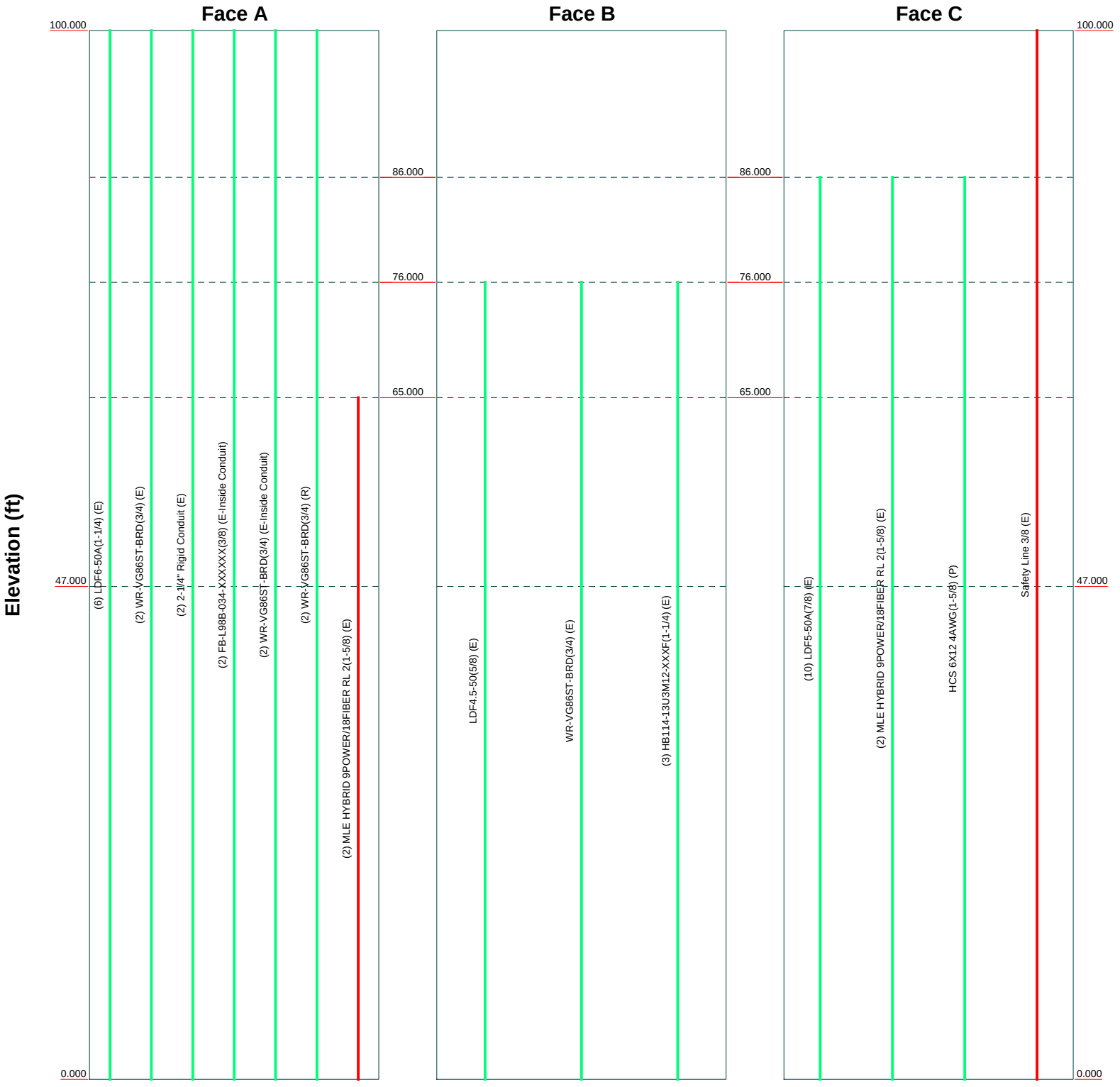
Job: 92699.004.01 - MERIDEN WEST CENTRAL, CT (BU# 84286			
Project:			
Client: Crown Castle	Drawn by: Rakshak	App'd:	
Code: TIA-222-H	Date: 09/18/18	Scale: NTS	
Path:		Dwg No. E-5	

Feed Line Distribution Chart
0' - 100'

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



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FAX: (918) 295-0265

Job: ***92699.004.01 - MERIDEN WEST CENTRAL, CT (BU# 84286***		
Project:		
Client: Crown Castle	Drawn by: Rakshak	App'd:
Code: TIA-222-H	Date: 09/18/18	Scale: NTS
Path:		Dwg No. E-7

Tower Input Data

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

Tower is located in New Haven County, Connecticut.
Tower base elevation above sea level: 165.000 ft.
Basic wind speed of 125 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height 0.000 ft.
Nominal ice thickness of 1.275 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 60 mph.
TIA-222-H Annex S.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.05.
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-H Bracing Resist. Exemption
Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-H Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	√ Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	Pole Without Linear Attachments
		Pole With Shroud Or No Appurtenances
		Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	100.000-47.000	53.000	6.000	16	28.000	40.720	0.313	1.250	A572-65 (65 ksi)
L2	47.000-0.000	53.000		16	38.655	51.370	0.375	1.500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	28.487	27.601	2673.045	9.857	14.280	187.188	5386.564	13.647	4.950	15.84
	41.457	40.281	8308.852	14.385	20.767	400.095	16743.510	19.917	7.481	23.94
L2	40.806	45.792	8477.194	13.628	19.714	430.008	17082.742	22.642	6.946	18.523
	52.303	61.003	20040.987	18.154	26.199	764.961	40385.419	30.163	9.476	25.27

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 100.000-47.000				1	1	1			
L2 47.000-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
***										
MLE HYBRID 9POWER/18FIBER RL 2(1-5/8) (E)	A	No	Surface Ar (CaAa)	65.000 - 0.000	2	2	-0.450 -0.350	1.625		0.001
***										
Safety Line 3/8 (E)	C	No	Surface Ar (CaAa)	100.000 - 0.000	1	1	0.250 0.250	0.375		0.000
***										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
LDF6-50A(1-1/4) (E)	A	No	No	Inside Pole	100.000 - 0.000	6	No Ice 1/2" Ice	0.000 0.000	0.001 0.001

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
WR-VG86ST-BRD(3/4)	A	No	No	Inside Pole	100.000 - 0.000	2	No Ice	0.000	0.001
(E)							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
2-1/4" Rigid Conduit	A	No	No	Inside Pole	100.000 - 0.000	2	No Ice	0.000	0.003
(E)							1/2" Ice	0.000	0.003
							1" Ice	0.000	0.003
							2" Ice	0.000	0.003
FB-L98B-034-XXXXXX(3/8)	A	No	No	Inside Pole	100.000 - 0.000	2	No Ice	0.000	0.000
(E-Inside Conduit)							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
WR-VG86ST-BRD(3/4)	A	No	No	Inside Pole	100.000 - 0.000	2	No Ice	0.000	0.001
(E-Inside Conduit)							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
WR-VG86ST-BRD(3/4)	A	No	No	Inside Pole	100.000 - 0.000	2	No Ice	0.000	0.001
(R)							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
***									
LDF5-50A(7/8)	C	No	No	Inside Pole	86.000 - 0.000	10	No Ice	0.000	0.000
(E)							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	C	No	No	Inside Pole	86.000 - 0.000	2	No Ice	0.000	0.001
(E)							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
HCS 6X12 4AWG(1-5/8)	C	No	No	Inside Pole	86.000 - 0.000	1	No Ice	0.000	0.002
(P)							1/2" Ice	0.000	0.002
							1" Ice	0.000	0.002
							2" Ice	0.000	0.002
***									
LDF4.5-50(5/8)	B	No	No	Inside Pole	76.000 - 0.000	1	No Ice	0.000	0.000
(E)							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
WR-VG86ST-BRD(3/4)	B	No	No	Inside Pole	76.000 - 0.000	1	No Ice	0.000	0.001
(E)							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
HB114-13U3M12-XXXF(1-1/4)	B	No	No	Inside Pole	76.000 - 0.000	3	No Ice	0.000	0.001
(E)							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
***									

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	100.000-47.000	A	0.000	0.000	5.850	0.000	0.738
		B	0.000	0.000	0.000	0.000	0.108
		C	0.000	0.000	1.987	0.000	0.317
L2	47.000-0.000	A	0.000	0.000	15.275	0.000	0.721
		B	0.000	0.000	0.000	0.000	0.174
		C	0.000	0.000	1.763	0.000	0.379

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	100.000-47.000	A	1.380	0.000	0.000	13.520	0.000	0.865
		B		0.000	0.000	0.000	0.000	0.108
		C		0.000	0.000	16.610	0.000	0.474
L2	47.000-0.000	A	1.229	0.000	0.000	35.303	0.000	1.051
		B		0.000	0.000	0.000	0.000	0.174
		C		0.000	0.000	14.730	0.000	0.518

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	100.000-47.000	-1.043	0.535	-1.678	1.391
L2	47.000-0.000	-2.369	0.956	-3.137	1.796

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	18	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	47.00 - 65.00	1.0000	1.0000
L1	20	Safety Line 3/8	47.00 - 100.00	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lightning Rod 5/8" x 8'	C	From Leg	1.000	0.000	100.000	No Ice	0.500	0.500	0.031
(E)			0.000			1/2" Ice	1.314	1.314	0.037
			4.000			1" Ice	2.144	2.144	0.047
						2" Ice	3.613	3.613	0.084
***									
AM-X-CD-16-65-00T-RET	A	From Leg	4.000	0.000	100.000	No Ice	8.024	4.642	0.049
(E)			0.000			1/2" Ice	8.480	5.088	0.095
			0.000			1" Ice	8.943	5.542	0.147
						2" Ice	9.889	6.473	0.271
AM-X-CD-16-65-00T-RET	B	From Leg	4.000	0.000	100.000	No Ice	8.024	4.642	0.049
(E)			0.000			1/2" Ice	8.480	5.088	0.095
			0.000			1" Ice	8.943	5.542	0.147
						2" Ice	9.889	6.473	0.271
AM-X-CD-16-65-00T-RET	C	From Leg	4.000	0.000	100.000	No Ice	8.024	4.642	0.049
(E)			0.000			1/2" Ice	8.480	5.088	0.095
			0.000			1" Ice	8.943	5.542	0.147
						2" Ice	9.889	6.473	0.271
OPA-65R-LCUU-H6	A	From Leg	4.000	0.000	100.000	No Ice	9.658	5.517	0.073
(E)			0.000			1/2" Ice	10.128	5.971	0.131
			0.000			1" Ice	10.606	6.434	0.196
						2" Ice	11.583	7.380	0.345
OPA-65R-LCUU-H6	B	From Leg	4.000	0.000	100.000	No Ice	9.658	5.517	0.073
(E)			0.000			1/2" Ice	10.128	5.971	0.131
			0.000			1" Ice	10.606	6.434	0.196
						2" Ice	11.583	7.380	0.345
OPA-65R-LCUU-H6	C	From Leg	4.000	0.000	100.000	No Ice	9.658	5.517	0.073
(E)			0.000			1/2" Ice	10.128	5.971	0.131
			0.000			1" Ice	10.606	6.434	0.196
						2" Ice	11.583	7.380	0.345
DTMABP7819VG12A	A	From Leg	4.000	0.000	100.000	No Ice	0.976	0.339	0.019
(E)			0.000			1/2" Ice	1.100	0.419	0.026
			0.000			1" Ice	1.232	0.510	0.036
						2" Ice	1.517	0.714	0.060
DTMABP7819VG12A	B	From Leg	4.000	0.000	100.000	No Ice	0.976	0.339	0.019
(E)			0.000			1/2" Ice	1.100	0.419	0.026
			0.000			1" Ice	1.232	0.510	0.036
						2" Ice	1.517	0.714	0.060
DTMABP7819VG12A	C	From Leg	4.000	0.000	100.000	No Ice	0.976	0.339	0.019
(E)			0.000			1/2" Ice	1.100	0.419	0.026
			0.000			1" Ice	1.232	0.510	0.036
						2" Ice	1.517	0.714	0.060
RRUS 11	A	From Leg	4.000	0.000	100.000	No Ice	2.784	1.187	0.048
(E)			0.000			1/2" Ice	2.992	1.334	0.068
			0.000			1" Ice	3.207	1.490	0.092
						2" Ice	3.658	1.833	0.150
RRUS 11	B	From Leg	4.000	0.000	100.000	No Ice	2.784	1.187	0.048
(E)			0.000			1/2" Ice	2.992	1.334	0.068
			0.000			1" Ice	3.207	1.490	0.092
						2" Ice	3.658	1.833	0.150
RRUS 11	C	From Leg	4.000	0.000	100.000	No Ice	2.784	1.187	0.048
(E)			0.000			1/2" Ice	2.992	1.334	0.068
			0.000			1" Ice	3.207	1.490	0.092
						2" Ice	3.658	1.833	0.150
(2) DC6-48-60-18-8F	A	From Leg	1.000	0.000	100.000	No Ice	0.917	0.917	0.019
(E-Hz Offset Per Photos)			0.000			1/2" Ice	1.458	1.458	0.037
			0.000			1" Ice	1.643	1.643	0.057
						2" Ice	2.042	2.042	0.105

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
80010965	A	From Leg	4.000	0.000	100.000	No Ice	13.814	5.833	0.098
(R)			0.000			1/2" Ice	14.347	6.324	0.174
			0.000			1" Ice	14.888	6.821	0.258
						2" Ice	15.990	7.839	0.447
80010965	B	From Leg	4.000	0.000	100.000	No Ice	13.814	5.833	0.098
(R)			0.000			1/2" Ice	14.347	6.324	0.174
			0.000			1" Ice	14.888	6.821	0.258
						2" Ice	15.990	7.839	0.447
80010965	C	From Leg	4.000	0.000	100.000	No Ice	13.814	5.833	0.098
(R)			0.000			1/2" Ice	14.347	6.324	0.174
			0.000			1" Ice	14.888	6.821	0.258
						2" Ice	15.990	7.839	0.447
QS66512-2	A	From Leg	4.000	0.000	100.000	No Ice	8.133	6.800	0.111
(R)			0.000			1/2" Ice	8.590	7.267	0.168
			0.000			1" Ice	9.053	7.723	0.232
						2" Ice	10.002	8.647	0.378
QS66512-2	B	From Leg	4.000	0.000	100.000	No Ice	8.133	6.800	0.111
(R)			0.000			1/2" Ice	8.590	7.267	0.168
			0.000			1" Ice	9.053	7.723	0.232
						2" Ice	10.002	8.647	0.378
QS66512-2	C	From Leg	4.000	0.000	100.000	No Ice	8.133	6.800	0.111
(R)			0.000			1/2" Ice	8.590	7.267	0.168
			0.000			1" Ice	9.053	7.723	0.232
						2" Ice	10.002	8.647	0.378
RRUS 32	A	From Leg	4.000	0.000	100.000	No Ice	2.857	1.777	0.055
(R)			0.000			1/2" Ice	3.083	1.968	0.077
			0.000			1" Ice	3.316	2.166	0.103
						2" Ice	3.805	2.583	0.165
RRUS 32	B	From Leg	4.000	0.000	100.000	No Ice	2.857	1.777	0.055
(R)			0.000			1/2" Ice	3.083	1.968	0.077
			0.000			1" Ice	3.316	2.166	0.103
						2" Ice	3.805	2.583	0.165
RRUS 32	C	From Leg	4.000	0.000	100.000	No Ice	2.857	1.777	0.055
(R)			0.000			1/2" Ice	3.083	1.968	0.077
			0.000			1" Ice	3.316	2.166	0.103
						2" Ice	3.805	2.583	0.165
RRUS 4478 B14	A	From Leg	4.000	0.000	100.000	No Ice	1.843	1.059	0.060
(R)			0.000			1/2" Ice	2.012	1.197	0.076
			0.000			1" Ice	2.190	1.342	0.094
						2" Ice	2.566	1.656	0.140
RRUS 4478 B14	B	From Leg	4.000	0.000	100.000	No Ice	1.843	1.059	0.060
(R)			0.000			1/2" Ice	2.012	1.197	0.076
			0.000			1" Ice	2.190	1.342	0.094
						2" Ice	2.566	1.656	0.140
RRUS 4478 B14	C	From Leg	4.000	0.000	100.000	No Ice	1.843	1.059	0.060
(R)			0.000			1/2" Ice	2.012	1.197	0.076
			0.000			1" Ice	2.190	1.342	0.094
						2" Ice	2.566	1.656	0.140
RRUS 32 B66	A	From Leg	4.000	0.000	100.000	No Ice	2.743	1.668	0.053
(R)			0.000			1/2" Ice	2.965	1.855	0.074
			0.000			1" Ice	3.194	2.049	0.098
						2" Ice	3.675	2.458	0.157
RRUS 32 B66	B	From Leg	4.000	0.000	100.000	No Ice	2.743	1.668	0.053
(R)			0.000			1/2" Ice	2.965	1.855	0.074
			0.000			1" Ice	3.194	2.049	0.098
						2" Ice	3.675	2.458	0.157
RRUS 32 B66	C	From Leg	4.000	0.000	100.000	No Ice	2.743	1.668	0.053

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
(R)			0.000			1/2" Ice	2.965	1.855	0.074
			0.000			1" Ice	3.194	2.049	0.098
						2" Ice	3.675	2.458	0.157
RRUS 32 B2	A	From Leg	4.000	0.000	100.000	No Ice	2.731	1.668	0.053
(R)			0.000			1/2" Ice	2.953	1.855	0.074
			0.000			1" Ice	3.182	2.049	0.098
						2" Ice	3.663	2.458	0.157
RRUS 32 B2	B	From Leg	4.000	0.000	100.000	No Ice	2.731	1.668	0.053
(R)			0.000			1/2" Ice	2.953	1.855	0.074
			0.000			1" Ice	3.182	2.049	0.098
						2" Ice	3.663	2.458	0.157
RRUS 32 B2	C	From Leg	4.000	0.000	100.000	No Ice	2.731	1.668	0.053
(R)			0.000			1/2" Ice	2.953	1.855	0.074
			0.000			1" Ice	3.182	2.049	0.098
						2" Ice	3.663	2.458	0.157
DC6-48-60-0-8F	A	From Leg	4.000	0.000	100.000	No Ice	0.917	0.917	0.033
(R)			0.000			1/2" Ice	1.458	1.458	0.051
			0.000			1" Ice	1.643	1.643	0.071
						2" Ice	2.042	2.042	0.119
Platform Mount [LP 1302-1] (E-4MP Per Sector / 14' Per TIA)	C	None		0.000	100.000	No Ice	56.400	56.400	2.413
						1/2" Ice	67.500	67.500	3.131
						1" Ice	78.600	78.600	3.849
						2" Ice	100.800	100.800	5.285
***									
AIR -32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.000	0.000	86.000	No Ice	6.747	6.070	0.153
			0.000			1/2" Ice	7.202	6.867	0.214
(E)			4.000			1" Ice	7.648	7.583	0.282
						2" Ice	8.565	9.063	0.441
AIR -32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.000	0.000	86.000	No Ice	6.747	6.070	0.153
			0.000			1/2" Ice	7.202	6.867	0.214
(E)			4.000			1" Ice	7.648	7.583	0.282
						2" Ice	8.565	9.063	0.441
AIR -32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.000	0.000	86.000	No Ice	6.747	6.070	0.153
			0.000			1/2" Ice	7.202	6.867	0.214
(E)			4.000			1" Ice	7.648	7.583	0.282
						2" Ice	8.565	9.063	0.441
(3) KRY 112 144/1	A	From Leg	4.000	0.000	86.000	No Ice	0.350	0.175	0.011
(E)			0.000			1/2" Ice	0.426	0.234	0.014
			4.000			1" Ice	0.509	0.301	0.019
						2" Ice	0.698	0.456	0.032
AIR 3246 B66 w/ Mount Pipe	A	From Leg	4.000	0.000	86.000	No Ice	8.177	6.559	0.201
(P)			0.000			1/2" Ice	8.656	7.393	0.272
			4.000			1" Ice	9.124	8.128	0.349
						2" Ice	10.086	9.646	0.529
AIR 3246 B66 w/ Mount Pipe	B	From Leg	4.000	0.000	86.000	No Ice	8.177	6.559	0.201
(P)			0.000			1/2" Ice	8.656	7.393	0.272
			4.000			1" Ice	9.124	8.128	0.349
						2" Ice	10.086	9.646	0.529
AIR 3246 B66 w/ Mount Pipe	C	From Leg	4.000	0.000	86.000	No Ice	8.177	6.559	0.201
(P)			0.000			1/2" Ice	8.656	7.393	0.272
			4.000			1" Ice	9.124	8.128	0.349
						2" Ice	10.086	9.646	0.529
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.000	0.000	86.000	No Ice	20.480	11.024	0.161
			0.000			1/2" Ice	21.231	12.550	0.297
(P)			4.000			1" Ice	21.990	14.099	0.444
						2" Ice	23.444	16.451	0.775
APXVAARR24_43-U-NA20	B	From Leg	4.000	0.000	86.000	No Ice	20.480	11.024	0.161

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
w/ Mount Pipe			0.000				1/2" Ice	21.231	12.550	0.297
(P)			4.000				1" Ice	21.990	14.099	0.444
							2" Ice	23.444	16.451	0.775
APXVAARR24_43-U-NA20	C	From Leg	4.000		0.000	86.000	No Ice	20.480	11.024	0.161
w/ Mount Pipe			0.000				1/2" Ice	21.231	12.550	0.297
(P)			4.000				1" Ice	21.990	14.099	0.444
							2" Ice	23.444	16.451	0.775
(2) RADIO 2217 B2	A	From Leg	4.000		0.000	86.000	No Ice	1.351	0.586	0.026
(P)			0.000				1/2" Ice	1.497	0.690	0.037
			4.000				1" Ice	1.650	0.805	0.050
							2" Ice	1.978	1.059	0.082
RADIO 2217 B2	B	From Leg	4.000		0.000	86.000	No Ice	1.351	0.586	0.026
(P)			0.000				1/2" Ice	1.497	0.690	0.037
			4.000				1" Ice	1.650	0.805	0.050
							2" Ice	1.978	1.059	0.082
RADIO 4449 B12/B71	B	From Leg	4.000		0.000	86.000	No Ice	1.650	1.300	0.075
(P)			0.000				1/2" Ice	1.810	1.445	0.092
			4.000				1" Ice	1.978	1.597	0.112
							2" Ice	2.336	1.924	0.161
(2) RADIO 4449 B12/B71	C	From Leg	4.000		0.000	86.000	No Ice	1.650	1.300	0.075
(P)			0.000				1/2" Ice	1.810	1.445	0.092
			4.000				1" Ice	1.978	1.597	0.112
							2" Ice	2.336	1.924	0.161
Platform Mount [LP 306-1]	C	None			0.000	86.000	No Ice	20.810	20.810	1.616
(E-14' Per TIA)							1/2" Ice	26.900	26.900	1.892
							1" Ice	32.990	32.990	2.167
							2" Ice	45.170	45.170	2.719
***										
TME-800MHZ RRH	A	From Leg	2.000		0.000	78.000	No Ice	2.134	1.773	0.053
(E-CL Per Photos)			0.000				1/2" Ice	2.320	1.946	0.074
			2.000				1" Ice	2.512	2.127	0.098
							2" Ice	2.920	2.510	0.157
TME-800MHZ RRH	B	From Leg	2.000		0.000	78.000	No Ice	2.134	1.773	0.053
(E-CL Per Photos)			0.000				1/2" Ice	2.320	1.946	0.074
			2.000				1" Ice	2.512	2.127	0.098
							2" Ice	2.920	2.510	0.157
TME-800MHZ RRH	C	From Leg	2.000		0.000	78.000	No Ice	2.134	1.773	0.053
(E-CL Per Photos)			0.000				1/2" Ice	2.320	1.946	0.074
			2.000				1" Ice	2.512	2.127	0.098
							2" Ice	2.920	2.510	0.157
1900MHz RRH	A	From Leg	2.000		0.000	78.000	No Ice	2.492	3.258	0.044
(E-CL Per Photos)			0.000				1/2" Ice	2.695	3.484	0.075
			2.000				1" Ice	2.906	3.718	0.110
							2" Ice	3.351	4.206	0.192
1900MHz RRH	B	From Leg	2.000		0.000	78.000	No Ice	2.492	3.258	0.044
(E-CL Per Photos)			0.000				1/2" Ice	2.695	3.484	0.075
			2.000				1" Ice	2.906	3.718	0.110
							2" Ice	3.351	4.206	0.192
1900MHz RRH	C	From Leg	2.000		0.000	78.000	No Ice	2.492	3.258	0.044
(E-CL Per Photos)			0.000				1/2" Ice	2.695	3.484	0.075
			2.000				1" Ice	2.906	3.718	0.110
							2" Ice	3.351	4.206	0.192
800 EXTERNAL NOTCH	A	From Leg	2.000		0.000	78.000	No Ice	0.660	0.321	0.011
FILTER			0.000				1/2" Ice	0.763	0.398	0.017
(E-CL Per Photos)			2.000				1" Ice	0.873	0.483	0.024
							2" Ice	1.115	0.674	0.045
800 EXTERNAL NOTCH	B	From Leg	2.000		0.000	78.000	No Ice	0.660	0.321	0.011

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
FILTER			0.000			1/2" Ice	0.763	0.398	0.017
(E-CL Per Photos)			2.000			1" Ice	0.873	0.483	0.024
						2" Ice	1.115	0.674	0.045
800 EXTERNAL NOTCH	C	From Leg	2.000	0.000	78.000	No Ice	0.660	0.321	0.011
FILTER			0.000			1/2" Ice	0.763	0.398	0.017
(E-CL Per Photos)			2.000			1" Ice	0.873	0.483	0.024
						2" Ice	1.115	0.674	0.045
5' x 4" Std. Pipe	A	From Leg	2.000	0.000	78.000	No Ice	1.606	1.606	0.054
(E-Per Photos)			0.000			1/2" Ice	2.076	2.076	0.070
			2.000			1" Ice	2.397	2.397	0.090
						2" Ice	3.067	3.067	0.141
5' x 4" Std. Pipe	B	From Leg	2.000	0.000	78.000	No Ice	1.606	1.606	0.054
(E-Per Photos)			0.000			1/2" Ice	2.076	2.076	0.070
			2.000			1" Ice	2.397	2.397	0.090
						2" Ice	3.067	3.067	0.141
5' x 4" Std. Pipe	C	From Leg	2.000	0.000	78.000	No Ice	1.606	1.606	0.054
(E-Per Photos)			0.000			1/2" Ice	2.076	2.076	0.070
			2.000			1" Ice	2.397	2.397	0.090
						2" Ice	3.067	3.067	0.141
Side Arm Mount [SO 104-3]	C	None		0.000	78.000	No Ice	3.300	3.300	0.287
(E)						1/2" Ice	4.130	4.130	0.317
						1" Ice	4.960	4.960	0.347
						2" Ice	6.620	6.620	0.407
***									
(2) APXVSPP18-C-A20 w/	B	From Leg	4.000	0.000	76.000	No Ice	8.262	6.946	0.083
Mount Pipe			0.000			1/2" Ice	8.822	8.127	0.151
(E)			3.000			1" Ice	9.346	9.021	0.227
						2" Ice	10.418	10.844	0.406
APXVSPP18-C-A20 w/	C	From Leg	4.000	0.000	76.000	No Ice	8.262	6.946	0.083
Mount Pipe			0.000			1/2" Ice	8.822	8.127	0.151
(E)			3.000			1" Ice	9.346	9.021	0.227
						2" Ice	10.418	10.844	0.406
(2) APXVTM14-C-120 w/	B	From Leg	4.000	0.000	76.000	No Ice	6.580	4.959	0.077
Mount Pipe			0.000			1/2" Ice	7.031	5.754	0.131
(E)			3.000			1" Ice	7.473	6.472	0.193
						2" Ice	8.385	7.941	0.338
APXVTM14-C-120 w/	C	From Leg	4.000	0.000	76.000	No Ice	6.580	4.959	0.077
Mount Pipe			0.000			1/2" Ice	7.031	5.754	0.131
(E)			3.000			1" Ice	7.473	6.472	0.193
						2" Ice	8.385	7.941	0.338
(2) TD-RRH8x20-25	B	From Leg	4.000	0.000	76.000	No Ice	4.045	1.535	0.070
(E)			0.000			1/2" Ice	4.298	1.714	0.097
			3.000			1" Ice	4.557	1.901	0.128
						2" Ice	5.098	2.295	0.201
TD-RRH8x20-25	C	From Leg	4.000	0.000	76.000	No Ice	4.045	1.535	0.070
(E)			0.000			1/2" Ice	4.298	1.714	0.097
			3.000			1" Ice	4.557	1.901	0.128
						2" Ice	5.098	2.295	0.201
(4) 6' x 2" Mount Pipe	A	From Leg	4.000	0.000	76.000	No Ice	1.425	1.425	0.022
(E-Empty)			0.000			1/2" Ice	1.925	1.925	0.033
			2.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
(2) 6' x 2" Mount Pipe	C	From Leg	4.000	0.000	76.000	No Ice	1.425	1.425	0.022
(E-Empty)			0.000			1/2" Ice	1.925	1.925	0.033
			2.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
Platform Mount [LP 303-1]	C	None		0.000	76.000	No Ice	14.660	14.660	1.250

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(E-12' Per TIA)						1/2" Ice	18.870	18.870	1.481
						1" Ice	23.080	23.080	1.713
						2" Ice	31.500	31.500	2.175
***									
(2) SBNHH-1D45B w/ Mount Pipe	A	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	11.637 12.228	6.946 8.127	0.090 0.174
(E)			0.000			1" Ice	12.784	9.021	0.266
						2" Ice	13.919	10.844	0.480
(2) SBNHH-1D45B w/ Mount Pipe	B	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	11.637 12.228	6.946 8.127	0.090 0.174
(E)			0.000			1" Ice	12.784	9.021	0.266
						2" Ice	13.919	10.844	0.480
(2) SBNHH-1D45B w/ Mount Pipe	C	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	11.637 12.228	6.946 8.127	0.090 0.174
(E)			0.000			1" Ice	12.784	9.021	0.266
						2" Ice	13.919	10.844	0.480
BXA-171063/12CF w/ Mount Pipe	A	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	5.029 5.583	5.289 6.459	0.041 0.087
(E)			0.000			1" Ice	6.103	7.348	0.140
						2" Ice	7.166	9.148	0.273
BXA-171063/12CF w/ Mount Pipe	B	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	5.029 5.583	5.289 6.459	0.041 0.087
(E)			0.000			1" Ice	6.103	7.348	0.140
						2" Ice	7.166	9.148	0.273
BXA-171063/12CF w/ Mount Pipe	C	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	5.029 5.583	5.289 6.459	0.041 0.087
(E)			0.000			1" Ice	6.103	7.348	0.140
						2" Ice	7.166	9.148	0.273
BXA-70063/6CF w/ Mount Pipe	A	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	7.819 8.370	5.407 6.558	0.042 0.101
(E)			0.000			1" Ice	8.886	7.422	0.168
						2" Ice	9.942	9.198	0.328
BXA-70063/6CF w/ Mount Pipe	B	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	7.819 8.370	5.407 6.558	0.042 0.101
(E)			0.000			1" Ice	8.886	7.422	0.168
						2" Ice	9.942	9.198	0.328
BXA-70063/6CF w/ Mount Pipe	C	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	7.819 8.370	5.407 6.558	0.042 0.101
(E)			0.000			1" Ice	8.886	7.422	0.168
						2" Ice	9.942	9.198	0.328
B4 RRH2X60-4R (E-CL Per Photos)	A	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	0.000 0.000	0.000 0.000	0.000 0.000
			2.000			1" Ice	0.000	0.000	0.000
						2" Ice	0.000	0.000	0.000
B4 RRH2X60-4R (E-CL Per Photos)	B	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	0.000 0.000	0.000 0.000	0.000 0.000
			2.000			1" Ice	0.000	0.000	0.000
						2" Ice	0.000	0.000	0.000
B4 RRH2X60-4R (E-CL Per Photos)	C	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	0.000 0.000	0.000 0.000	0.000 0.000
			2.000			1" Ice	0.000	0.000	0.000
						2" Ice	0.000	0.000	0.000
RRH2x60-700 (E-CL Per Photos)	A	From Leg	4.000 0.000	0.000	65.000	No Ice 1/2" Ice	3.500 3.761	1.816 2.052	0.060 0.083
			2.000			1" Ice	4.029	2.289	0.109
						2" Ice	4.585	2.785	0.173
RRH2x60-700	B	From Leg	4.000	0.000	65.000	No Ice	3.500	1.816	0.060

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
(E-CL Per Photos)			0.000			1/2" Ice	3.761	2.052	0.083
			2.000			1" Ice	4.029	2.289	0.109
						2" Ice	4.585	2.785	0.173
RRH2x60-700	C	From Leg	4.000	0.000	65.000	No Ice	3.500	1.816	0.060
(E-CL Per Photos)			0.000			1/2" Ice	3.761	2.052	0.083
			2.000			1" Ice	4.029	2.289	0.109
						2" Ice	4.585	2.785	0.173
(2) DB-T1-6Z-8AB-0Z	C	From Leg	1.000	0.000	65.000	No Ice	4.800	2.000	0.044
(E-CL & Hz Offset Per			0.000			1/2" Ice	5.070	2.193	0.080
Photos)			2.000			1" Ice	5.348	2.393	0.120
						2" Ice	5.926	2.815	0.213
(2) 3' x 2" Pipe Mount	C	From Leg	1.000	0.000	65.000	No Ice	0.583	0.583	0.011
(E-For TME's Per Photos)			0.000			1/2" Ice	0.770	0.770	0.017
			1.000			1" Ice	0.967	0.967	0.024
						2" Ice	1.388	1.388	0.047
Platform Mount [LP 304-1]	C	None		0.000	65.000	No Ice	17.460	17.460	1.349
(E-14' Per TIA)						1/2" Ice	22.440	22.440	1.625
						1" Ice	27.420	27.420	1.900
						2" Ice	37.380	37.380	2.451
***									

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 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	100 - 47	Pole	Max Tension	26	0.000	0.000	0.000
			Max. Compression	26	-42.619	-1.330	-5.166
			Max. Mx	8	-22.892	-673.334	-3.043
			Max. My	14	-22.903	-1.425	-668.774
			Max. Vy	8	21.202	-673.334	-3.043
			Max. Vx	14	20.916	-1.425	-668.774
			Max. Torque	19			2.638
L2	47 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-61.493	-0.531	-5.023
			Max. Mx	8	-37.583	-1899.800	-3.362
			Max. My	14	-37.583	-1.597	-1880.254
			Max. Vy	8	25.048	-1899.800	-3.362
			Max. Vx	14	24.766	-1.597	-1880.254
			Max. Torque	19			2.637

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	33	61.493	0.003	-5.872
	Max. H_x	20	37.598	25.026	0.007
	Max. H_z	2	37.598	0.007	24.744
	Max. M_x	2	1876.415	0.007	24.744
	Max. M_z	8	1899.800	-25.026	-0.007

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Max. Torsion	19	2.635	21.670	-12.366
	Min. Vert	5	28.198	-12.507	21.426
	Min. H_x	8	37.598	-25.026	-0.007
	Min. H_z	14	37.598	-0.007	-24.744
	Min. M_x	14	-1880.254	-0.007	-24.744
	Min. M_z	20	-1899.494	25.026	0.007
	Min. Torsion	7	-2.633	-21.670	12.366

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	31.331	0.000	0.000	1.548	-0.120	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	37.598	-0.007	-24.744	-1876.415	1.292	0.989
0.9 Dead+1.0 Wind 0 deg - No Ice	28.198	-0.007	-24.744	-1867.330	1.322	0.992
1.2 Dead+1.0 Wind 30 deg - No Ice	37.598	12.507	-21.426	-1624.044	-948.728	2.087
0.9 Dead+1.0 Wind 30 deg - No Ice	28.198	12.507	-21.426	-1616.246	-943.857	2.093
1.2 Dead+1.0 Wind 60 deg - No Ice	37.598	21.670	-12.366	-935.996	-1644.575	2.626
0.9 Dead+1.0 Wind 60 deg - No Ice	28.198	21.670	-12.366	-931.708	-1636.158	2.633
1.2 Dead+1.0 Wind 90 deg - No Ice	37.598	25.026	0.007	3.362	-1899.800	2.462
0.9 Dead+1.0 Wind 90 deg - No Ice	28.198	25.026	0.007	2.860	-1890.081	2.468
1.2 Dead+1.0 Wind 120 deg - No Ice	37.598	21.677	12.378	942.333	-1646.020	1.639
0.9 Dead+1.0 Wind 120 deg - No Ice	28.198	21.677	12.378	937.044	-1637.592	1.644
1.2 Dead+1.0 Wind 150 deg - No Ice	37.598	12.519	21.433	1629.325	-951.230	0.378
0.9 Dead+1.0 Wind 150 deg - No Ice	28.198	12.519	21.433	1620.533	-946.342	0.379
1.2 Dead+1.0 Wind 180 deg - No Ice	37.598	0.007	24.744	1880.254	-1.597	-0.986
0.9 Dead+1.0 Wind 180 deg - No Ice	28.198	0.007	24.744	1870.184	-1.546	-0.988
1.2 Dead+1.0 Wind 210 deg - No Ice	37.598	-12.507	21.426	1627.881	948.425	-2.087
0.9 Dead+1.0 Wind 210 deg - No Ice	28.198	-12.507	21.426	1619.099	943.634	-2.092
1.2 Dead+1.0 Wind 240 deg - No Ice	37.598	-21.670	12.366	939.831	1644.271	-2.629
0.9 Dead+1.0 Wind 240 deg - No Ice	28.198	-21.670	12.366	934.559	1635.934	-2.635
1.2 Dead+1.0 Wind 270 deg - No Ice	37.598	-25.026	-0.007	0.473	1899.494	-2.465
0.9 Dead+1.0 Wind 270 deg - No Ice	28.198	-25.026	-0.007	-0.009	1889.855	-2.472
1.2 Dead+1.0 Wind 300 deg - No Ice	37.598	-21.677	-12.378	-938.496	1645.712	-1.640
0.9 Dead+1.0 Wind 300 deg -	28.198	-21.677	-12.378	-934.191	1637.365	-1.644

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+1.0 Wind 330 deg - No Ice	37.598	-12.519	-21.433	-1625.486	950.924	-0.375
0.9 Dead+1.0 Wind 330 deg - No Ice	28.198	-12.519	-21.433	-1617.678	946.116	-0.376
1.2 Dead+1.0 Ice+1.0 Temp	61.493	0.000	0.000	5.023	-0.531	0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	61.493	0.003	-5.872	-435.899	-0.676	0.170
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	61.493	2.955	-5.087	-376.873	-222.339	0.382
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	61.493	5.114	-2.939	-215.487	-384.575	0.491
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	61.493	5.903	-0.003	5.016	-443.912	0.469
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	61.493	5.111	2.933	225.553	-384.450	0.322
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	61.493	2.949	5.084	387.031	-222.123	0.088
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	61.493	-0.003	5.872	446.181	-0.426	-0.170
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	61.493	-2.955	5.087	387.156	221.238	-0.382
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	61.493	-5.114	2.939	225.769	383.473	-0.491
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	61.493	-5.903	0.003	5.266	442.810	-0.469
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	61.493	-5.111	-2.933	-215.271	383.348	-0.321
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	61.493	-2.949	-5.084	-376.748	221.021	-0.088
Dead+Wind 0 deg - Service	31.331	-0.001	-5.101	-384.381	0.170	0.204
Dead+Wind 30 deg - Service	31.331	2.578	-4.417	-332.522	-195.048	0.432
Dead+Wind 60 deg - Service	31.331	4.467	-2.549	-191.137	-338.036	0.543
Dead+Wind 90 deg - Service	31.331	5.159	0.001	1.889	-390.482	0.509
Dead+Wind 120 deg - Service	31.331	4.469	2.552	194.836	-338.333	0.339
Dead+Wind 150 deg - Service	31.331	2.581	4.418	336.004	-195.561	0.078
Dead+Wind 180 deg - Service	31.331	0.001	5.101	387.566	-0.423	-0.204
Dead+Wind 210 deg - Service	31.331	-2.578	4.417	335.707	194.794	-0.432
Dead+Wind 240 deg - Service	31.331	-4.467	2.549	194.323	337.783	-0.543
Dead+Wind 270 deg - Service	31.331	-5.159	-0.001	1.296	390.229	-0.509
Dead+Wind 300 deg - Service	31.331	-4.469	-2.552	-191.651	338.079	-0.339
Dead+Wind 330 deg - Service	31.331	-2.581	-4.418	-332.819	195.308	-0.078

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.000	-31.331	0.000	0.000	31.331	0.000	0.000%
2	-0.007	-37.598	-24.744	0.007	37.598	24.744	0.000%
3	-0.007	-28.198	-24.744	0.007	28.198	24.744	0.000%
4	12.507	-37.598	-21.426	-12.507	37.598	21.426	0.000%
5	12.507	-28.198	-21.426	-12.507	28.198	21.426	0.000%
6	21.670	-37.598	-12.366	-21.670	37.598	12.366	0.000%
7	21.670	-28.198	-12.366	-21.670	28.198	12.366	0.000%
8	25.026	-37.598	0.007	-25.026	37.598	-0.007	0.000%
9	25.026	-28.198	0.007	-25.026	28.198	-0.007	0.000%
10	21.677	-37.598	12.378	-21.677	37.598	-12.378	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
11	21.677	-28.198	12.378	-21.677	28.198	-12.378	0.000%
12	12.519	-37.598	21.433	-12.519	37.598	-21.433	0.000%
13	12.519	-28.198	21.433	-12.519	28.198	-21.433	0.000%
14	0.007	-37.598	24.744	-0.007	37.598	-24.744	0.000%
15	0.007	-28.198	24.744	-0.007	28.198	-24.744	0.000%
16	-12.507	-37.598	21.426	12.507	37.598	-21.426	0.000%
17	-12.507	-28.198	21.426	12.507	28.198	-21.426	0.000%
18	-21.670	-37.598	12.366	21.670	37.598	-12.366	0.000%
19	-21.670	-28.198	12.366	21.670	28.198	-12.366	0.000%
20	-25.026	-37.598	-0.007	25.026	37.598	0.007	0.000%
21	-25.026	-28.198	-0.007	25.026	28.198	0.007	0.000%
22	-21.677	-37.598	-12.378	21.677	37.598	12.378	0.000%
23	-21.677	-28.198	-12.378	21.677	28.198	12.378	0.000%
24	-12.519	-37.598	-21.433	12.519	37.598	21.433	0.000%
25	-12.519	-28.198	-21.433	12.519	28.198	21.433	0.000%
26	0.000	-61.493	0.000	-0.000	61.493	-0.000	0.000%
27	0.003	-61.493	-5.872	-0.003	61.493	5.872	0.000%
28	2.955	-61.493	-5.087	-2.955	61.493	5.087	0.000%
29	5.114	-61.493	-2.939	-5.114	61.493	2.939	0.000%
30	5.903	-61.493	-0.003	-5.903	61.493	0.003	0.000%
31	5.111	-61.493	2.933	-5.111	61.493	-2.933	0.000%
32	2.949	-61.493	5.084	-2.949	61.493	-5.084	0.000%
33	-0.003	-61.493	5.872	0.003	61.493	-5.872	0.000%
34	-2.955	-61.493	5.087	2.955	61.493	-5.087	0.000%
35	-5.114	-61.493	2.939	5.114	61.493	-2.939	0.000%
36	-5.903	-61.493	0.003	5.903	61.493	-0.003	0.000%
37	-5.111	-61.493	-2.933	5.111	61.493	2.933	0.000%
38	-2.949	-61.493	-5.084	2.949	61.493	5.084	0.000%
39	-0.001	-31.331	-5.101	0.001	31.331	5.101	0.000%
40	2.578	-31.331	-4.417	-2.578	31.331	4.417	0.000%
41	4.467	-31.331	-2.549	-4.467	31.331	2.549	0.000%
42	5.159	-31.331	0.001	-5.159	31.331	-0.001	0.000%
43	4.469	-31.331	2.552	-4.469	31.331	-2.552	0.000%
44	2.581	-31.331	4.418	-2.581	31.331	-4.418	0.000%
45	0.001	-31.331	5.101	-0.001	31.331	-5.101	0.000%
46	-2.578	-31.331	4.417	2.578	31.331	-4.417	0.000%
47	-4.467	-31.331	2.549	4.467	31.331	-2.549	0.000%
48	-5.159	-31.331	-0.001	5.159	31.331	0.001	0.000%
49	-4.469	-31.331	-2.552	4.469	31.331	2.552	0.000%
50	-2.581	-31.331	-4.418	2.581	31.331	4.418	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	0.00003600
3	Yes	4	0.00000001	0.00002334
4	Yes	4	0.00000001	0.00035186
5	Yes	4	0.00000001	0.00022771
6	Yes	4	0.00000001	0.00027921
7	Yes	4	0.00000001	0.00017922
8	Yes	4	0.00000001	0.00008374
9	Yes	4	0.00000001	0.00005486
10	Yes	4	0.00000001	0.00034666
11	Yes	4	0.00000001	0.00022338

12	Yes	4	0.00000001	0.00031153
13	Yes	4	0.00000001	0.00020006
14	Yes	4	0.00000001	0.00003737
15	Yes	4	0.00000001	0.00002422
16	Yes	4	0.00000001	0.00028655
17	Yes	4	0.00000001	0.00018375
18	Yes	4	0.00000001	0.00036678
19	Yes	4	0.00000001	0.00023709
20	Yes	4	0.00000001	0.00008238
21	Yes	4	0.00000001	0.00005398
22	Yes	4	0.00000001	0.00029123
23	Yes	4	0.00000001	0.00018702
24	Yes	4	0.00000001	0.00031873
25	Yes	4	0.00000001	0.00020545
26	Yes	4	0.00000001	0.00000560
27	Yes	4	0.00000001	0.00019520
28	Yes	4	0.00000001	0.00020352
29	Yes	4	0.00000001	0.00020524
30	Yes	4	0.00000001	0.00020147
31	Yes	4	0.00000001	0.00021065
32	Yes	4	0.00000001	0.00021091
33	Yes	4	0.00000001	0.00020356
34	Yes	4	0.00000001	0.00020969
35	Yes	4	0.00000001	0.00020905
36	Yes	4	0.00000001	0.00019955
37	Yes	4	0.00000001	0.00020343
38	Yes	4	0.00000001	0.00020209
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000618
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000581
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000691
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 47	5.152	43	0.406	0.001
L2	53 - 0	1.609	43	0.271	0.001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.000	Lightning Rod 5/8" x 8'	43	5.152	0.406	0.001	83498
86.000	AIR -32 B2A/B66AA w/ Mount Pipe	43	3.962	0.372	0.001	29820

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
78.000	TME-800MHZ RRH	43	3.312	0.352	0.001	18977
76.000	(2) APXVSPP18-C-A20 w/ Mount Pipe	43	3.155	0.346	0.001	17395
65.000	(2) SBNHH-1D45B w/ Mount Pipe	43	2.348	0.314	0.001	11928

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 47	25.015	8	1.971	0.007
L2	53 - 0	7.823	8	1.317	0.004

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.000	Lightning Rod 5/8" x 8'	8	25.015	1.971	0.007	17263
86.000	AIR -32 B2A/B66AA w/ Mount Pipe	8	19.240	1.809	0.006	6165
78.000	TME-800MHZ RRH	8	16.087	1.709	0.005	3922
76.000	(2) APXVSPP18-C-A20 w/ Mount Pipe	8	15.327	1.682	0.005	3595
65.000	(2) SBNHH-1D45B w/ Mount Pipe	8	11.413	1.524	0.004	2465

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	100 - 47 (1)	TP40.72x28x0.313	53.000	0.000	0.0	38.846	-22.894	2635.870	0.009
L2	47 - 0 (2)	TP51.37x38.655x0.375	53.000	0.000	0.0	61.003	-37.583	3999.770	0.009

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 $\frac{M_{uy}}{\phi M_{ny}}$

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	100 - 47 (1)	TP40.72x28x0.313	673.659	2103.400	0.320	0.000	2103.400	0.000
L2	47 - 0 (2)	TP51.37x38.655x0.375	1899.800	4179.683	0.455	0.000	4179.683	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	100 - 47 (1)	TP40.72x28x0.313	21.138	681.743	0.031	1.640	2292.267	0.001
L2	47 - 0 (2)	TP51.37x38.655x0.375	25.048	1070.600	0.023	2.462	4717.150	0.001

Pole Interaction Design Data

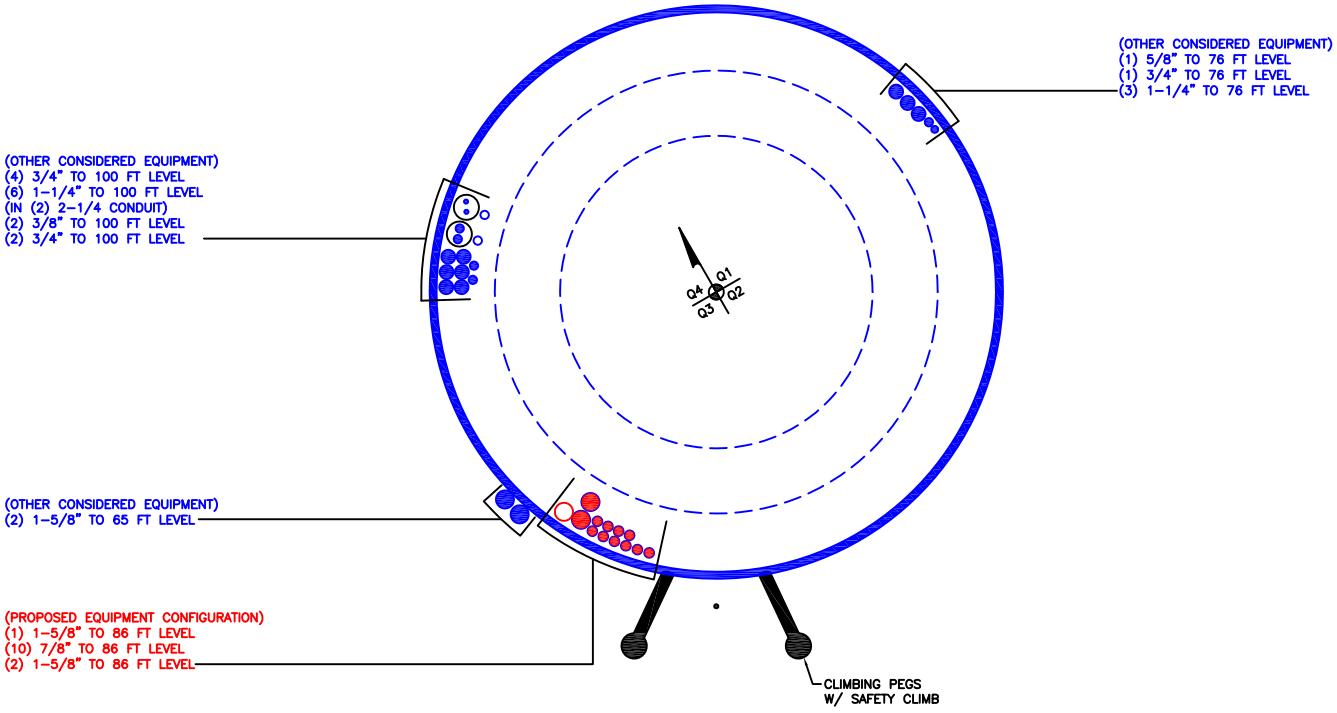
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	100 - 47 (1)	0.009	0.320	0.000	0.031	0.001	0.330 ✔	1.050	4.8.2 ✔
L2	47 - 0 (2)	0.009	0.455	0.000	0.023	0.001	0.465 ✔	1.050	4.8.2 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	100 - 47	Pole	TP40.72x28x0.313	1	-22.894	2767.663	31.4	Pass
L2	47 - 0	Pole	TP51.37x38.655x0.375	2	-37.583	4199.758	44.2	Pass
							Summary	
						Pole (L2)	44.2	Pass
						RATING =	**44.2**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT:842869

APPENDIX C

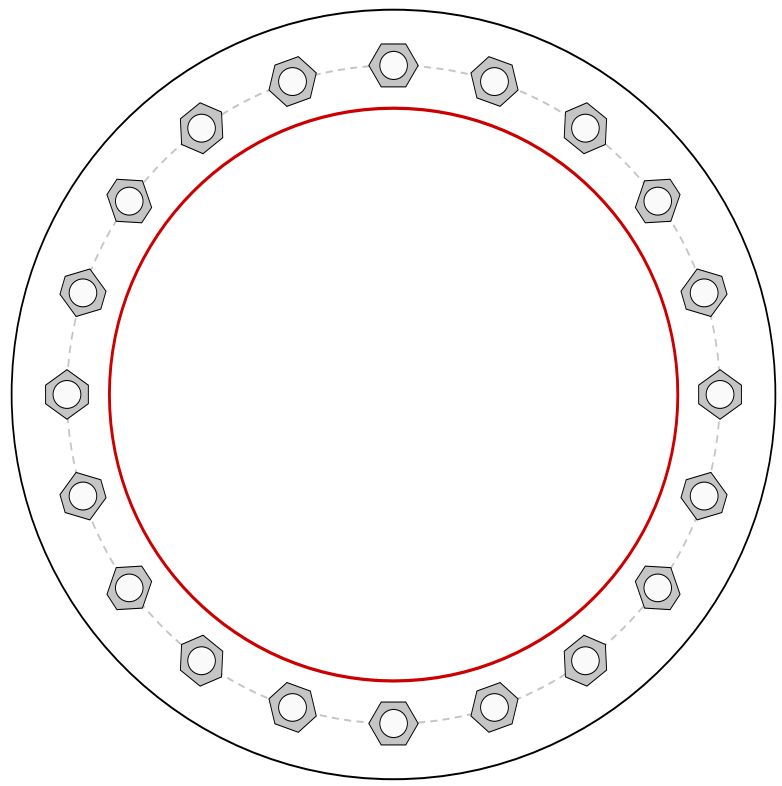
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

Site Info	
BU #	842869
Site Name	RIDEN WEST CENTRAL
Order #	445375 Rev# 4

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	0

Applied Loads	
Moment (kip-ft)	1899.80
Axial Force (kips)	37.58
Shear Force (kips)	25.05



Connection Properties

Anchor Rod Data

(20) 2-1/2" ø bolts (A572-50 N; Fy=50 ksi, Fu=65 ksi) on 59" BC

Base Plate Data

69" OD x 3" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Stiffener Data

N/A

Pole Data

51.37" x 0.375" 16-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary		*(units of kips, kip-in)*
Pu = 79.1	ϕPn = 200	**Stress Rating**
Vu = 1.25	ϕVn = 60	**37.7%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary		
Max Stress (ksi):	10.09	(Flexural)
Allowable Stress (ksi):	32.4	
Stress Rating:	**29.7%**	**Pass**

Pier and Pad Foundation

BU # :	842869
Site Name:	MERIDEN WEST (
App. Number:	445375 Rev. 4

TIA-222 Revision:	H
Tower Type:	Monopole

Block Foundation?:	☐

Superstructure Analysis Reactions

Compression, P_{comp}:	38	kips
Base Shear, Vu_comp:	25	kips
Moment, M_u:	1900	ft-kips
Tower Height, **H**:	100	ft
BP Dist. Above Fdn, bp_{dist}:	0	in

Pier Properties

Pier Shape:	Square	
Pier Diameter, **dpier**:	8	ft
Ext. Above Grade, **E**:	1	ft
Pier Rebar Size, **Sc**:	11	
Pier Rebar Quantity, **mc**:	60	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	7	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	7.5	ft
Pad Width, **W**:	20	ft
Pad Thickness, **T**:	2.5	ft
Pad Rebar Size, **Sp**:	9	
Pad Rebar Quantity, **mp**:	32	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

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

Soil Properties

Total Soil Unit Weight, **γ**:	110	pcf
Ultimate Gross Bearing, Qult:	8.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, **ϕ**:	38	degrees
SPT Blow Count, N_{blows}:		
Base Friction, **μ**:	0.35	
Neglected Depth, **N**:	3.50	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	n/a	ft

<--Toggle between Gross and Net

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	226.25	25.00	**10.5%**	**Pass**
Bearing Pressure (ksf)	6.00	2.39	**39.8%**	**Pass**
*Overturning (kip*ft)*	3805.59	2112.50	**55.5%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	16120.40	2050.00	**12.1%**	**Pass**
Pier Compression (kip)	40734.72	107.12	**0.3%**	**Pass**
*Pad Flexure (kip*ft)*	3474.94	572.89	**15.7%**	**Pass**
Pad Shear - 1-way (kips)	576.22	124.74	**20.6%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.190	0.027	**13.8%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	2688.99	1230.00	**43.6%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Soil Rating*:	**55.5%**
Structural Rating*:	**43.6%**

Version 3.0.2

Date: **July 23, 2018**

Christine Trotta
Crown Castle
3 Corporate Dr., St 101
Clifton Park, NY 12065

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Infinigy Engineering, PLLC
1033 Watervliet Shaker Road
Albany, NY 12205
518-690-0790
structural@infinigy.com

Subject:	**Mount Structural Analysis**	
Carrier Designation:	***T-Mobile Change-Out***	
	Carrier Site Number:	CT11733B
	Carrier Site Name:	CT733/AT&THntr Amblnce FT
Crown Castle Designation:	**Crown Castle BU Number:**	842869
	Crown Castle Site Name:	Meriden West Central
	Crown Castle JDE Job Number:	511473
	Crown Castle Application Number:	445375, Rev.0
Engineering Firm Designation:	**Infinigy Report Designation:**	600-005
Site Data:	**450-478 West Main Street, Meriden, New Haven County, CT 06451**	
	Latitude 41° 32' 24.11" Longitude -72° 49' 8.47"	
Structure Information:	**Tower Height & Type:**	**100 ft Monopole**
	Mount Elevation:	**86 ft**
	Mount Type:	**12.5 ft Platform**

Dear Christine Trotta,

Infinigy Engineering, PLLC is pleased to submit this **"Mount Structural Analysis Report"** to determine the structural integrity of T-Mobile's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

Based upon our analysis, we have determined the adequacy of the antenna mounting system that will support the existing and proposed loading to be:

Platform **Sufficient**

This analysis has been performed in accordance with the 2012 International Building Code and 2016 Connecticut State Building Code and the Infinigy Engineering, PLLC wind speed requirement of a 96 mph nominal 3-second gust wind speed as required for use in the ANSI/TIA-222-G Standard per Exception #5 of Section 1609.1. Exposure Category B and Risk Category II were used in this analysis.

We at Infinigy Engineering, PLLC 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.

Mount structural analysis prepared by: Dmitriy Albul, P.E.

Respectfully Submitted by:

Joseph R. Johnston

STATE OF CONNECTICUT
JOSEPH R. JOHNSTON
JUL 23 2018
29460
LICENSED PROFESSIONAL ENGINEER

Joe Johnston, P.E.
VP Structural Engineering / Principal

TABLE OF CONTENTS

1) INTRODUCTION

The proposed mount installation will consist of a 12.5 ft wide Platform at the 86 ft elevation. The existing and proposed antenna loading was obtained from the Application provided by CCI, Application Number 445375, Revision 0 and the Mount Photos.

2) ANALYSIS CRITERIA

The structural analysis was performed 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 96 mph with no ice, 50 mph with 0.75 inch escalated ice thickness, Exposure Category B and Topographic Category 1. In addition, the Platform been analyzed for various live loading conditions consisting of a 250-pound man live load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 500-pound man live load applied individually at mount pipe locations using a 3-second gust wind speed of 30 mph.

Table 1 - Proposed Equipment Loading Information

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Proposed Mount Type	Note
86.0	90.0	3	RFS	APXVAARR24_43-U-NA20	-	1
		3	Ericsson	AIR 3246 B66		
		3	Ericsson	Radio 2217 B2		
		3	Ericsson	Radio 4449 B12/B71		

Notes:
1) Proposed equipment

Table 2 - Existing Antenna and Cable Information

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Existing Mount Type	Note
86.0	90.0	3	Ericsson	AIR 32 B2A/B66AA	12.5 ft Platform	1
		3	Ericsson	KRY 112 71		
		3	Commscope	LNX-6515DS-A1M	-	2
		3	Ericsson	AIR 21 B2A B4P		
		3	Ericsson	AIR 21 B4A B2P		
		3	Ericsson	RRUS-11 B12		

Notes:
1) Existing equipment to remain
2) Existing equipment to be removed, not considered in this analysis

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	445375, Rev.0	CCI Sites
Site Visit	Mount Photos	842869	CCI Sites
Design Drawings	Mount Drawings	MC-PA12S-9-96	Commscope

3.1) Analysis Method

RISA-3D (Version 16.0.5), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

Infinigy Mount Analysis Tool 3.0.2, a tool internally developed by Infinigy, was used to calculate member loading for various load cases. Selected output from the analysis is included in Appendix B.

3.2) Assumptions

1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
2) The configuration of antennas, mounts, and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
4) Steel grades have been assumed as follows:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM A500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

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 antenna mounting system.

4) ANALYSIS RESULTS

Table 4 - Mount Component Stresses vs. Capacity (Platform)

Notes	Component	Mount Centerline (ft)	% Capacity	Pass / Fail
1,2	Mount Pipe	86.0	76.8%	Pass
	Frame Rail		30.0%	Pass
	Arm		26.4%	Pass
	Bolts		1.1%	Pass

Structure Rating (max from all components) =	76.8%

Notes:

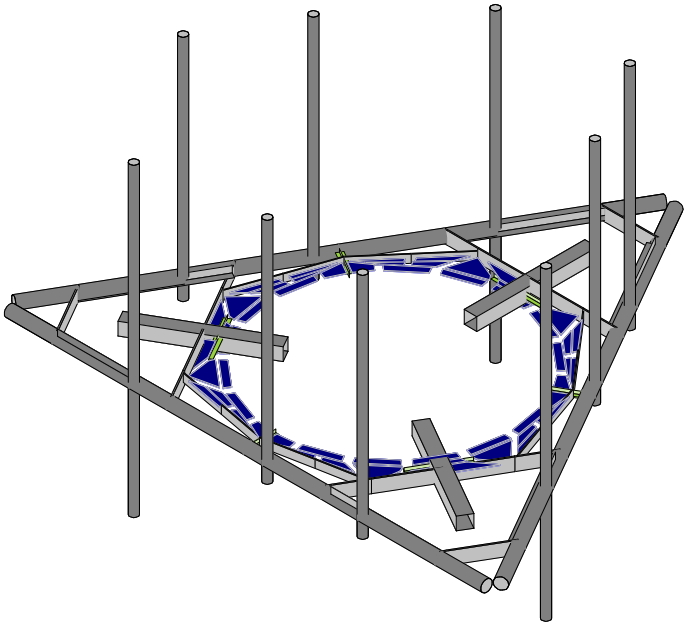
1) See additional documentation in "Appendix C - Analysis Output" for calculations supporting the % capacity consumed.
2) All sectors are typical

4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

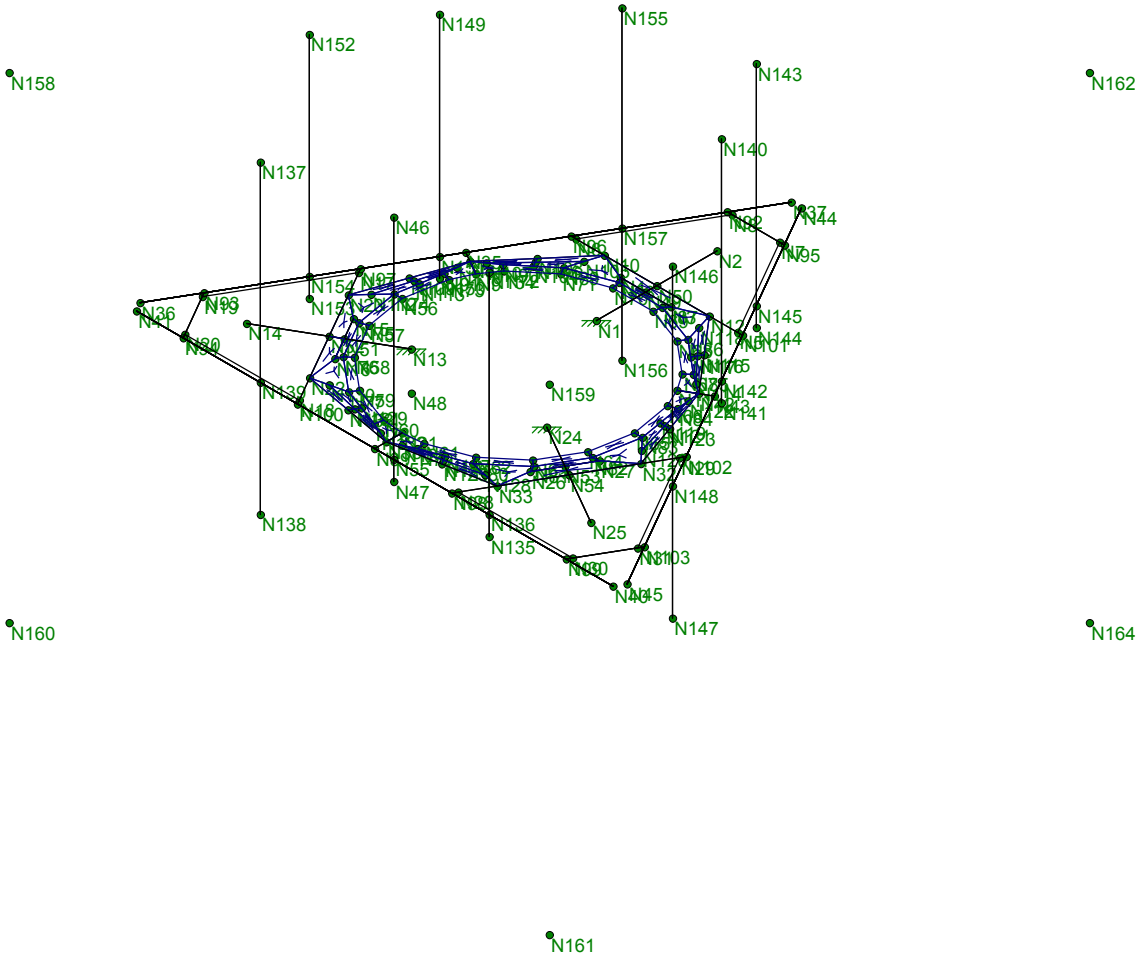
APPENDIX A

WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

Infinigy Engineering PLLC	Meriden West Central	Rendered Model
DVA		July 19, 2018 at 3:24 PM
600-005		CT11733B.r3d



Envelope Only Solution

Infinigy Engineering PLLC	Meriden West Central	Wire Frame Model
DVA		July 19, 2018 at 3:24 PM
600-005		CT11733B.r3d

APPENDIX B

SOFTWARE INPUT CALCULATIONS

Site Name:	Meriden West Central
Client:	Crown Castle
Carrier:	T-Mobile
Engineer:	DVA
Date:	7/19/2018

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INFINIGY WIND LOAD CALCULATOR 3.0.2

Site Information Inputs:

Adopted Building Code:	2012 IBC
Structure Load Standard:	TIA-222-G
Antenna Load Standard:	TIA-222-G
Structure Risk Category:	II
Structure Type:	Mount - Platform
Number of Sectors:	3
Structure Shape 1:	Flat

Rooftop Inputs:

Rooftop Wind Speed-Up?: No

Wind Loading Inputs:

Design Wind Velocity:	96	mph (nominal 3-second gust)
Wind Centerline 1 (z_1):	90.0	ft
Side Face Angle (θ):	60	degrees
Exposure Category:	B	
Topographic Category:	1	

Wind with No Ice		
q_z (psf)	Gh	F_{ST} (psf)
21.49	1.00	**42.99**

Wind with Ice		
q_z (psf)	Gh	F_{ST} (psf)
5.83	1.00	**14.80**

Ice Loading Inputs:

Is Ice Loading Needed?:	Yes	
Ice Wind Velocity:	50	mph (nominal 3-second gust)
Base Ice Thickness:	0.75	in

Input Appurtenance Information and Load Placements:

Appurtenance Name	Elevation (ft)	Total Quantity	Ka	Front Shape	Side Shape	q_z (psf)	EPA (ft^2)	Fz (lbs)	Fx (lbs)	Fz(60) (lbs)	Fx(30) (lbs)
Ericsson AIR 32 B2A/B66AA	90.0	3	1.00	Flat	Flat	21.49	6.51	139.91	101.28	110.94	130.26
RFS APXVAARR24_43-UNA20	90.0	3	1.00	Flat	Flat	21.49	20.24	435.07	191.04	252.05	374.06
Ericsson AIR 3246 B66	90.0	3	1.00	Flat	Flat	21.49	7.94	170.64	111.15	126.02	155.77
Ericsson Radio 4449 B12/B71	90.0	3	1.00	Flat	Flat	21.49	1.64	35.32	24.77	27.41	32.68
Ericsson Radio 2217 B2	90.0	3	1.00	Flat	Flat	21.49	1.35	29.03	12.59	16.70	24.92
Ericsson KRY 112 71	90.0	3	1.00	Flat	Flat	21.49	0.58	12.54	8.55	9.55	11.54

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2		180	Arm	Beam	Tube	A500 Gr.B...	Typical
2	M2	N13	N14		180	Arm	Beam	Tube	A500 Gr.B...	Typical
3	M3	N24	N25		180	Arm	Beam	Tube	A500 Gr.B...	Typical
4	M4	N36	N37			Frame Rail	Beam	Pipe	A53 Gr.B	Typical
5	M5	N40	N41			Frame Rail	Beam	Pipe	A53 Gr.B	Typical
6	M6	N44	N45			Frame Rail	Beam	Pipe	A53 Gr.B	Typical
7	M7	N46	N47			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
8	M8	N29	N31			Bracing	Beam	Single Angle	A36 Gr.36	Typical
9	M9	N30	N28			Bracing	Beam	Single Angle	A36 Gr.36	Typical
10	M10	N19	N17			Bracing	Beam	Single Angle	A36 Gr.36	Typical
11	M11	N20	N18		270	Bracing	Beam	Single Angle	A36 Gr.36	Typical
12	M12	N6	N8			Bracing	Beam	Single Angle	A36 Gr.36	Typical
13	M13	N7	N5			Bracing	Beam	Single Angle	A36 Gr.36	Typical
14	M14	N35	N9			RIGID	None	None	RIGID	Typical
15	M15	N43	N11			RIGID	None	None	RIGID	Typical
16	M16	N21	N39			RIGID	None	None	RIGID	Typical
17	M17	N99	N103			Edge 4	Beam	BAR	A36 Gr.36	Typical
18	M18	N95	N92			Edge 4	Beam	BAR	A36 Gr.36	Typical
19	M19	N94	N93			Edge 4	Beam	BAR	A36 Gr.36	Typical
20	M20	N15	N16			RIGID	None	None	RIGID	Typical
21	M21	N27	N26			RIGID	None	None	RIGID	Typical
22	M22	N4	N3			RIGID	None	None	RIGID	Typical
23	M23	N96	N10			Edge 4	Beam	BAR	A36 Gr.36	Typical
24	M24	N10	N12			Edge 4	Beam	BAR	A36 Gr.36	Typical
25	M25	N12	N101			Edge 4	Beam	BAR	A36 Gr.36	Typical
26	M26	N102	N32			Edge 4	Beam	BAR	A36 Gr.36	Typical
27	M27	N32	N33			Edge 4	Beam	BAR	A36 Gr.36	Typical
28	M28	N33	N98			Edge 4	Beam	BAR	A36 Gr.36	Typical
29	M29	N100	N22			Edge 4	Beam	BAR	A36 Gr.36	Typical
30	M30	N22	N23			Edge 4	Beam	BAR	A36 Gr.36	Typical
31	M31	N23	N97			Edge 4	Beam	BAR	A36 Gr.36	Typical
32	M32	N23	N109			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
33	M33	N109	N34			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
34	M34	N34	N108			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
35	M35	N108	N10			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
36	M36	N12	N115			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
37	M37	N115	N42			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
38	M38	N42	N123			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
39	M39	N123	N32			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
40	M40	N33	N125			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
41	M41	N125	N38			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
42	M42	N38	N133			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
43	M43	N133	N22			Edge 2.5	Beam	BAR	A36 Gr.36	Typical
44	M44	N134	N135			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
45	M45	N137	N138			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
46	M46	N140	N141			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
47	M47	N143	N144			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
48	M48	N146	N147			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
49	M49	N149	N150			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
50	M50	N152	N153			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
51	M51	N155	N156			Mount Pipe	Column	Pipe	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		6	73.7	0
3	Total General		6	73.7	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	2-1/2x1/4	12	180	0
7	A36 Gr.36	4x3/8	12	216	0
8	A36 Gr.36	L2x2x4	6	216	0
9	A500 Gr.B Rect	HSS4x4x4	3	114	.1
10	A53 Gr.B	PIPE_2.0	9	720	.2
11	A53 Gr.B	PIPE_3.0	3	450	.3
12	Total HR Steel		45	1896	.8

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut..	Area(M...	Surface...
1	Self Weight	DL		-1			36		3	
2	Wind Load AZI 000	WLZ					36		1	
3	Wind Load AZI 090	WLX					36	51	1	
4	Ice Weight	OL1					36		3	
5	Wind + Ice Load AZI 000	OL2					36		1	
6	Wind + Ice Load AZI 090	OL3					36		1	
7	Service Live 1	LL				3				
8	BLC 1 Transient Area Loads	None						105		
9	BLC 2 Transient Area Loads	None						49		
10	BLC 3 Transient Area Loads	None						43		
11	BLC 4 Transient Area Loads	None						105		
12	BLC 5 Transient Area Loads	None						49		
13	BLC 6 Transient Area Loads	None						43		

Load Combinations

	Description	Solve	PDe...	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		DL	1.4																		
2	1.2D + 1.6W AZI 000	Yes	Y		DL	1.2	W...	1.6																
3	1.2D + 1.6W AZI 030	Yes	Y		DL	1.2	W...	1.3...	W...	.8														
4	1.2D + 1.6W AZI 060	Yes	Y		DL	1.2	W...	.8	W...	1.3...														
5	1.2D + 1.6W AZI 090	Yes	Y		DL	1.2			W...	1.6														
6	1.2D + 1.6W AZI 120	Yes	Y		DL	1.2	W...	-.8	W...	1.3...														
7	1.2D + 1.6W AZI 150	Yes	Y		DL	1.2	W...	-1....	W...	.8														
8	1.2D + 1.6W AZI 180	Yes	Y		DL	1.2	W...	-1.6																
9	1.2D + 1.6W AZI 210	Yes	Y		DL	1.2	W...	-1....	W...	-.8														
10	1.2D + 1.6W AZI 240	Yes	Y		DL	1.2	W...	-.8	W...	-1....														
11	1.2D + 1.6W AZI 270	Yes	Y		DL	1.2			W...	-1.6														
12	1.2D + 1.6W AZI 300	Yes	Y		DL	1.2	W...	.8	W...	-1....														
13	1.2D + 1.6W AZI 330	Yes	Y		DL	1.2	W...	1.3...	W...	-.8														
14	0.9D + 1.6W AZI 000	Yes	Y		DL	.9	W...	1.6																
15	0.9D + 1.6W AZI 030	Yes	Y		DL	.9	W...	1.3...	W...	.8														
16	0.9D + 1.6W AZI 060	Yes	Y		DL	.9	W...	.8	W...	1.3...														
17	0.9D + 1.6W AZI 090	Yes	Y		DL	.9			W...	1.6														
18	0.9D + 1.6W AZI 120	Yes	Y		DL	.9	W...	-.8	W...	1.3...														
19	0.9D + 1.6W AZI 150	Yes	Y		DL	.9	W...	-1....	W...	.8														
20	0.9D + 1.6W AZI 180	Yes	Y		DL	.9	W...	-1.6																
21	0.9D + 1.6W AZI 210	Yes	Y		DL	.9	W...	-1....	W...	-.8														
22	0.9D + 1.6W AZI 240	Yes	Y		DL	.9	W...	-.8	W...	-1....														

Load Combinations (Continued)

	Description	Solve	PDe...	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
23	0.9D + 1.6W AZI 270	Yes	Y		DL	.9			W...	-1.6														
24	0.9D + 1.6W AZI 300	Yes	Y		DL	.9	W...	.8	W...	-1....														
25	0.9D + 1.6W AZI 330	Yes	Y		DL	.9	W...	1.3...	W...	-.8														
26	1.2D + 1.0Di	Yes	Y		DL	1.2	O...	1																
27	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1	O...	1														
28	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1	O...	.866	O...	.5												
29	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1	O...	.5	O...	.866												
30	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1			O...	1												
31	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1	O...	-.5	O...	.866												
32	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1	O...	-.8...	O...	.5												
33	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1	O...	-1														
34	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1	O...	-.8...	O...	-.5												
35	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1	O...	-.5	O...	-.8...												
36	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1			O...	-1												
37	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1	O...	.5	O...	-.8...												
38	1.2D + 1.0Di + 1.0Wi ...	Yes	Y		DL	1.2	O...	1	O...	.866	O...	-.5												
39	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.098														
40	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.085	W...	.049												
41	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.049	W...	.085												
42	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5			W...	.098												
43	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.0...	W...	.085												
44	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.0...	W...	.049												
45	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.0...														
46	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.0...	W...	-.0...												
47	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.0...	W...	-.0...												
48	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5			W...	-.0...												
49	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.049	W...	-.0...												
50	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.085	W...	-.0...												

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	1639.861	17	2303.368	3	2051.078	14	3.38	3	1.064	11	1.293	11
2		min	-1640.085	11	-445.965	21	-2056.09	8	-.662	21	-1.064	17	-1.247	17
3	N13	max	1497.781	17	2973.269	43	1623.247	13	.745	25	.793	2	1.194	23
4		min	-1501.786	11	-849.354	24	-1621.193	19	-3.083	44	-.793	8	-3.509	5
5	N24	max	1806.159	5	2220.443	35	1488.58	3	.822	25	.676	19	2.923	36
6		min	-1801.939	23	313.274	14	-1485.954	21	-2.172	7	-.676	13	.668	17
7	Totals:	max	4943.133	17	6054.422	27	5051.905	14						
8		min	-4943.133	11	-14.974	23	-5051.905	8						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	M45	PIPE_2.0	.768	60	8	.049	60		8	14916.0...	32130	1.872	1.872	1...	H1-1b
2	M51	PIPE_2.0	.680	60	5	.044	60		5	14916.0...	32130	1.872	1.872	2...	H1-1b
3	M48	PIPE_2.0	.678	60	5	.044	60		5	14916.0...	32130	1.872	1.872	2...	H1-1b
4	M7	PIPE_2.0	.518	66	8	.039	66		8	20866.7...	32130	1.872	1.872	1...	H1-1b
5	M49	PIPE_2.0	.488	66	5	.036	66		5	20866.7...	32130	1.872	1.872	2...	H1-1b
6	M44	PIPE_2.0	.485	66	8	.036	66		8	20866.7...	32130	1.872	1.872	1...	H1-1b
7	M46	PIPE_2.0	.483	66	5	.036	66		5	20866.7...	32130	1.872	1.872	2...	H1-1b
8	M50	PIPE_2.0	.460	66	5	.034	66		5	20866.7...	32130	1.872	1.872	2...	H1-1b
9	M25	4x3/8	.457	9.054	5	.339	9.054	y	4	29696.0...	48600	.38	4.05	1...	H1-1b
10	M47	PIPE_2.0	.456	66	5	.034	66		5	20866.7...	32130	1.872	1.872	2...	H1-1b
11	M28	4x3/8	.441	9.054	13	.213	9.054	y	37	29696	48600	.38	4.05	1...	H1-1b
12	M30	4x3/8	.417	33.057	5	.164	33.0...	y	5	3634.041	48600	.38	4.05	1...	H1-1b

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn ...	phi*Mn ...	Cb	Eqn
13	M29	4x3/8	.417	1.418	3	.369	1.418	y	5	29696.0...	48600	.38	4.05	1...	H1-1b
14	M26	4x3/8	.409	1.418	7	.270	1.418	y	8	29696.0...	48600	.38	4.05	1...	H1-1b
15	M23	4x3/8	.407	10.472	4	.224	0	y	13	29696.0...	48600	.38	4.05	1...	H1-1b
16	M31	4x3/8	.390	9.054	9	.350	9.054	y	44	29696.0...	48600	.38	4.05	1...	H1-1b
17	M24	4x3/8	.381	33.057	3	.149	16.5...	y	4	3634.041	48600	.38	4.05	1...	H1-1b
18	M43	2-1/2x1/4	.343	15	6	.058	15	y	43	3268.111	20250	.105	.967	1...	H1-1b
19	M32	2-1/2x1/4	.343	0	5	.042	0	y	5	3268.112	20250	.105	.96	1...	H1-1b
20	M27	4x3/8	.336	0	9	.140	16.5...	y	8	3634.043	48600	.38	4.05	1...	H1-1b
21	M4	PIPE_3.0	.300	50	44	.184	50		9	28250.5...	65205	5.749	5.749	1...	H1-1b
22	M5	PIPE_3.0	.295	100	5	.230	100		3	28250.5...	65205	5.749	5.749	2...	H1-1b
23	M6	PIPE_3.0	.277	50	4	.218	50		5	28250.5...	65205	5.749	5.749	2...	H1-1b
24	M1	HSS4x4x4	.264	0	4	.142	0	y	4	133783....	139518	16.181	16.181	3...	H1-1b
25	M2	HSS4x4x4	.262	0	43	.161	0	y	45	133783....	139518	16.181	16.181	3...	H1-1b
26	M35	2-1/2x1/4	.251	15	3	.025	15	y	38	3268.112	20250	.105	.944	1...	H1-1b
27	M19	4x3/8	.233	16.5	7	.143	16.5	y	4	12256.4...	48600	.38	3.689	1...	H1-1b
28	M34	2-1/2x1/4	.230	15	4	.051	15	y	4	3268.112	20250	.105	.95	1...	H1-1b
29	M42	2-1/2x1/4	.209	15	8	.048	15	y	8	3268.111	20250	.105	.982	1...	H1-1b
30	M17	4x3/8	.209	16.5	8	.131	1.5	y	7	12256.4...	48600	.38	3.947	1...	H1-1b
31	M3	HSS4x4x4	.206	0	34	.131	0	y	7	133783....	139518	16.181	16.181	3...	H1-1b
32	M18	4x3/8	.206	1.5	4	.137	16.5	y	5	12256.4...	48600	.38	3.869	1...	H1-1b
33	M40	2-1/2x1/4	.205	15	9	.020	0	y	36	3268.111	20250	.105	.926	1...	H1-1b
34	M36	2-1/2x1/4	.202	0	2	.027	0	y	4	3268.112	20250	.105	.95	1...	H1-1b
35	M39	2-1/2x1/4	.192	0	11	.025	15	y	34	3268.111	20250	.105	.928	1...	H1-1b
36	M38	2-1/2x1/4	.189	15	11	.042	0	y	12	3268.111	20250	.105	.954	1...	H1-1b
37	M41	2-1/2x1/4	.178	0	8	.051	0	y	8	3268.111	20250	.105	.944	1...	H1-1b
38	M33	2-1/2x1/4	.177	0	5	.049	0	y	4	3268.112	20250	.105	1.055	1...	H1-1b
39	M37	2-1/2x1/4	.152	0	13	.042	15	y	12	3268.112	20250	.105	.966	1...	H1-1b
40	M10	L2x2x4	.134	36	44	.020	36	y	7	19394.3...	30585.6	.691	1.577	1...	H2-1
41	M11	L2x2x4	.128	36	5	.023	36	z	5	19394.3...	30585.6	.691	1.577	1...	H2-1
42	M13	L2x2x4	.120	36	4	.022	36	y	4	19394.3...	30585.6	.691	1.577	2...	H2-1
43	M8	L2x2x4	.100	0	8	.019	0	y	8	19394.3...	30585.6	.691	1.577	1...	H2-1
44	M12	L2x2x4	.087	0	2	.015	36	y	13	19394.3...	30585.6	.691	1.577	1...	H2-1
45	M9	L2x2x4	.073	36	36	.014	36	y	36	19394.3...	30585.6	.691	1.577	1...	H2-1

APPENDIX D

REFERENCE DOCUMENTS

Date:	7/19/2018
Client	Crown Castle
Carrier	T-Mobile
Engineer:	DVA
Site:	Meriden West Central
Job #:	600-005

Code:	LRFD	
Axial:	2056.10	lbs
Shear:	2303.40	lbs

Bolt Capacity (5/8" A307 Thru Bolt)				
	Ult Load / Bolt	Factored Load (ϕ=0.75)	# of Bolts	Factor Joint Capacity
Axial (lb)	13560.0	10170.0	4	40680
Shear(lb)	8284.0	6213.0	4	24852

Interaction Check	
T /ϕT_n	5.1%
V /ϕVn	9.3%
≤1.0	1.1%
	OK

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

T-Mobile Existing Facility

Site ID: CT11733B

CT733/AT&THntr Amblnce FT
462 West Main Street
Meriden, CT 06451

August 7, 2018

EBI Project Number: 6218005438

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	68.87 %

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August 7, 2018

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CT11733B – CT733/AT&THntr Amblnce FT**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **462 West Main Street, Meriden, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

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 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) frequency 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 T-Mobile Wireless antenna facility located at **462 West Main Street, Meriden, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile 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 for directional panel antennas, 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) 1 GSM channels (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 15 Watts per Channel.

2) 1 UMTS channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts per Channel.

3) 1 UMTS channel (AWS Band – 2100 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts per Channel.

4) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

5) 4 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

6) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

7) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

8) 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.

9) 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 for directional panel antennas, 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.

10) The antennas used in this modeling are the **Ericsson AIR32 B2A/B66AA** & **Ericsson AIR21 B2A/B4P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **RFS APXVAARR24_43-U-NA20** for 600 MHz and 700 MHz channels. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

11) The antenna mounting height centerline of the proposed antennas is **90 feet** above ground level (AGL).

12) 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.

13) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Ericsson AIR32 B2A/B66AA	Make / Model:	Ericsson AIR32 B2A/B66AA	Make / Model:	Ericsson AIR32 B2A/B66AA
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 feet
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	160	Total TX Power(W):	160	Total TX Power(W):	160
ERP (W):	6,224.72	ERP (W):	6,224.72	ERP (W):	6,224.72
Antenna A1 MPE%	**3.17**	Antenna B1 MPE%	**3.17**	Antenna C1 MPE%	**3.17**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 feet
Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	80	Total TX Power(W):	80	Total TX Power(W):	80
ERP (W):	3,112.36	ERP (W):	3,112.36	ERP (W):	3,112.36
Antenna A2 MPE%	**1.59**	Antenna B2 MPE%	**1.59**	Antenna C2 MPE%	**1.59**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Gain:	15.65 / 16.35 / 12.95 / 13.35 dBd	Gain:	15.65 / 16.35 / 12.95 / 13.35 dBd	Gain:	15.65 / 16.35 / 12.95 / 13.35 dBd
Height (AGL):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 feet
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz
Channel Count	7	Channel Count	7	Channel Count	7
Total TX Power(W):	215	Total TX Power(W):	215	Total TX Power(W):	215
ERP (W):	6,265.27	ERP (W):	6,265.27	ERP (W):	6,265.27
Antenna A3 MPE%	**4.97**	Antenna B3 MPE%	**4.97**	Antenna C3 MPE%	**4.97**

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**9.73 %**
Hunters - Yagi 1	**0.83 %**
Hunters - Yagi 2	**7.43 %**
Hunters - Yagi 3	**22.28 %**
Hunters - Yagi 4	**7.43 %**
AT&T	**9.77 %**
Sprint	**1.27 %**
Verizon Wireless	**10.13 %**
Site Total MPE %:	**68.87 %**

T-Mobile Sector A Total:	9.73 %
T-Mobile Sector B Total:	9.73 %
T-Mobile Sector C Total:	9.73 %
Site Total:	68.87 %

T-Mobile Maximum Power Values (Per Sector)

T-Mobile _Frequency Band / Technology (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile AWS - 2100 MHz LTE	4	1,556.18	90	31.72	AWS - 2100 MHz	1000.00	3.17%
T-Mobile PCS - 1900 MHz LTE	2	1,556.18	90	15.86	PCS - 1900 MHz	1000.00	1.59%
T-Mobile PCS - 1900 MHz UMTS	1	1,469.13	90	7.49	PCS - 1900 MHz	1000.00	0.75%
T-Mobile PCS - 1900 MHz GSM	1	550.92	90	2.81	PCS - 1900 MHz	1000.00	0.28%
T-Mobile AWS - 2100 MHz UMTS	1	1,726.08	90	8.79	AWS - 2100 MHz	1000.00	0.88%
T-Mobile 600 MHz LTE	2	865.09	90	8.82	600 MHz	400.00	2.20%
T-Mobile 700 MHz LTE	2	394.48	90	4.02	700 MHz	467.00	0.86%
						Total:	**9.73%**

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector A:	9.73 %
Sector B:	9.73 %
Sector C:	9.73 %
T-Mobile Maximum MPE % (Per Sector):	9.73 %
Site Total:	68.87 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **68.87%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.