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

December 17, 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: 876343**
AT&T Site ID: CT11027D
1919 Boston Post Road, Guilford, CT 06437
Latitude: 41° 18' 1.27"/ Longitude: -72° 42' 29.13"

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 149-foot level of the existing 150-foot monopole tower at 1919 Boston Post Road in Guilford, CT. The tower is owned by Crown Castle. The property is owned by DDR Guilford LLC. T-Mobile now intends to add three (3) antennas, three (3) RRUs and one (1) Hyrbid fiber line. The new antenna centerline will be 147'.

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

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

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 Mr. Joseph Mazza, First-Selectman, Town of Guilford; Town of Guilford Town Planner, 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: Jeffrey Barbadora.

Sincerely,

Will Stone
Real Estate Specialist
3 Corporate Park Dr, Suite 101
Clifton Park, NY 12065
518-373-3543
william.stone@crowncastle.com

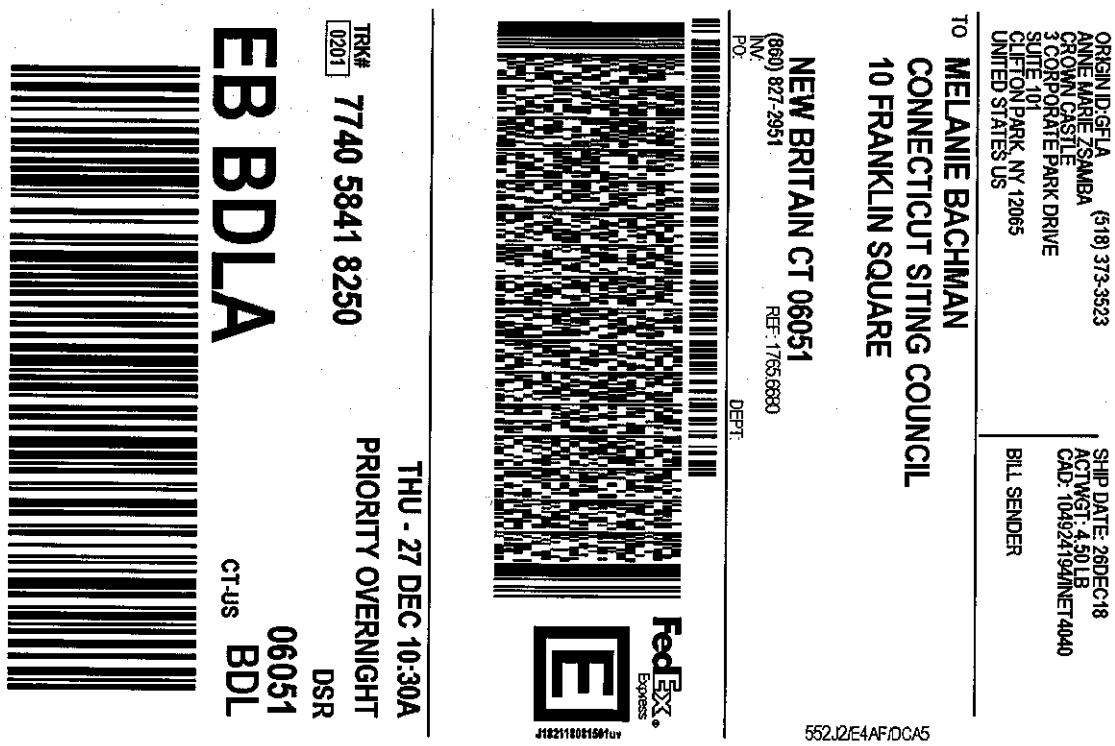
Attachments:
Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes
Tab 2: Exhibit-2: Structural Modification Report
Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc:

Town Manager
Town of Guilford
31 Park Street
Guilford, CT 06437

DDR Guilford LLC
3300 Enterprise Pkwy
Beachwood, OH 44122

Town Planner
Town of Guilford
31 Park St
Guilford, CT 06437



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

May 22, 2008

Decision and Order

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The parties and intervenors to this proceeding are:

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

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

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

Town of Guilford
Property Listing Report

Parcel ID 079035

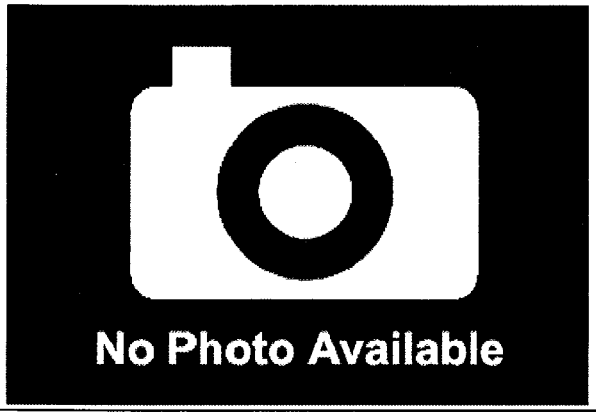
Account

Property Information

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

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

Photo



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

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

Construction Details

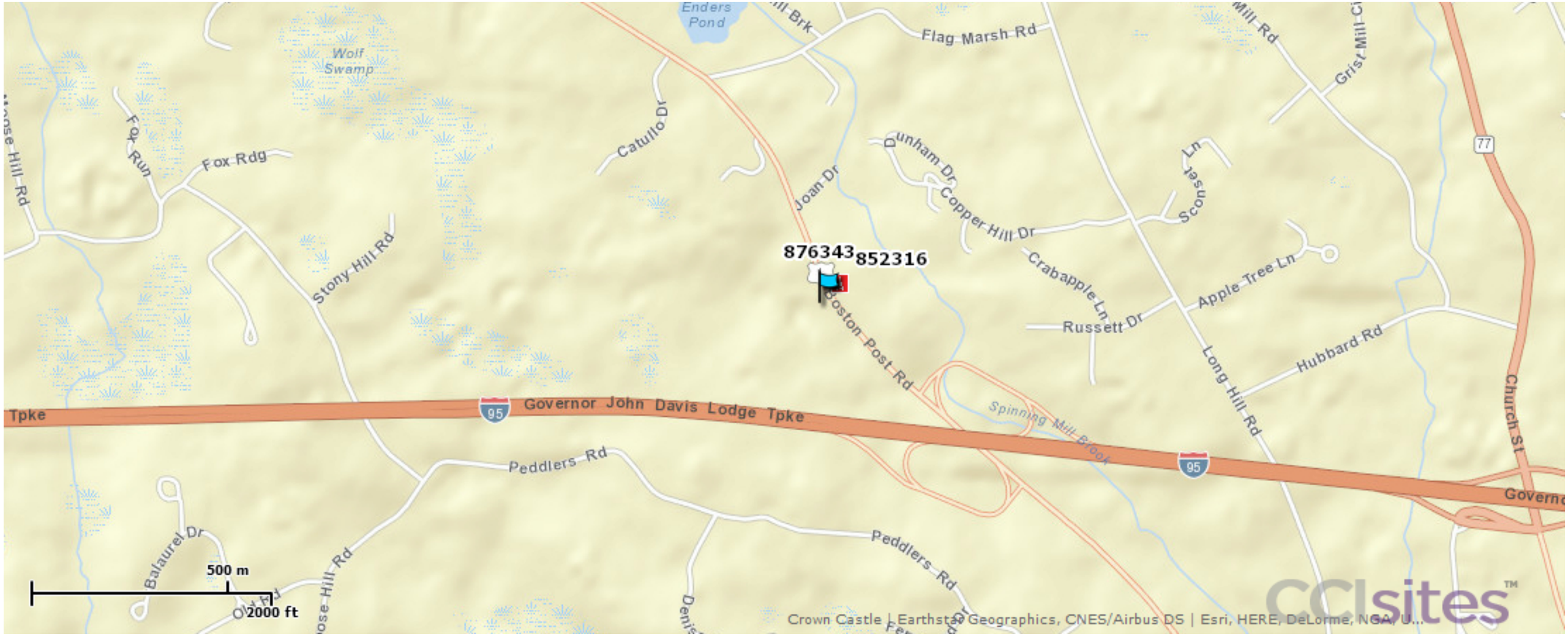
Year Built	2015
Stories	1
Building Style	
Building Use	Neighborhood
Building Condition	GOOD
Total Rooms	0
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	FLAT
Roof Cover	POLY RUBBER

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

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

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

Report Created On 7/20/2016


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

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

876343

SITE ID

CT11027D

SITE NAME

GUILFORD WEST STONE

SITE ADDRESS

1919 BOSTON POST RD.
GUILFORD, CT 06437

CONFIGURATION

67D92C_2XAIR+10P

PROJECT SITE INFORMATION

SITE ID:	CT11027D	
SITE NAME:	GUILFORD WEST STONE	
SITE ADDRESS:	1919 BOSTON POST RD. GUILFORD, CT 06437	
PERMITTING JURISDICTION:	TOWN OF GUILFORD	
COUNTY:	NEW HAVEN	
ZONING:	SCW	
SITE COORDINATES:		
LATITUDE:	41° 18' 01.3" N (41.300361°)	(NAD 83)
LONGITUDE:	72° 42' 29.1" W (-72.708083)	(NAD 83)
APPLICANT:	T-MOBILE NORTHEAST LLC 103 MONARCH DRIVE LIVERPOOL, NY 13088	

STRUCTURAL ANALYSIS INFORMATION

TOWER ANALYSIS

INFINIGY ENGINEERING HAS NOT EVALUATED THE EXISTING **TOWER** FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY. REFER TO STRUCTURAL ANALYSIS FROM TOWER OWNER PRIOR TO ANY CONSTRUCTION.

ANTENNA MOUNTS

BASED ON THE MOUNT ANALYSIS COMPLETED BY **CENTEK** DATED **10/09/18**. THE EXISTING ANTENNA MOUNTS ARE CAPABLE OF SUPPORTING THE PROPOSED EQUIPMENT CONFIGURATION WITH THE FOLLOWING MODIFICATIONS:

- **CONTRACTOR TO INSTALL MOUNT MODIFICATIONS AS SHOWN IN MOUNT ANALYSIS REPORT BY CENTEK, DATED 10/09/18**

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:

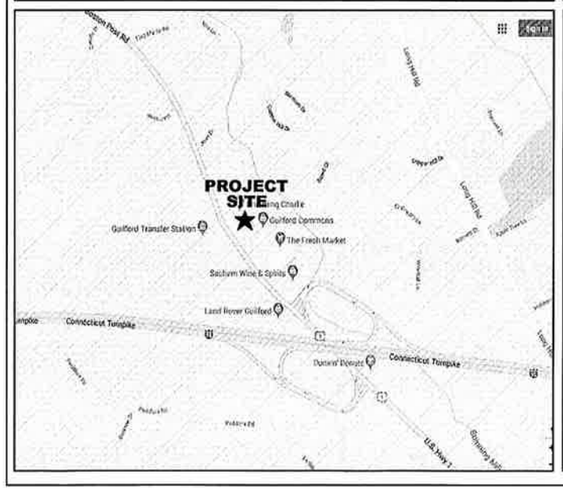
TMO L600 67D92C ADDING (3) ANTENNAS, ADDING (3) RRU'S, ADDING (1) HYBRID. INSTALL MOUNT MODIFICATIONS.

FINAL CONFIG: (9) ANTENNAS, (6) COAX, (3) TMA'S, (3) RRU'S , (2) HYBRID

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: 1-800-922-4455 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 · 24705 · LICENSED PROFESSIONAL ENGINEER

OCT 11 2018

No	Submittal / Revision	Appd	Date
A	ISSUED FOR REVIEW	RCD	10/23/18

Drawn: RCD
Designed: MRL
Checked: AJD

Project Number: 600-007

Project Title: CT11027D GUILFORD WEST STONE
1919 BOSTON POST RD.
GUILFORD, CT 06437

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
M	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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STATE OF CONNECTICUT
JOHN A. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER
OCT 3 1 2018

No	Submittal / Revision	Appd	Date
A	ISSUED FOR REVIEW	RCD	10/23/18

Drawn: RSD
Designed: MRL
Checked: MD

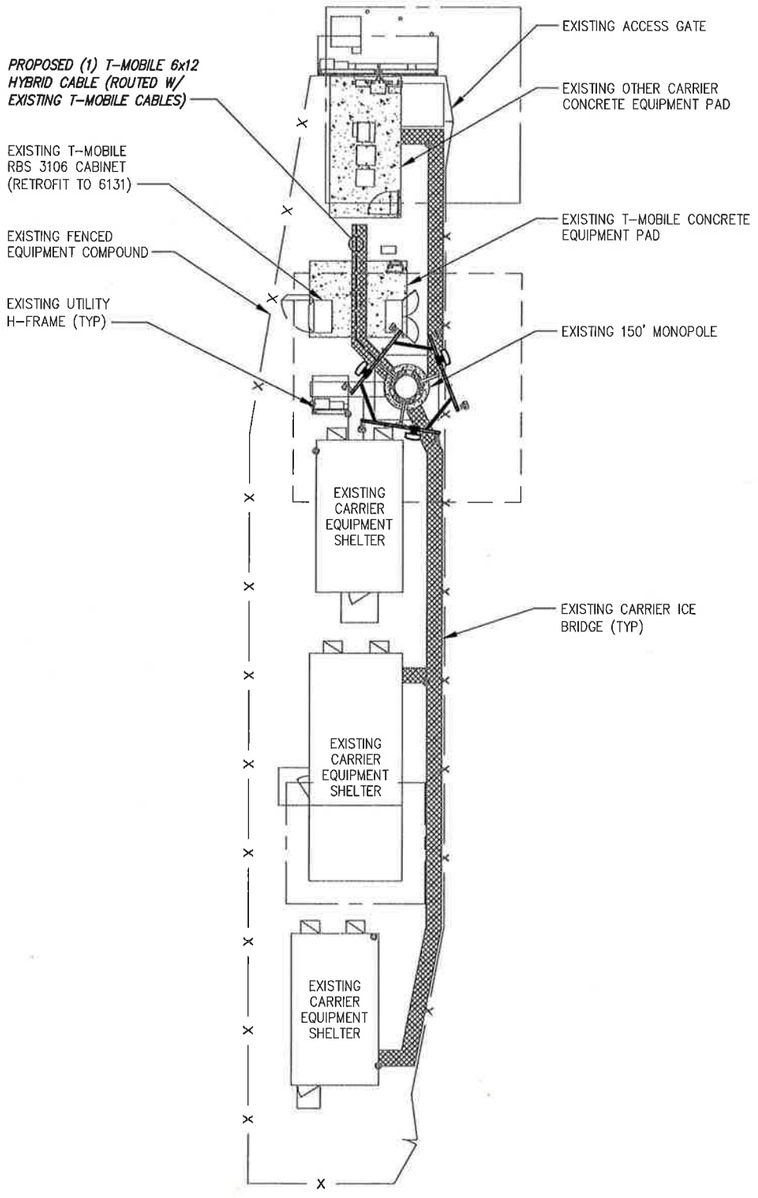
Project Number: 600-007

Project Title:
CT11027D
GUILFORD WEST STONE
1919 BOSTON POST RD.
GUILFORD, CT 06437

Prepared For:
CROWN CASTLE

Drawing Title
NOTES

Drawing Number
N1



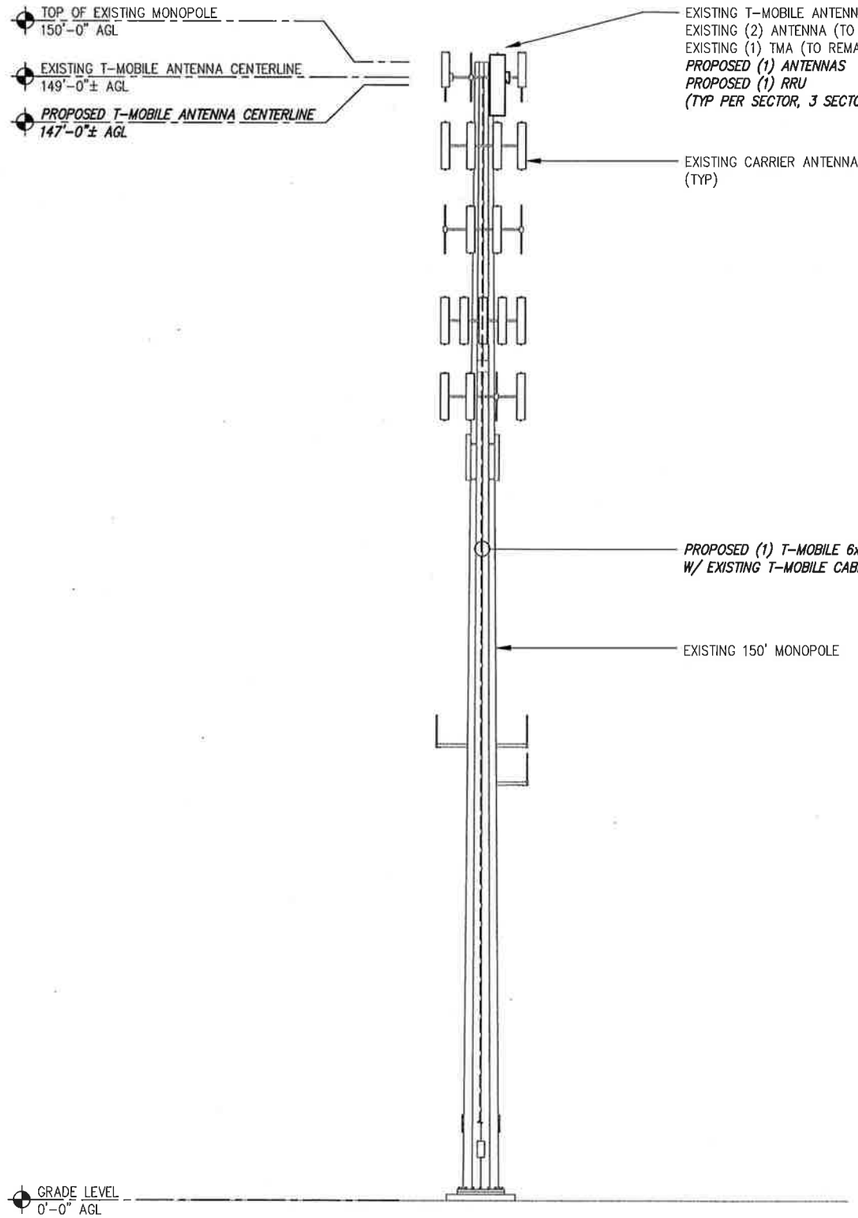
NORTH

1 C1 PLAN VIEW
SCALE: AS NOTED

GRAPHIC SCALE:

20' 10' 0 10' 20'

SCALE (11x17): 1" = 20'-0"
SCALE (22x34): 1" = 10'-0"



2 C1 ELEVATION
SCALE: NOT TO SCALE

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STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24765
LICENSED PROFESSIONAL ENGINEER
OCT 31 2018

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Checked: AJD

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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	AIR21 KRC118023-1_B2A_B4P	ERICSSON	0°	0	2/2	149'-0"	(1) TWIN STYLE 1B	EXISTING	(1) HYBRID CABLE (SHARED) (2) 1-5/8" COAX
	A-2	**APXVAARR24_43-U-NA20**	**RFS**	0°	0	2/2	147'-0"	**(1) RRU 4449 B71+B12**	**198'±**	**(1) 6X12 HYBRID TRUNK CABLE (SHARED)**
	A-3	AIR21 KRC118023-1_B2P_B4A	ERICSSON	0°	0	2	149'-0"	-	EXISTING	(1) HYBRID CABLE (SHARED)
BETA	B-1	AIR21 KRC118023-1_B2A_B4P	ERICSSON	120°	0	2/2	149'-0"	(1) TWIN STYLE 1B	EXISTING	(1) HYBRID CABLE (SHARED) (2) 1-5/8" COAX
	B-2	**APXVAARR24_43-U-NA20**	**RFS**	120°	0	2/2	147'-0"	**(1) RRU 4449 B71+B12**	**198'±**	**(1) 6X12 HYBRID TRUNK CABLE (SHARED)**
	B-3	AIR21 KRC118023-1_B2P_B4A	ERICSSON	120°	0	2	149'-0"	-	EXISTING	(1) HYBRID CABLE (SHARED)
GAMMA	C-1	AIR21 KRC118023-1_B2A_B4P	ERICSSON	240°	0	2/2	149'-0"	(1) TWIN STYLE 1B	EXISTING	(1) HYBRID CABLE (SHARED) (2) 1-5/8" COAX
	C-2	**APXVAARR24_43-U-NA20**	**RFS**	240°	0	2/2	147'-0"	**(1) RRU 4449 B71+B12**	**198'±**	**(1) 6X12 HYBRID TRUNK CABLE (SHARED)**
	C-3	AIR21 KRC118023-1_B2P_B4A	ERICSSON	240°	0	2	149'-0"	-	EXISTING	(1) HYBRID CABLE (SHARED)

1/C2 RF SYSTEM CHART
SCALE: NOT TO SCALE

KEY

EXISTING
PROPOSED

ANTENNA LOCATION KEY

VIEWED FROM BEHIND

#1 #2 #4

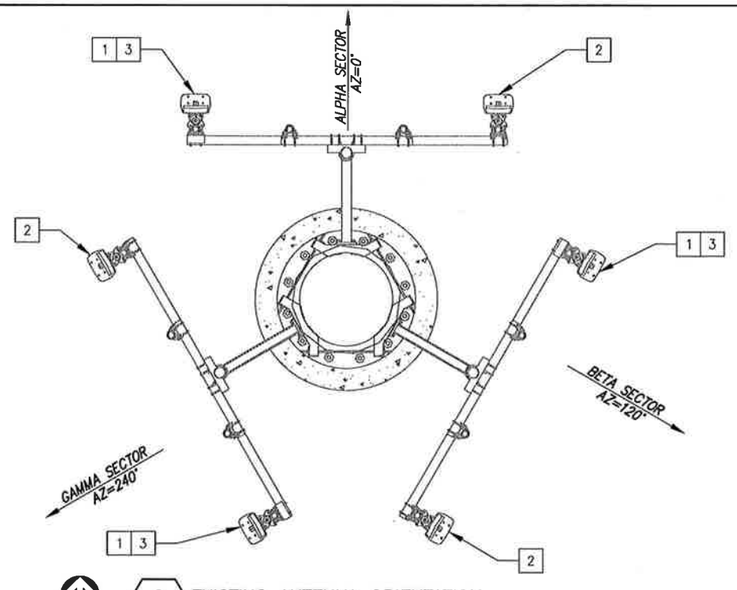
GENERAL NOTES:

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

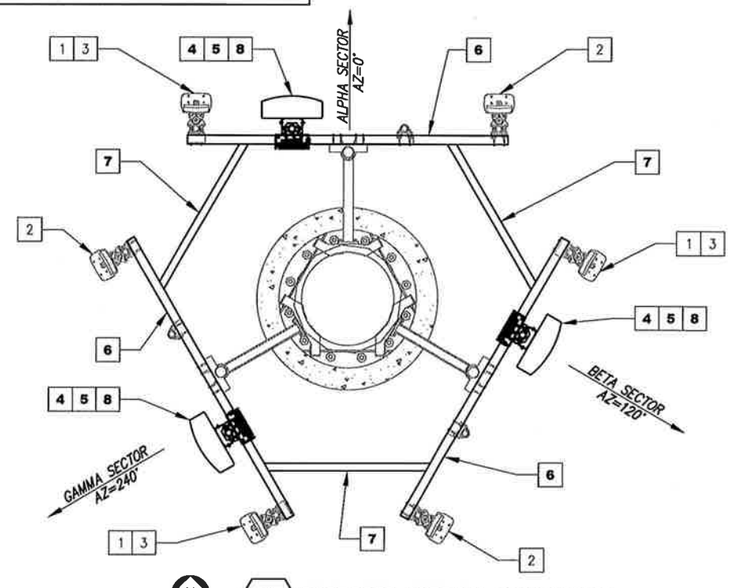
KEY	DESCRIPTION	TYPE	QTY	STATUS
1	AIR21 KRC118023-1_B2A_B4P	ANTENNA	3	REMAIN
2	AIR21 KRC118023-1_B2P_B4A	ANTENNA	3	REMAIN
3	TWIN STYLE 1B	TMA	3	REMAIN
4	**APXVAARR24_43-U-NA20**	**ANTENNA**	**3**	**PROPOSED**
5	**RRU 4449 B71+B12**	**ANTENNA**	**3**	**PROPOSED**
6	**L3x3x1/4"x12'-6" LG**	**MOUNT MOD**	**3**	**PROPOSED**
7	**L3x3x1/4"x6' LG**	**MOUNT MOD**	**3**	**PROPOSED**
8	**2.5" STD x 8' LG PIPE**	**PIPE MAST**	**3**	**PROPOSED**

NOTE:
INSTALL MOUNT MODIFICATIONS AS SHOWN IN MOUNT ANALYSIS BY CENTEK, DATED 10/09/18.



NORTH

2/C2 EXISTING ANTENNA ORIENTATION
SCALE: NOT TO SCALE



NORTH

3/C2 PROPOSED ANTENNA ORIENTATION
SCALE: NOT TO SCALE

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STATE OF CONNECTICUT
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OCT 23 2018
No. 24705
LICENSED PROFESSIONAL ENGINEER

No	Submittal / Revision	App'd	Date
A	ISSUED FOR REVIEW	RCD	10/23/18

Drawn: RCD
Designed: MRL
Checked: MD

Project Number: 600-007

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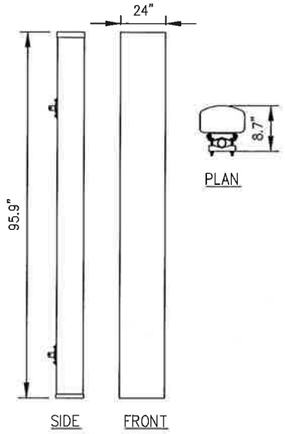
GUILFORD WEST STONE
1919 BOSTON POST RD.
GUILFORD, CT 06437

Prepared For:
CROWN CASTLE

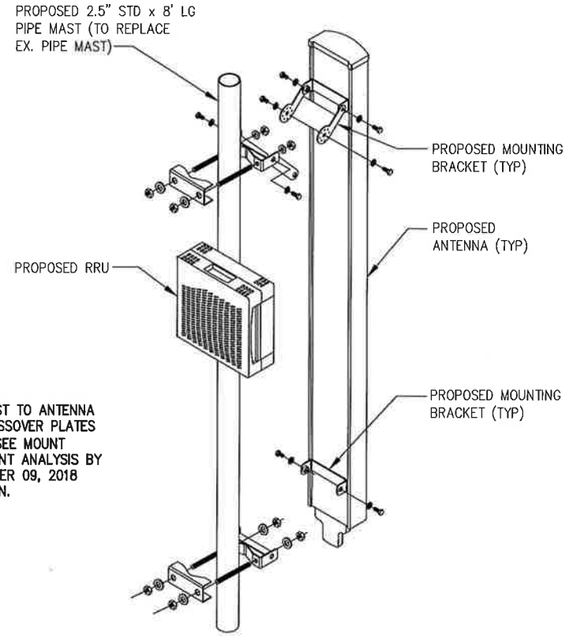
Drawing Title
RF CHART

Drawing Number
C2



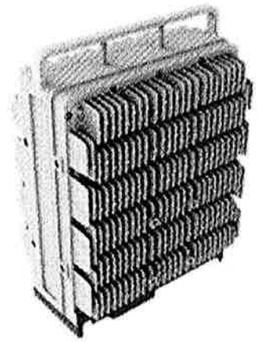
RFS MODEL NO.:	APXVAARR24_43-U-NA20
RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GREY
DIMENSIONS, HxWxD:	95.9"x24"x8.7"
WEIGHT, W/O MOUNTING KIT:	128 LBS

APX
1 / D1 ANTENNA DETAIL
SCALE: NOT TO SCALE



NOTE:
SECURE NEW PIPE MAST TO ANTENNA MOUNT WITH NEW CROSSOVER PLATES (SITE PRO 1 #SCX4). SEE MOUNT MODIFICATIONS IN MOUNT ANALYSIS BY CENTEK, DATED OCTOBER 09, 2018 FOR MORE INFORMATION.

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



ERICSSON 4449 B71+B12 SPECIFICATIONS

- HxWxD, (INCHES) : 17.91"x13.19"x10.63"
- WEIGHT (LBS) : 74.96
- COLOR : GRAY

4449 B71+B12
3 / D1 RRU DETAIL
SCALE: NOT TO SCALE

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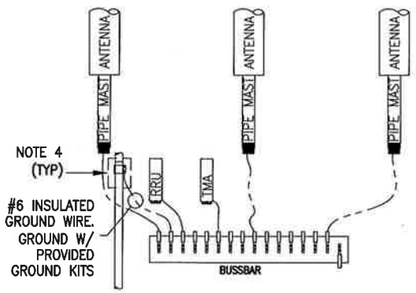
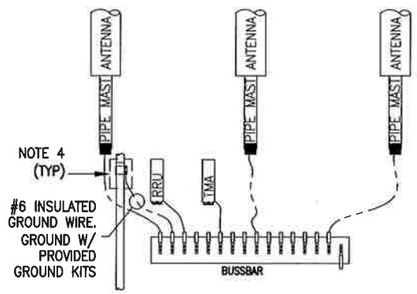
Drawing Title
EQUIPMENT DETAILS

Drawing Number
D1

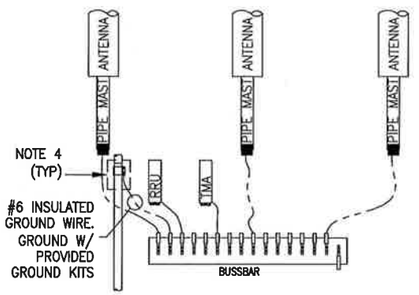
ALPHA SECTOR
(LAYOUT SHOWN GENERICALLY, SEE ANTENNA ORIENTATION)



BETA SECTOR
(LAYOUT SHOWN GENERICALLY, SEE ANTENNA ORIENTATION)

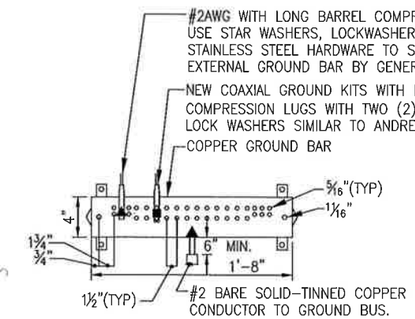


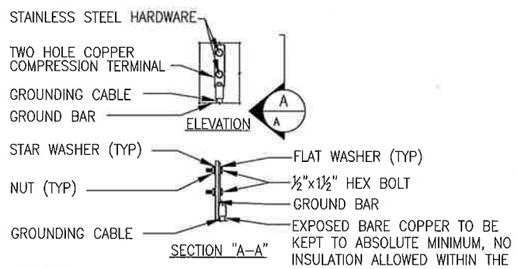
GAMMA SECTOR
(LAYOUT SHOWN GENERICALLY, SEE ANTENNA ORIENTATION)



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

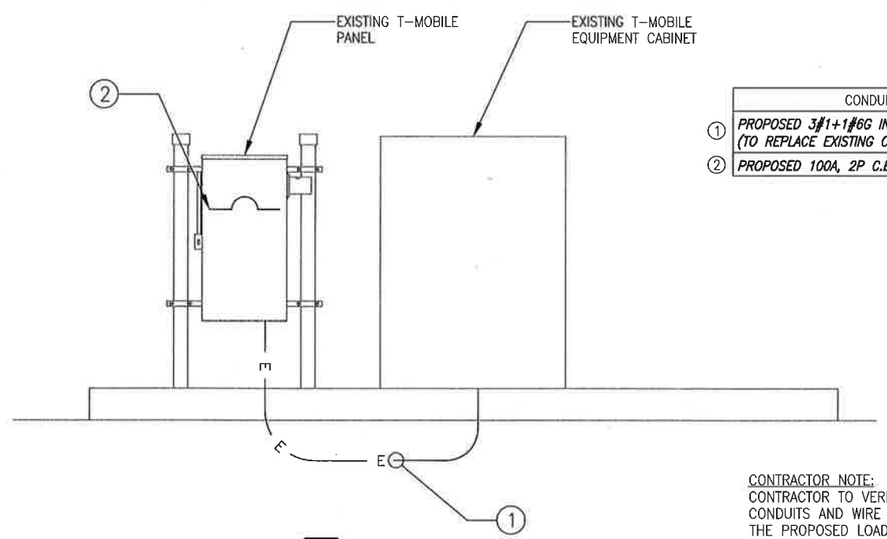




NOTES:
1. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

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#1+1#6G IN 1–1/2" CONDUIT (TO REPLACE EXISTING CONDUCTOR AND CONDUIT)
② PROPOSED 100A, 2P C.B.

CONTRACTOR NOTE:
CONTRACTOR TO VERIFY THAT THE EXISTING CONDUITS AND WIRE SIZES ARE ADEQUATE FOR THE PROPOSED 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 NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088

INFINIGY
6665 DEERPATH ROAD SUITE 152
ELKRIDGE, MD 21075
TEL (443) 592-3143

STATE OF CONNECTICUT
JOHN S. STEVENS
OCT. 31, 2018
No. 24705
LICENSED PROFESSIONAL ENGINEER

No	Submittal / Revision	Appd	Date
A	ISSUED FOR REVIEW	RCD	10/23/18

Drawn: RCD
Designed: MRL
Checked: AJD

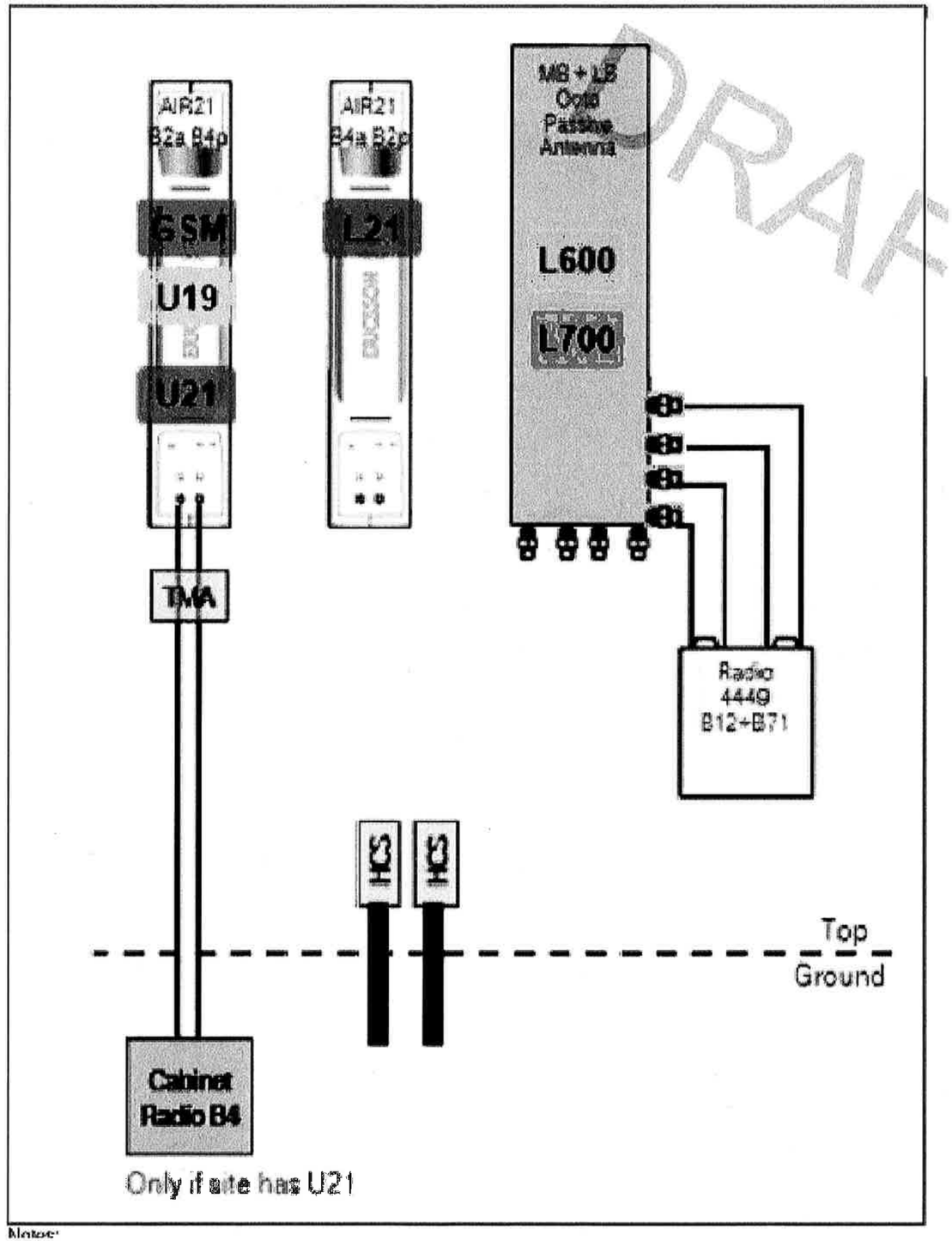
Project Number: 600-007

Project Title:
CT11027D
GUILFORD WEST STONE
1919 BOSTON POST RD.
GUILFORD, CT 06437

Prepared For:
CROWN CASTLE

Drawing Title
GROUNDING & ELECTRICAL DETAILS

Drawing Number
E1



1 E2 RF PLUMBING DIAGRAM
SCALE: AS NOTED

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
JASON S. STEVENS
LICENSED PROFESSIONAL ENGINEER
OCT 31 2018

No.	Submittal / Revision	App'd	Date
A	ISSUED FOR REVIEW	RCD	10/23/18

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CT11027D
GUILFORD WEST STONE
1919 BOSTON POST RD.
GUILFORD, CT 06437

Prepared For:
CROWN CASTLE

Drawing Title
RF PLUMBING DIAGRAM

Drawing Number
E2

PAUL J. FORD & COMPANY

Date: **October 25, 2018**

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

Paul J. Ford and Company
250 East Broad St., Suite 600
Columbus, OH 43215
(614) 221-6679

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	CT11027
	Carrier Site Name:	CT027/Sprint Guilford
Crown Castle Designation:	**Crown Castle BU Number:**	876343
	Crown Castle Site Name:	Guilford West Stone Property
	Crown Castle JDE Job Number:	537519
	Crown Castle Work Order Number:	1650760
	Crown Castle Order Number:	463039 Rev. 1
Engineering Firm Designation:	**Paul J. Ford and Company Project Number:**	37518-3548.001.7805
Site Data:	**1919 Boston Post Rd., Guilford, New Haven County, CT**	
	Latitude *41° 18' 1.27"*, Longitude *-72° 42' 29.13"*	
	149 Foot - Monopole Tower	

Dear Denice Nicholson,

Paul J. Ford and Company 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**

This analysis utilizes an ultimate 3-second gust wind speed of 128 mph as required by the 2016 Connecticut State Building Code per section 1609.3 and Appendix N. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

Michael Timas, EI
Structural Designer

STATE OF CONNECTICUT
JOSEPH PACHICARAH JACOBS
No. PEN 22731
LICENSED PROFESSIONAL ENGINEER

OCT 25 2018

PAUL J. FORD & COMPANY

Date: **October 25, 2018**

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

Paul J. Ford and Company
250 East Broad St., Suite 600
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Respectfully submitted by:

Michael Timas, EI
Structural Designer

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 149-ft monopole tower designed by EEI.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	128 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
148.0	148.0	3	ericsson	KRY 112 144/1	1 1 7	1-1/4 7/8 1-5/8
		3	ericsson	RADIO 4449 B12/B71		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Pipe		
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Pipe		
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Pipe		
		1	tower mounts	Sector Mount [SM 901-3]		
		-	generic	Mount Modifications		

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
139.0	140.0	12	decibel	DB848H90E-XY w/ Mount Pipe	12	1-5/8
	139.0	1	tower mounts	Sector Mount [SM 901-3]		
129.0	129.0	1	tower mounts	Pipe Mount [PM 601-3]	-	-
	127.0	3	alcatel lucent	TME-800MHZ RRH		
	123.0	3	alcatel lucent	TME-1900MHz RRH (65 MHz)		
128.0	130.0	3	alcatel lucent	800 EXTERNAL NOTCH FILTER	4	1-1/4
		3	alcatel lucent	TD-RRH8X20-25		
		9	rfs celwave	ACU-A20-N		
		3	rfs celwave	APXVSPP18-C-A20 w/ Pipe		
		3	rfs celwave	APXVTM14-C-120 w/ Pipe		
		1	tower mounts	Sector Mount [SM 901-3]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
116.0	118.0	3	alcatel lucent	B66A RRH4X45	1 13	1/2 1-5/8
		3	alcatel lucent	RRH2X60-700		
		3	alcatel lucent	RRH2X60-PCS		
		4	andrew	DB846F65ZAXY w/ Mount Pipe		
		6	commscope	JAHH-65B-R3B w/ Mount Pipe		
		2	decibel	DB846H80E-SX w/ Mount Pipe		
		1	maxrad	GPS-TMG-26NMS		
		1	rfs celwave	DB-T1-6Z-8AB-0Z		
	116.0	1	tower mounts	Sector Mount [SM 901-3]		
110.0	110.0	3	ericsson	RRUS 11	-	-
		1	tower mounts	Pipe Mount [PM 601-3]		
106.0	108.0	3	ericsson	RRUS 12	12 2 2	1-5/8 3/8 3/4
		1	kmw comm	AM-X-CD-14-65-00T-RET w/ Pipe		
		2	kmw comm	AM-X-CD-16-65-00T-RET w/ Pipe		
		12	powerwave tech	7020.00		
		6	powerwave tech	7770.00 w/ Mount Pipe		
		12	powerwave tech	LGP21401		
		1	raycap	DC6-48-60-18-8F		
	106.0	1	tower mounts	Sector Mount [SM 901-3]		
98.0	98.0	3	rfs celwave	APXV18-206517S-C w/ Pipe	6	1-5/8
		1	tower mounts	Pipe Mount [PM 601-3]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Terracon, J2085178, 8/7/2008	1531881	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	EEI, 15477-E01, 8/14/2008	2262540	CCISITES
4-TOWER MANUFACTURER DRAWINGS	EEI, 15475, 6/27/2008,	2302343	CCISITES

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 and maintained in accordance with the manufacturer's specifications.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company 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	149 - 135.14	Pole	TP26.74x22x0.19	1	-5.88	1056.44	13.7	Pass
L2	135.14 - 92.16	Pole	TP40.91x25.09x0.25	2	-23.25	2039.38	63.9	Pass
L3	92.16 - 45.1	Pole	TP56.35x38.54x0.31	3	-39.75	3349.77	74.1	Pass
L4	45.1 - 0	Pole	TP71x53.2x0.38	4	-66.12	5023.87	69.8	Pass
							Summary	
						Pole (L3)	74.1	Pass
						Rating =	**74.1**	**Pass**

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	43.4	Pass
1	Base Plate	0	38.8	Pass
1	Base Foundation – Structural Steel	0	85.5	Pass
1	Base Foundation – Soil Interaction	0	33.8	Pass

Structure Rating (max from all components) =	**85.5%**

Notes:

- All Structural rating are per TIA-222-H Section 15.5

1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.

4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Tower Input Data

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

1) Tower base elevation above sea level: 70.00 ft.
2) Basic wind speed of 128 mph.
3) Risk Category II.
4) Exposure Category C.
5) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
6) Topographic Category: 1.
7) Crest Height 0.00 ft.
8) Nominal ice thickness of 1.27 in.
9) Ice thickness is considered to increase with height.
10) Ice density of 56.00 pcf.
11) A wind speed of 50 mph is used in combination with ice.
12) Temperature drop of 50 °F.
13) Deflections calculated using a wind speed of 60 mph.
14) TIA-222-H Annex S.
15) A non-linear (P-delta) analysis was used.
16) Pressures are calculated at each section.
17) Stress ratio used in pole design is 1.05.
18) 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	149.00-135.14	13.86	3.74	18	22.00	26.74	0.19	0.75	A572-65 (65 ksi)
L2	135.14-92.16	46.72	5.51	18	25.09	40.91	0.25	1.00	A572-65 (65 ksi)
L3	92.16-45.10	52.57	7.44	18	38.54	56.35	0.31	1.25	A572-65 (65 ksi)
L4	45.10-0.00	52.54		18	53.20	71.00	0.38	1.50	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	22.31	12.98	780.30	7.74	11.18	69.82	1561.63	6.49	3.54	18.891
	27.12	15.80	1407.54	9.43	13.58	103.62	2816.94	7.90	4.38	23.34
L2	26.72	19.71	1535.77	8.82	12.74	120.51	3073.57	9.86	3.98	15.901
	41.50	32.26	6738.86	14.43	20.78	324.26	13486.59	16.13	6.76	27.041
L3	40.99	37.92	7002.46	13.57	19.58	357.63	14014.13	18.96	6.23	19.948
	57.17	55.58	22051.12	19.89	28.63	770.32	44131.26	27.80	9.37	29.976
L4	56.53	62.88	22172.60	18.75	27.03	820.35	44374.37	31.45	8.70	23.211
	72.04	84.06	52972.57	25.07	36.07	1468.69	106014.84	42.04	11.84	31.563

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 149.00-135.14				1	1	1			
L2 135.14-92.16				1	1	1			
L3 92.16-45.10				1	1	1			
L4 45.10-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
MLE HYBRID 3POWER/6FIBER RL 2 10AWG(1-1/4)	C	No	No	Inside Pole	148.00 - 0.00	1	No Ice	0.00	1.53
							1/2" Ice	0.00	1.53
							1" Ice	0.00	1.53
							2" Ice	0.00	1.53
MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	C	No	No	Inside Pole	148.00 - 0.00	1	No Ice	0.00	2.37
							1/2" Ice	0.00	2.37
							1" Ice	0.00	2.37
							2" Ice	0.00	2.37
LDF5-50A(7/8)	C	No	No	Inside Pole	148.00 - 0.00	1	No Ice	0.00	1.26
							1/2" Ice	0.00	1.26
							1" Ice	0.00	1.26
							2" Ice	0.00	1.26
LDF7-50A(1-5/8)	C	No	No	Inside Pole	148.00 - 0.00	6	No Ice	0.00	2.33
							1/2" Ice	0.00	2.33
							1" Ice	0.00	2.33
							2" Ice	0.00	2.33
**********									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	139.00 - 0.00	12	No Ice	0.00	2.33
							1/2" Ice	0.00	2.33
							1" Ice	0.00	2.33
							2" Ice	0.00	2.33
**********									
HB114-1-0813U4-M5J(1-1/4)	C	No	No	Inside Pole	128.00 - 0.00	4	No Ice	0.00	2.45
							1/2" Ice	0.00	2.45
							1" Ice	0.00	2.45
							2" Ice	0.00	2.45
**********									
HB158-1-08U8-S8J18(1-5/8)	C	No	No	Inside Pole	116.00 - 0.00	1	No Ice	0.00	2.81
							1/2" Ice	0.00	2.81
							1" Ice	0.00	2.81
							2" Ice	0.00	2.81
LDF4-50A(1/2)	C	No	No	Inside Pole	116.00 - 0.00	1	No Ice	0.00	0.84
							1/2" Ice	0.00	0.84
							1" Ice	0.00	0.84
							2" Ice	0.00	0.84
LDF7-50A(1-5/8)	C	No	No	Inside Pole	116.00 - 0.00	12	No Ice	0.00	2.33
							1/2" Ice	0.00	2.33
							1" Ice	0.00	2.33
							2" Ice	0.00	2.33
**********									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	106.00 - 0.00	12	No Ice	0.00	2.33
							1/2" Ice	0.00	2.33
							1" Ice	0.00	2.33
							2" Ice	0.00	2.33
FB-L98B-002-75000(3/8)	C	No	No	Inside Pole	106.00 - 0.00	2	No Ice	0.00	0.60
							1/2" Ice	0.00	0.60
							1" Ice	0.00	0.60
							2" Ice	0.00	0.60
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	106.00 - 0.00	2	No Ice	0.00	1.38
							1/2" Ice	0.00	1.38
							1" Ice	0.00	1.38
							2" Ice	0.00	1.38
2" (Nominal) Conduit	C	No	No	Inside Pole	106.00 - 0.00	1	No Ice	0.00	0.72
							1/2" Ice	0.00	0.72
							1" Ice	0.00	0.72
							2" Ice	0.00	0.72
**********									
LCF158-50JL(1-5/8)	C	No	No	CaAa (Out Of Face)	98.00 - 0.00	1	No Ice	0.20	0.52
							1/2" Ice	0.30	2.03
							1" Ice	0.40	4.16
							2" Ice	0.60	10.24
LCF158-50JL(1-5/8)	C	No	No	CaAa (Out Of Face)	98.00 - 0.00	1	No Ice	0.00	0.52
							1/2" Ice	0.00	2.03
							1" Ice	0.00	4.16
							2" Ice	0.00	10.24

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
CR 50 1873(1-5/8)	C	No	No	CaAa (Out Of Face)	98.00 - 0.00	4	No Ice	0.00	0.83
							1/2" Ice	0.00	2.34
							1" Ice	0.00	4.47
							2" Ice	0.00	10.55
**********									
**********									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	149.00-135.14	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.35
L2	135.14-92.16	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.156	3.61
L3	92.16-45.10	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	9.318	5.92
L4	45.10-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	8.930	5.67

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	149.00-135.14	A	1.475	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.35
L2	135.14-92.16	A	1.441	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	2.879	3.84
L3	92.16-45.10	A	1.370	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	22.882	7.70
L4	45.10-0.00	A	1.228	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	21.288	7.26

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	149.00-135.14	0.00	0.00	0.00	0.00
L2	135.14-92.16	-0.22	0.13	-0.31	0.18
L3	92.16-45.10	-1.30	0.75	-1.79	1.03
L4	45.10-0.00	-1.32	0.76	-1.81	1.04

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

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	20.48 21.23 21.99 23.44	11.02 12.55 14.10 16.45	0.16 0.30 0.44 0.78
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	20.48 21.23 21.99 23.44	11.02 12.55 14.10 16.45	0.16 0.30 0.44 0.78
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	20.48 21.23 21.99 23.44	11.02 12.55 14.10 16.45	0.16 0.30 0.44 0.78
KRY 112 144/1	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.35 0.43 0.51 0.70	0.17 0.23 0.30 0.46	0.01 0.01 0.02 0.03
KRY 112 144/1	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.35 0.43 0.51 0.70	0.17 0.23 0.30 0.46	0.01 0.01 0.02 0.03
KRY 112 144/1	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.35 0.43 0.51 0.70	0.17 0.23 0.30 0.46	0.01 0.01 0.02 0.03
RADIO 4449 B12/B71	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.16 1.30 1.45 1.76	0.07 0.09 0.11 0.16
RADIO 4449 B12/B71	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.16 1.30 1.45 1.76	0.07 0.09 0.11 0.16
RADIO 4449 B12/B71	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.16 1.30 1.45 1.76	0.07 0.09 0.11 0.16
8'x2 1/2" Pipe Mount	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.30 3.13 3.62 4.62	2.30 3.13 3.62 4.62	0.04 0.06 0.08 0.14
8'x2 1/2" Pipe Mount	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.30 3.13 3.62 4.62	2.30 3.13 3.62 4.62	0.04 0.06 0.08 0.14
8'x2 1/2" Pipe Mount	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.30 3.13 3.62 4.62	2.30 3.13 3.62 4.62	0.04 0.06 0.08 0.14
Miscellaneous [NA 507-1]	A	None		0.0000	148.00	No Ice	4.80 6.70	4.80 6.70	0.25 0.29

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1/2" Ice	8.60 12.40	8.60 12.40	0.34 0.44
						1" Ice 2" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.33 6.78 7.21 8.12	5.64 6.43 7.13 8.59	0.11 0.17 0.23 0.38
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.33 6.78 7.21 8.12	5.64 6.43 7.13 8.59	0.11 0.17 0.23 0.38
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.33 6.78 7.21 8.12	5.64 6.43 7.13 8.59	0.11 0.17 0.23 0.38
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.32 6.76 7.20 8.11	5.63 6.42 7.12 8.58	0.11 0.17 0.23 0.38
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.32 6.76 7.20 8.11	5.63 6.42 7.12 8.58	0.11 0.17 0.23 0.38
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.32 6.76 7.20 8.11	5.63 6.42 7.12 8.58	0.11 0.17 0.23 0.38
6' x 2" Mount Pipe	A	None		0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
6' x 2" Mount Pipe	B	None		0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
6' x 2" Mount Pipe	C	None		0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
Sector Mount [SM 901-3]	C	None		0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	12.90 12.90 12.90 12.90	12.90 12.90 12.90 12.90	1.26 1.43 1.61 1.96
**********									
(4) DB848H90E-XY w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.43 8.12 8.82 10.15	10.49 12.02 13.56 15.91	0.06 0.13 0.22 0.42
(4) DB848H90E-XY w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.43 8.12 8.82 10.15	10.49 12.02 13.56 15.91	0.06 0.13 0.22 0.42

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(4) DB848H90E-XY w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.43 8.12 8.82 10.15	10.49 12.02 13.56 15.91	0.06 0.13 0.22 0.42
Sector Mount [SM 901-3]	C	None		0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	12.90 12.90 12.90 12.90	12.90 12.90 12.90 12.90	1.26 1.43 1.61 1.96
**********									
TME-800MHZ RRH	A	From Leg	0.50 0.00 -2.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
TME-800MHZ RRH	B	From Leg	0.50 0.00 -2.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
TME-800MHZ RRH	C	From Leg	0.50 0.00 -2.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
TME-1900MHz RRH (65 MHz)	A	From Leg	0.50 0.00 -6.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.31 2.52 2.73 3.17	2.38 2.58 2.79 3.24	0.06 0.08 0.11 0.18
TME-1900MHz RRH (65 MHz)	B	From Leg	0.50 0.00 -6.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.31 2.52 2.73 3.17	2.38 2.58 2.79 3.24	0.06 0.08 0.11 0.18
TME-1900MHz RRH (65 MHz)	C	From Leg	0.50 0.00 -6.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.31 2.52 2.73 3.17	2.38 2.58 2.79 3.24	0.06 0.08 0.11 0.18
Pipe Mount [PM 601-3]	C	None		0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.39 5.48 6.57 8.75	4.39 5.48 6.57 8.75	0.20 0.24 0.28 0.36
**********									
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.58 7.03 7.47 8.38	4.96 5.75 6.47 7.94	0.08 0.13 0.19 0.34
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.58 7.03 7.47 8.38	4.96 5.75 6.47 7.94	0.08 0.13 0.19 0.34
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.58 7.03 7.47 8.38	4.96 5.75 6.47 7.94	0.08 0.13 0.19 0.34
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice	8.26 8.82 9.35	6.95 8.13 9.02	0.08 0.15 0.23

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1" Ice 2" Ice	10.42	10.84	0.41
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.26 8.82 9.35 10.42	6.95 8.13 9.02 10.84	0.08 0.15 0.23 0.41
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.26 8.82 9.35 10.42	6.95 8.13 9.02 10.84	0.08 0.15 0.23 0.41
800 EXTERNAL NOTCH FILTER	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.66 0.76 0.87 1.11	0.32 0.40 0.48 0.67	0.01 0.02 0.02 0.04
800 EXTERNAL NOTCH FILTER	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.66 0.76 0.87 1.11	0.32 0.40 0.48 0.67	0.01 0.02 0.02 0.04
800 EXTERNAL NOTCH FILTER	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.66 0.76 0.87 1.11	0.32 0.40 0.48 0.67	0.01 0.02 0.02 0.04
TD-RRH8X20-25	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.05 4.30 4.56 5.10	1.53 1.71 1.90 2.30	0.07 0.10 0.13 0.20
TD-RRH8X20-25	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.05 4.30 4.56 5.10	1.53 1.71 1.90 2.30	0.07 0.10 0.13 0.20
TD-RRH8X20-25	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.05 4.30 4.56 5.10	1.53 1.71 1.90 2.30	0.07 0.10 0.13 0.20
(3) ACU-A20-N	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.07 0.10 0.15 0.26	0.12 0.16 0.21 0.34	0.00 0.00 0.00 0.01
(3) ACU-A20-N	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.07 0.10 0.15 0.26	0.12 0.16 0.21 0.34	0.00 0.00 0.00 0.01
(3) ACU-A20-N	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.07 0.10 0.15 0.26	0.12 0.16 0.21 0.34	0.00 0.00 0.00 0.01
(2) 6' x 2" Mount Pipe	A	None		0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
(2) 6' x 2" Mount Pipe	B	None		0.0000	128.00	No Ice 1/2" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05

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
							1" Ice	3.06	3.06	0.09
							2" Ice			
(2) 6' x 2" Mount Pipe	C	None			0.0000	128.00	No Ice	1.43	1.43	0.02
							1/2" Ice	1.92	1.92	0.03
								2.29	2.29	0.05
							1" Ice	3.06	3.06	0.09
							2" Ice			
Sector Mount [SM 901-3]	C	None			0.0000	128.00	No Ice	12.90	12.90	1.26
							1/2" Ice	12.90	12.90	1.43
								12.90	12.90	1.61
							1" Ice	12.90	12.90	1.96
							2" Ice			
**********										
(2) JAHH-65B-R3B w/ Mount Pipe	A	From Leg	4.00	0.00	0.0000	116.00	No Ice	9.47	7.76	0.09
			0.00				1/2" Ice	10.09	9.00	0.17
			2.00					10.67	10.02	0.25
							1" Ice	11.83	11.90	0.46
							2" Ice			
(2) JAHH-65B-R3B w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	116.00	No Ice	9.47	7.76	0.09
			0.00				1/2" Ice	10.09	9.00	0.17
			2.00					10.67	10.02	0.25
							1" Ice	11.83	11.90	0.46
							2" Ice			
(2) JAHH-65B-R3B w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	116.00	No Ice	9.47	7.76	0.09
			0.00				1/2" Ice	10.09	9.00	0.17
			2.00					10.67	10.02	0.25
							1" Ice	11.83	11.90	0.46
							2" Ice			
RRH2X60-700	A	From Leg	4.00	0.00	0.0000	116.00	No Ice	3.50	1.82	0.06
			0.00				1/2" Ice	3.76	2.05	0.08
			2.00					4.03	2.29	0.11
							1" Ice	4.58	2.79	0.17
							2" Ice			
RRH2X60-700	B	From Leg	4.00	0.00	0.0000	116.00	No Ice	3.50	1.82	0.06
			0.00				1/2" Ice	3.76	2.05	0.08
			2.00					4.03	2.29	0.11
							1" Ice	4.58	2.79	0.17
							2" Ice			
RRH2X60-700	C	From Leg	4.00	0.00	0.0000	116.00	No Ice	3.50	1.82	0.06
			0.00				1/2" Ice	3.76	2.05	0.08
			2.00					4.03	2.29	0.11
							1" Ice	4.58	2.79	0.17
							2" Ice			
B66A RRH4X45	A	From Leg	4.00	0.00	0.0000	116.00	No Ice	2.58	1.63	0.07
			0.00				1/2" Ice	2.79	1.81	0.09
			2.00					3.01	2.00	0.11
							1" Ice	3.48	2.40	0.17
							2" Ice			
B66A RRH4X45	B	From Leg	4.00	0.00	0.0000	116.00	No Ice	2.58	1.63	0.07
			0.00				1/2" Ice	2.79	1.81	0.09
			2.00					3.01	2.00	0.11
							1" Ice	3.48	2.40	0.17
							2" Ice			
B66A RRH4X45	C	From Leg	4.00	0.00	0.0000	116.00	No Ice	2.58	1.63	0.07
			0.00				1/2" Ice	2.79	1.81	0.09
			2.00					3.01	2.00	0.11
							1" Ice	3.48	2.40	0.17
							2" Ice			
RRH2X60-PCS	A	From Leg	4.00	0.00	0.0000	116.00	No Ice	2.20	1.72	0.06
			0.00				1/2" Ice	2.39	1.90	0.08
			2.00					2.59	2.09	0.10
							1" Ice	3.01	2.48	0.16
							2" Ice			
RRH2X60-PCS	B	From Leg	4.00	0.00	0.0000	116.00	No Ice	2.20	1.72	0.06
			0.00					2.39	1.90	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			2.00			1/2" Ice	2.59	2.09	0.10
						1" Ice	3.01	2.48	0.16
						2" Ice			
RRH2X60-PCS	C	From Leg	4.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.20 2.39 2.59 3.01	1.72 1.90 2.09 2.48	0.06 0.08 0.10 0.16
(2) DB846F65ZAXY w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.27 7.83 8.35 9.40	7.82 9.01 9.91 11.73	0.05 0.11 0.19 0.37
(2) DB846H80E-SX w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.33 5.89 6.41 7.48	7.74 8.93 9.84 11.68	0.04 0.10 0.16 0.32
(2) DB846F65ZAXY w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.27 7.83 8.35 9.40	7.82 9.01 9.91 11.73	0.05 0.11 0.19 0.37
GPS-TMG-26NMS	A	From Leg	4.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.13 0.18 0.24 0.37	0.13 0.18 0.24 0.37	0.00 0.00 0.01 0.01
DB-T1-6Z-8AB-0Z	A	From Leg	4.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.80 5.07 5.35 5.93	2.00 2.19 2.39 2.81	0.04 0.08 0.12 0.21
Sector Mount [SM 901-3]	C	None		0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	12.90 12.90 12.90 12.90	12.90 12.90 12.90 12.90	1.26 1.43 1.61 1.96
**********									
RRUS 11	A	From Leg	0.50 0.00 0.00	0.0000	110.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.79 3.00 3.21 3.67	1.19 1.34 1.50 1.84	0.05 0.07 0.10 0.15
RRUS 11	B	From Leg	0.50 0.00 0.00	0.0000	110.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.79 3.00 3.21 3.67	1.19 1.34 1.50 1.84	0.05 0.07 0.10 0.15
RRUS 11	C	From Leg	0.50 0.00 0.00	0.0000	110.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.79 3.00 3.21 3.67	1.19 1.34 1.50 1.84	0.05 0.07 0.10 0.15
Pipe Mount [PM 601-3]	C	None		0.0000	110.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.39 5.48 6.57 8.75	4.39 5.48 6.57 8.75	0.20 0.24 0.28 0.36
**********									
(2) 7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice	5.75 6.18 6.61 7.49	4.25 5.01 5.71 7.16	0.06 0.10 0.16 0.29

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice			
(2) 7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.75 6.18 6.61 7.49	4.25 5.01 5.71 7.16	0.06 0.10 0.16 0.29
(2) 7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.75 6.18 6.61 7.49	4.25 5.01 5.71 7.16	0.06 0.10 0.16 0.29
RRUS 12	A	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.15 3.36 3.59 4.07	1.29 1.44 1.60 1.95	0.06 0.08 0.11 0.17
RRUS 12	B	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.15 3.36 3.59 4.07	1.29 1.44 1.60 1.95	0.06 0.08 0.11 0.17
RRUS 12	C	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.15 3.36 3.59 4.07	1.29 1.44 1.60 1.95	0.06 0.08 0.11 0.17
(4) 7020.00	A	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.10 0.15 0.20 0.33	0.17 0.24 0.31 0.48	0.00 0.01 0.01 0.02
(4) 7020.00	B	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.10 0.15 0.20 0.33	0.17 0.24 0.31 0.48	0.00 0.01 0.01 0.02
(4) 7020.00	C	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.10 0.15 0.20 0.33	0.17 0.24 0.31 0.48	0.00 0.01 0.01 0.02
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.26 8.82 9.35 10.42	6.30 7.48 8.37 10.18	0.07 0.14 0.21 0.38
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.26 8.82 9.35 10.42	6.30 7.48 8.37 10.18	0.07 0.14 0.21 0.38
AM-X-CD-14-65-00T-RET w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.23 5.62 6.01 6.83	4.02 4.63 5.26 6.53	0.05 0.10 0.15 0.27
(4) LGP21401	A	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.10 1.24 1.38 1.69	0.35 0.44 0.54 0.77	0.01 0.02 0.03 0.05
(4) LGP21401	B	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38 1.69	0.35 0.44 0.54 0.77	0.01 0.02 0.03 0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice			
(4) LGP21401	C	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.10 1.24 1.38 1.69	0.35 0.44 0.54 0.77	0.01 0.02 0.03 0.05
DC6-48-60-18-8F	A	From Leg	4.00 0.00 2.00	0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.92 1.46 1.64 2.04	0.92 1.46 1.64 2.04	0.02 0.04 0.06 0.11
6' x 2" Mount Pipe	A	None		0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
6' x 2" Mount Pipe	B	None		0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
6' x 2" Mount Pipe	C	None		0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
Sector Mount [SM 901-3]	C	None		0.0000	106.00	No Ice 1/2" Ice 1" Ice 2" Ice	12.90 12.90 12.90 12.90	12.90 12.90 12.90 12.90	1.26 1.43 1.61 1.96
**********									
APXV18-206517S-C w/ Mount Pipe	A	From Leg	0.50 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.40 5.96 6.48 7.55	4.70 5.86 6.73 8.51	0.05 0.10 0.15 0.28
APXV18-206517S-C w/ Mount Pipe	B	From Leg	0.50 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.40 5.96 6.48 7.55	4.70 5.86 6.73 8.51	0.05 0.10 0.15 0.28
APXV18-206517S-C w/ Mount Pipe	C	From Leg	0.50 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.40 5.96 6.48 7.55	4.70 5.86 6.73 8.51	0.05 0.10 0.15 0.28
Pipe Mount [PM 601-3]	C	None		0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.39 5.48 6.57 8.75	4.39 5.48 6.57 8.75	0.20 0.24 0.28 0.36
**********									
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**									

Tower Pressures - No Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 149.00-135.14	141.85	1.362	51.44	28.548	A	0.000	28.548	28.548	100.00	0.000	0.000
					B	0.000	28.548		100.00	0.000	0.000
					C	0.000	28.548		100.00	0.000	0.000
L2 135.14-92.16	112.31	1.297	48.91	122.176	A	0.000	122.176	122.176	100.00	0.000	0.000
					B	0.000	122.176		100.00	0.000	0.000
					C	0.000	122.176		100.00	0.000	1.156
L3 92.16-45.10	67.76	1.166	43.86	192.468	A	0.000	192.468	192.468	100.00	0.000	0.000
					B	0.000	192.468		100.00	0.000	0.000
					C	0.000	192.468		100.00	0.000	9.318
L4 45.10-0.00	22.59	0.925	34.86	241.593	A	0.000	241.593	241.593	100.00	0.000	0.000
					B	0.000	241.593		100.00	0.000	0.000
					C	0.000	241.593		100.00	0.000	8.930

Tower Pressure - With Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 149.00-135.14	141.85	1.362	7.85	1.48	31.956	A	0.000	31.956	31.956	100.00	0.000	0.000
						B	0.000	31.956		100.00	0.000	0.000
						C	0.000	31.956		100.00	0.000	0.000
L2 135.14-92.16	112.31	1.297	7.46	1.44	132.743	A	0.000	132.743	132.743	100.00	0.000	0.000
						B	0.000	132.743		100.00	0.000	0.000
						C	0.000	132.743		100.00	0.000	2.879
L3 92.16-45.10	67.76	1.166	6.69	1.37	203.771	A	0.000	203.771	203.771	100.00	0.000	0.000
						B	0.000	203.771		100.00	0.000	0.000
						C	0.000	203.771		100.00	0.000	22.882
L4 45.10-0.00	22.59	0.925	5.32	1.23	251.892	A	0.000	251.892	251.892	100.00	0.000	0.000
						B	0.000	251.892		100.00	0.000	0.000
						C	0.000	251.892		100.00	0.000	21.288

Tower Pressure - Service

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 149.00-135.14	141.85	1.362	10.11	28.548	A	0.000	28.548	28.548	100.00	0.000	0.000
					B	0.000	28.548		100.00	0.000	0.000
					C	0.000	28.548		100.00	0.000	0.000
L2 135.14-92.16	112.31	1.297	9.62	122.176	A	0.000	122.176	122.176	100.00	0.000	0.000
					B	0.000	122.176		100.00	0.000	0.000
					C	0.000	122.176		100.00	0.000	1.156
L3 92.16-45.10	67.76	1.166	8.62	192.468	A	0.000	192.468	192.468	100.00	0.000	0.000
					B	0.000	192.468		100.00	0.000	0.000
					C	0.000	192.468		100.00	0.000	9.318
L4 45.10-0.00	22.59	0.925	6.85	241.593	A	0.000	241.593	241.593	100.00	0.000	0.000
					B	0.000	241.593		100.00	0.000	0.000
					C	0.000	241.593		100.00	0.000	8.930

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
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	149 - 135.14	Pole	Max Tension	14	0.00	-0.00	0.00
			Max. Compression	26	-14.72	-0.11	2.37
			Max. Mx	8	-5.90	-68.56	1.24
			Max. My	2	-5.88	-0.02	70.67
			Max. Vy	20	-13.07	68.46	1.30
			Max. Vx	2	-13.17	-0.02	70.67
			Max. Torque	20			-1.05
L2	135.14 - 92.16	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.86	0.19	4.15
			Max. Mx	8	-23.29	-1004.95	2.96
			Max. My	2	-23.25	-1.12	1015.81
			Max. Vy	20	-33.58	1004.93	0.69
			Max. Vx	2	-33.89	-1.12	1015.81
			Max. Torque	20			-2.03
L3	92.16 - 45.1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.16	3.21	2.35
			Max. Mx	20	-39.76	2661.97	-1.88
			Max. My	2	-39.75	-3.20	2686.50
			Max. Vy	20	-39.95	2661.97	-1.88
			Max. Vx	2	-40.27	-3.20	2686.50
			Max. Torque	20			-2.01
L4	45.1 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-101.14	7.93	-0.45
			Max. Mx	20	-66.12	4961.13	-5.00
			Max. My	2	-66.12	-5.39	5000.95
			Max. Vy	20	-47.27	4961.13	-5.00
			Max. Vx	2	-47.58	-5.39	5000.95
			Max. Torque	4			1.57

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	101.14	-0.00	-0.00
	Max. H_x	21	49.61	47.24	-0.05
	Max. H_z	3	49.61	-0.05	47.54
	Max. M_x	2	5000.95	-0.05	47.54
	Max. M_z	8	4959.18	-47.24	0.05
	Max. Torsion	4	1.57	-23.66	41.20
	Min. Vert	3	49.61	-0.05	47.54
	Min. H_x	9	49.61	-47.24	0.05
	Min. H_z	15	49.61	0.05	-47.54
	Min. M_x	14	-4998.22	0.05	-47.54
	Min. M_z	20	-4961.13	47.24	-0.05
	Min. Torsion	16	-1.57	23.66	-41.20

Tower Mast Reaction Summary

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead Only	55.12	0.00	0.00	-1.06	0.80	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	66.15	0.05	-47.54	-5000.95	-5.39	-1.18
0.9 Dead+1.0 Wind 0 deg - No Ice	49.61	0.05	-47.54	-4964.17	-5.59	-1.18
1.2 Dead+1.0 Wind 30 deg - No Ice	66.15	23.66	-41.20	-4334.82	-2484.66	-1.57
0.9 Dead+1.0 Wind 30 deg - No Ice	49.61	23.66	-41.20	-4302.74	-2466.73	-1.56
1.2 Dead+1.0 Wind 60 deg - No Ice	66.15	40.94	-23.82	-2506.98	-4297.94	-1.54
0.9 Dead+1.0 Wind 60 deg - No Ice	49.61	40.94	-23.82	-2488.28	-4266.74	-1.51
1.2 Dead+1.0 Wind 90 deg - No Ice	66.15	47.24	-0.05	-7.73	-4959.18	-1.10
0.9 Dead+1.0 Wind 90 deg - No Ice	49.61	47.24	-0.05	-7.32	-4923.19	-1.07
1.2 Dead+1.0 Wind 120 deg - No Ice	66.15	40.88	23.73	2493.24	-4291.59	-0.36
0.9 Dead+1.0 Wind 120 deg - No Ice	49.61	40.88	23.73	2475.34	-4260.44	-0.34
1.2 Dead+1.0 Wind 150 deg - No Ice	66.15	23.57	41.15	4325.75	-2473.64	0.47
0.9 Dead+1.0 Wind 150 deg - No Ice	49.61	23.57	41.15	4294.43	-2455.79	0.48
1.2 Dead+1.0 Wind 180 deg - No Ice	66.15	-0.05	47.54	4998.22	7.34	1.17
0.9 Dead+1.0 Wind 180 deg - No Ice	49.61	-0.05	47.54	4962.17	7.05	1.18
1.2 Dead+1.0 Wind 210 deg - No Ice	66.15	-23.66	41.20	4332.10	2486.62	1.57
0.9 Dead+1.0 Wind 210 deg - No Ice	49.61	-23.66	41.20	4300.74	2468.19	1.55
1.2 Dead+1.0 Wind 240 deg - No Ice	66.15	-40.94	23.82	2504.26	4299.90	1.54
0.9 Dead+1.0 Wind 240 deg - No Ice	49.61	-40.94	23.82	2486.28	4268.20	1.52
1.2 Dead+1.0 Wind 270 deg - No Ice	66.15	-47.24	0.05	5.00	4961.13	1.10
0.9 Dead+1.0 Wind 270 deg - No Ice	49.61	-47.24	0.05	5.32	4924.65	1.07
1.2 Dead+1.0 Wind 300 deg - No Ice	66.15	-40.88	-23.73	-2495.96	4293.55	0.37
0.9 Dead+1.0 Wind 300 deg - No Ice	49.61	-40.88	-23.73	-2477.34	4261.90	0.34
1.2 Dead+1.0 Wind 330 deg - No Ice	66.15	-23.57	-41.15	-4328.47	2475.60	-0.47
0.9 Dead+1.0 Wind 330 deg - No Ice	49.61	-23.57	-41.15	-4296.44	2457.25	-0.49
1.2 Dead+1.0 Ice+1.0 Temp	101.14	0.00	0.00	0.45	7.93	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	101.14	0.01	-10.97	-1130.21	7.04	-0.49
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	101.14	5.47	-9.51	-979.36	-554.74	-0.49
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	101.14	9.47	-5.50	-566.03	-965.67	-0.36
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	101.14	10.93	-0.01	-0.98	-1115.65	-0.13
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	101.14	9.46	5.48	564.38	-964.48	0.13
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	101.14	5.45	9.50	978.57	-552.69	0.36
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	101.14	-0.01	10.97	1130.61	9.41	0.49
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	101.14	-5.47	9.51	979.76	571.18	0.49
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	101.14	-9.47	5.50	566.43	982.11	0.36
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	101.14	-10.93	0.01	1.38	1132.09	0.13
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	101.14	-9.46	-5.48	-563.98	980.93	-0.13
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	101.14	-5.45	-9.50	-978.17	569.13	-0.36
Dead+Wind 0 deg - Service	55.12	0.01	-9.35	-980.06	-0.43	-0.23
Dead+Wind 30 deg - Service	55.12	4.65	-8.10	-849.53	-485.83	-0.31
Dead+Wind 60 deg - Service	55.12	8.05	-4.68	-491.68	-840.82	-0.30
Dead+Wind 90 deg - Service	55.12	9.29	-0.01	-2.38	-970.31	-0.21
Dead+Wind 120 deg - Service	55.12	8.04	4.66	487.26	-839.58	-0.07
Dead+Wind 150 deg - Service	55.12	4.63	8.09	846.03	-483.67	0.09
Dead+Wind 180 deg - Service	55.12	-0.01	9.35	977.80	2.06	0.23
Dead+Wind 210 deg - Service	55.12	-4.65	8.10	847.27	487.45	0.31
Dead+Wind 240 deg - Service	55.12	-8.05	4.68	489.42	842.45	0.30
Dead+Wind 270 deg - Service	55.12	-9.29	0.01	0.12	971.93	0.21
Dead+Wind 300 deg - Service	55.12	-8.04	-4.66	-489.52	841.20	0.07
Dead+Wind 330 deg - Service	55.12	-4.63	-8.09	-848.29	485.29	-0.09

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-55.12	0.00	-0.00	55.12	-0.00	0.000%
2	0.05	-66.15	-47.55	-0.05	66.15	47.54	0.005%
3	0.05	-49.61	-47.55	-0.05	49.61	47.54	0.004%
4	23.66	-66.15	-41.20	-23.66	66.15	41.20	0.000%
5	23.66	-49.61	-41.20	-23.66	49.61	41.20	0.000%
6	40.94	-66.15	-23.82	-40.94	66.15	23.82	0.000%
7	40.94	-49.61	-23.82	-40.94	49.61	23.82	0.000%
8	47.24	-66.15	-0.05	-47.24	66.15	0.05	0.002%
9	47.24	-49.61	-0.05	-47.24	49.61	0.05	0.001%
10	40.88	-66.15	23.73	-40.88	66.15	-23.73	0.000%
11	40.88	-49.61	23.73	-40.88	49.61	-23.73	0.000%
12	23.57	-66.15	41.15	-23.57	66.15	-41.15	0.000%
13	23.57	-49.61	41.15	-23.57	49.61	-41.15	0.000%
14	-0.05	-66.15	47.55	0.05	66.15	-47.54	0.005%
15	-0.05	-49.61	47.55	0.05	49.61	-47.54	0.004%
16	-23.66	-66.15	41.20	23.66	66.15	-41.20	0.000%
17	-23.66	-49.61	41.20	23.66	49.61	-41.20	0.000%
18	-40.94	-66.15	23.82	40.94	66.15	-23.82	0.000%
19	-40.94	-49.61	23.82	40.94	49.61	-23.82	0.000%
20	-47.24	-66.15	0.05	47.24	66.15	-0.05	0.002%
21	-47.24	-49.61	0.05	47.24	49.61	-0.05	0.001%
22	-40.88	-66.15	-23.73	40.88	66.15	23.73	0.000%
23	-40.88	-49.61	-23.73	40.88	49.61	23.73	0.000%
24	-23.57	-66.15	-41.15	23.57	66.15	41.15	0.000%
25	-23.57	-49.61	-41.15	23.57	49.61	41.15	0.000%
26	0.00	-101.14	0.00	-0.00	101.14	-0.00	0.001%
27	0.01	-101.14	-10.97	-0.01	101.14	10.97	0.001%
28	5.47	-101.14	-9.51	-5.47	101.14	9.51	0.001%
29	9.47	-101.14	-5.50	-9.47	101.14	5.50	0.001%
30	10.93	-101.14	-0.01	-10.93	101.14	0.01	0.001%
31	9.46	-101.14	5.48	-9.46	101.14	-5.48	0.001%
32	5.45	-101.14	9.50	-5.45	101.14	-9.50	0.001%
33	-0.01	-101.14	10.97	0.01	101.14	-10.97	0.001%
34	-5.47	-101.14	9.51	5.47	101.14	-9.51	0.001%
35	-9.47	-101.14	5.50	9.47	101.14	-5.50	0.001%
36	-10.93	-101.14	0.01	10.93	101.14	-0.01	0.001%
37	-9.46	-101.14	-5.48	9.46	101.14	5.48	0.001%
38	-5.45	-101.14	-9.50	5.45	101.14	9.50	0.001%
39	0.01	-55.12	-9.35	-0.01	55.12	9.35	0.001%
40	4.65	-55.12	-8.10	-4.65	55.12	8.10	0.001%
41	8.05	-55.12	-4.68	-8.05	55.12	4.68	0.001%
42	9.29	-55.12	-0.01	-9.29	55.12	0.01	0.001%
43	8.04	-55.12	4.66	-8.04	55.12	-4.66	0.001%
44	4.63	-55.12	8.09	-4.63	55.12	-8.09	0.001%
45	-0.01	-55.12	9.35	0.01	55.12	-9.35	0.001%
46	-4.65	-55.12	8.10	4.65	55.12	-8.10	0.001%
47	-8.05	-55.12	4.68	8.05	55.12	-4.68	0.001%
48	-9.29	-55.12	0.01	9.29	55.12	-0.01	0.001%
49	-8.04	-55.12	-4.66	8.04	55.12	4.66	0.001%
50	-4.63	-55.12	-8.09	4.63	55.12	8.09	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	11	0.00009053	0.00013633
3	Yes	11	0.00006221	0.00011717
4	Yes	14	0.00000001	0.00011208
5	Yes	14	0.00000001	0.00008386
6	Yes	14	0.00000001	0.00011651
7	Yes	14	0.00000001	0.00008728
8	Yes	12	0.00000001	0.00008124
9	Yes	12	0.00000001	0.00006525
10	Yes	14	0.00000001	0.00010937
11	Yes	14	0.00000001	0.00008202
12	Yes	14	0.00000001	0.00011419
13	Yes	14	0.00000001	0.00008563
14	Yes	11	0.00009053	0.00013621
15	Yes	11	0.00006221	0.00011711
16	Yes	14	0.00000001	0.00011492
17	Yes	14	0.00000001	0.00008614
18	Yes	14	0.00000001	0.00011009
19	Yes	14	0.00000001	0.00008252
20	Yes	12	0.00000001	0.00007598
21	Yes	12	0.00000001	0.00006120
22	Yes	14	0.00000001	0.00011588
23	Yes	14	0.00000001	0.00008683
24	Yes	14	0.00000001	0.00011146
25	Yes	14	0.00000001	0.00008342
26	Yes	6	0.00000001	0.00001699
27	Yes	12	0.00000001	0.00008587
28	Yes	12	0.00000001	0.00010188
29	Yes	12	0.00000001	0.00010265
30	Yes	12	0.00000001	0.00008453
31	Yes	12	0.00000001	0.00009966
32	Yes	12	0.00000001	0.00010062
33	Yes	12	0.00000001	0.00008469
34	Yes	12	0.00000001	0.00010196
35	Yes	12	0.00000001	0.00010087
36	Yes	12	0.00000001	0.00008540
37	Yes	12	0.00000001	0.00010334
38	Yes	12	0.00000001	0.00010268
39	Yes	11	0.00000001	0.00003628
40	Yes	11	0.00000001	0.00003442
41	Yes	11	0.00000001	0.00003923
42	Yes	11	0.00000001	0.00003693
43	Yes	11	0.00000001	0.00003283
44	Yes	11	0.00000001	0.00003726
45	Yes	11	0.00000001	0.00003600
46	Yes	11	0.00000001	0.00003739
47	Yes	11	0.00000001	0.00003295
48	Yes	11	0.00000001	0.00003693
49	Yes	11	0.00000001	0.00003916
50	Yes	11	0.00000001	0.00003435

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	149 - 135.14	15.0996	39	0.9418	0.0024
L2	138.88 - 92.16	13.1164	39	0.9240	0.0017
L3	97.67 - 45.1	6.1309	39	0.6431	0.0006
L4	52.54 - 0	1.6427	39	0.2918	0.0002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
148.00	APXVAARR24_43-U-NA20 w/ Mount Pipe	39	14.9022	0.9406	0.0023	29498
139.00	(4) DB848H90E-XY w/ Mount Pipe	39	13.1396	0.9243	0.0018	15606
129.00	TME-800MHZ RRH	39	11.2518	0.8828	0.0013	11351
128.00	APXVTM14-C-120 w/ Mount Pipe	39	11.0684	0.8773	0.0013	11102
116.00	(2) JAHH-65B-R3B w/ Mount Pipe	39	8.9593	0.7963	0.0009	8792
110.00	RRUS 11	39	7.9758	0.7483	0.0008	7964
106.00	(2) 7770.00 w/ Mount Pipe	39	7.3501	0.7147	0.0007	7493
98.00	APXV18-206517S-C w/ Mount Pipe	39	6.1769	0.6460	0.0006	6768

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	149 - 135.14	76.8941	2	4.7788	0.0121
L2	138.88 - 92.16	66.8319	2	4.6988	0.0088
L3	97.67 - 45.1	31.2797	2	3.2805	0.0032
L4	52.54 - 0	8.3845	2	1.4896	0.0008

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
148.00	APXVAARR24_43-U-NA20 w/ Mount Pipe	2	75.8931	4.7735	0.0119	6109
139.00	(4) DB848H90E-XY w/ Mount Pipe	2	66.9497	4.7004	0.0090	3225
129.00	TME-800MHZ RRH	2	57.3583	4.4964	0.0066	2308
128.00	APXVTM14-C-120 w/ Mount Pipe	2	56.4260	4.4688	0.0064	2254
116.00	(2) JAHH-65B-R3B w/ Mount Pipe	2	45.6927	4.0602	0.0047	1761
110.00	RRUS 11	2	40.6834	3.8164	0.0041	1587
106.00	(2) 7770.00 w/ Mount Pipe	2	37.4946	3.6454	0.0037	1488
98.00	APXV18-206517S-C w/ Mount Pipe	2	31.5143	3.2950	0.0032	1338

Compression Checks

Pole Design Data

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
L1	149 - 135.14 (1)	TP26.74x22x0.19	13.86	0.00	0.0	15.04	-5.88	1006.13	0.006
L2	135.14 - 92.16 (2)	TP40.91x25.09x0.25	46.72	0.00	0.0	30.78	-23.25	1942.27	0.012
L3	92.16 - 45.1 (3)	TP56.35x38.54x0.31	52.57	0.00	0.0	53.08	-39.75	3190.26	0.012
L4	45.1 - 0 (4)	TP71x53.2x0.38	52.54	0.00	0.0	84.06	-66.12	4784.64	0.014

Pole Bending Design Data

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy}	ϕM_{ny}	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	ft		kip-ft	kip-ft		kip-ft	kip-ft	
L1	149 - 135.14 (1)	TP26.74x22x0.19	70.67	523.12	0.135	0.00	523.12	0.000
L2	135.14 - 92.16 (2)	TP40.91x25.09x0.25	1015.81	1551.58	0.655	0.00	1551.58	0.000
L3	92.16 - 45.1 (3)	TP56.35x38.54x0.31	2686.50	3517.92	0.764	0.00	3517.92	0.000
L4	45.1 - 0 (4)	TP71x53.2x0.38	5000.95	6966.27	0.718	0.00	6966.27	0.000

Pole Shear Design Data

Section No.	Elevation	Size	Actual V_u	ϕV_n	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u	ϕT_n	Ratio $\frac{T_u}{\phi T_n}$
	ft		K	K		kip-ft	kip-ft	
L1	149 - 135.14 (1)	TP26.74x22x0.19	13.17	260.35	0.051	0.04	575.61	0.000
L2	135.14 - 92.16 (2)	TP40.91x25.09x0.25	33.89	540.24	0.063	0.41	1811.81	0.000
L3	92.16 - 45.1 (3)	TP56.35x38.54x0.31	40.27	931.60	0.043	0.26	4315.38	0.000
L4	45.1 - 0 (4)	TP71x53.2x0.38	47.58	1475.28	0.032	1.18	9027.92	0.000

Pole Interaction Design Data

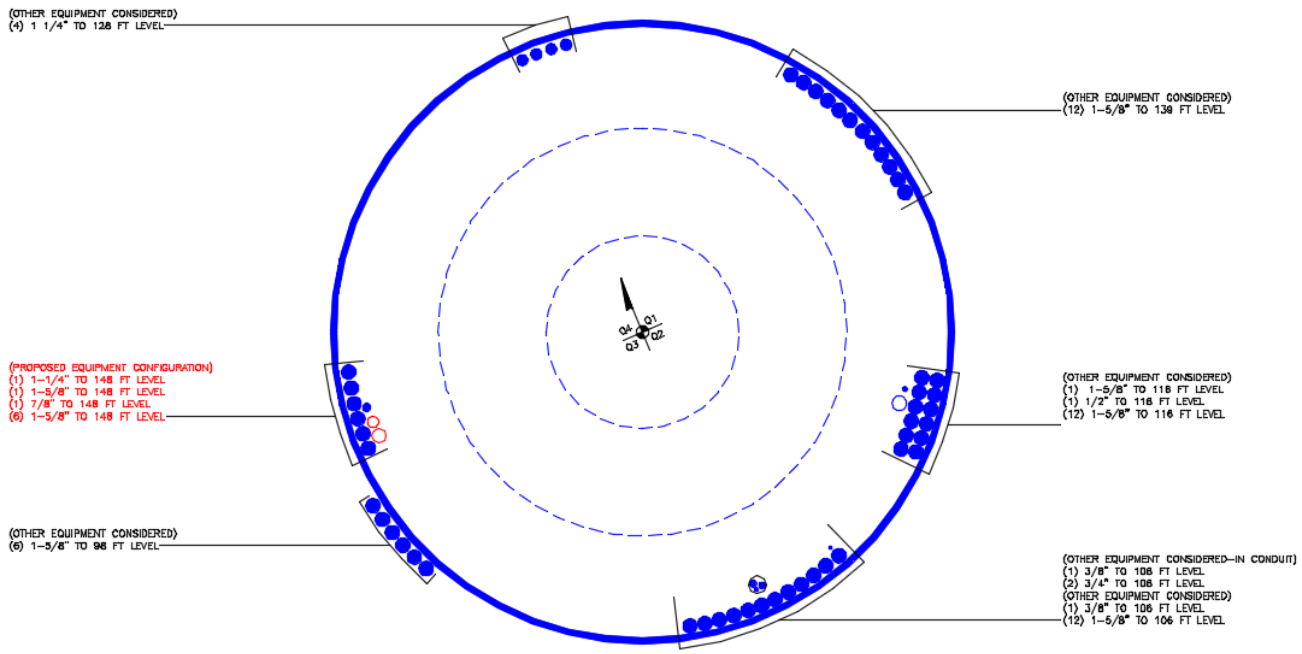
Section No.	Elevation	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	ft								
L1	149 - 135.14 (1)	0.006	0.135	0.000	0.051	0.000	0.143	1.050	4.8.2
L2	135.14 - 92.16 (2)	0.012	0.655	0.000	0.063	0.000	0.671	1.050	4.8.2
L3	92.16 - 45.1 (3)	0.012	0.764	0.000	0.043	0.000	0.778	1.050	4.8.2
L4	45.1 - 0 (4)	0.014	0.718	0.000	0.032	0.000	0.733	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	149 - 135.14	Pole	TP26.74x22x0.19	1	-5.88	1056.44	13.7	Pass
L2	135.14 - 92.16	Pole	TP40.91x25.09x0.25	2	-23.25	2039.38	63.9	Pass
L3	92.16 - 45.1	Pole	TP56.35x38.54x0.31	3	-39.75	3349.77	74.1	Pass
L4	45.1 - 0	Pole	TP71x53.2x0.38	4	-66.12	5023.87	69.8	Pass
							Summary	
						Pole (L3)	74.1	Pass
						RATING =	**74.1**	**Pass**

APPENDIX B

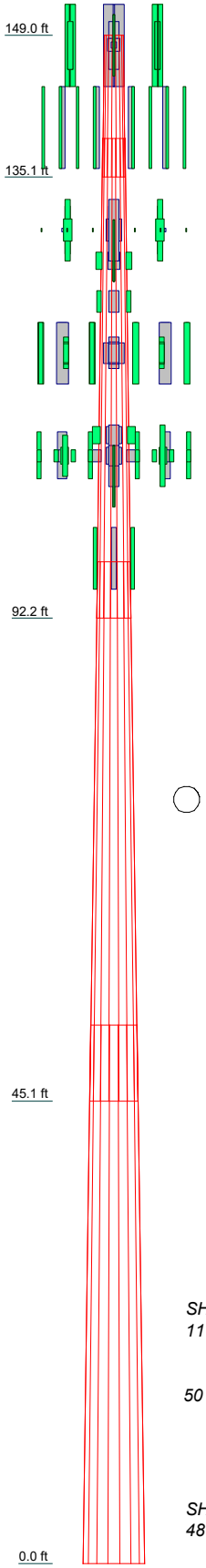
BASE LEVEL DRAWING



APPENDIX C

ADDITIONAL CALCULATIONS

Section	1	2	3	4
Length (ft)	13.86	46.72	52.57	52.54
Number of Sides	18	18	18	18
Thickness (in)	0.19	0.25	0.31	0.38
Socket Length (ft)	3.74	5.51	7.44	
Top Dia (in)	22.00	25.09	38.54	53.20
Bot Dia (in)	26.74	40.91	56.35	71.00
Grade	A572-65			
Weight (K)	0.7	4.1	8.4	13.1



ALL REACTIONS ARE FACTORED

AXIAL 101 K

SHEAR 11 K *MOMENT 1134 kip-ft*

TORQUE 0 kip-ft

50 mph WIND - 1.27 in ICE

AXIAL 66 K

SHEAR 48 K *MOMENT 5001 kip-ft*

TORQUE 2 kip-ft

REACTIONS - 128 mph WIND

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 128 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 50 mph basic wind with 1.27 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TIA-222-H Annex S
8. TOWER RATING: 74.1%

Paul J. Ford and Company
250 East Broad St., Suite 600
Columbus, OH 43215
Phone: (614) 221-6679
FAX:

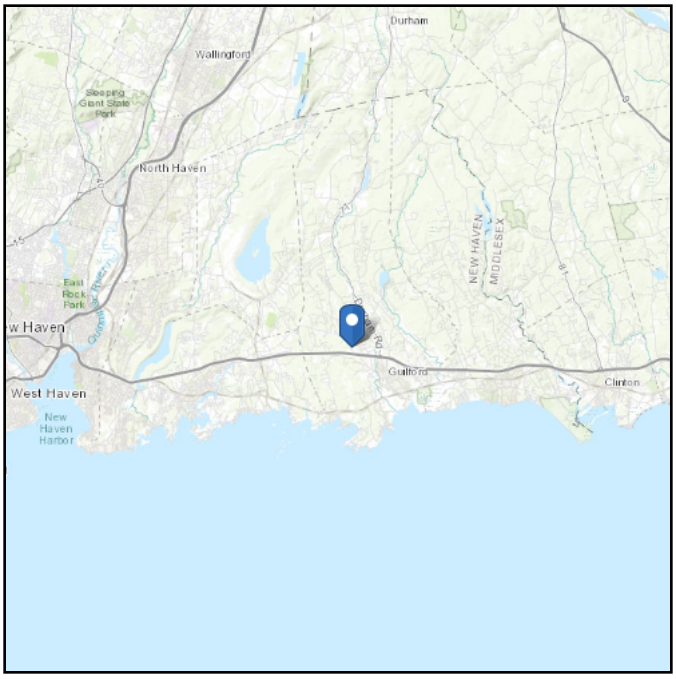
Job:		
Project:		
Client:	Drawn by: mtimas	App'd:
Code: TIA-222-H	Date: 10/25/18	Scale: NTS
Path:		Dwg No. E-1

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 70.13 ft (NAVD 88)
Latitude: 41.300353
Longitude: -72.708092



Wind

Results:	**78 Vmph**
Wind Speed:	128 Vmph
10-year MRI	78 Vmph
25-year MRI	88 Vmph
50-year MRI	95 Vmph
100-year MRI	104 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Wed Oct 24 2018

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

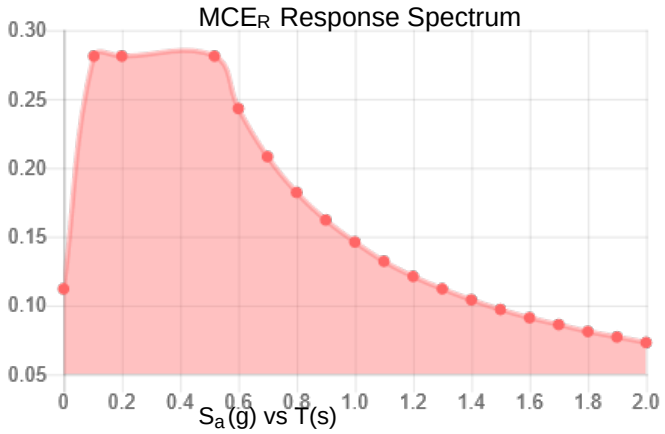
Seismic

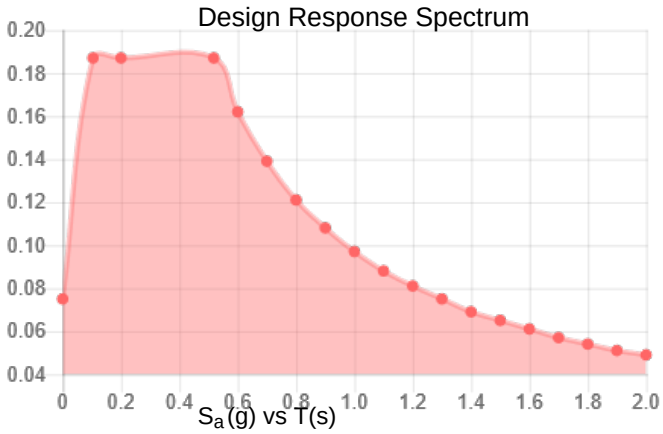
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.176	S_{DS} :	0.187
S_1 :	0.061	S_{D1} :	0.097
F_a :	1.600	T_L :	6.000
F_v :	2.400	PGA :	0.090
S_{MS} :	0.281	PGA_M :	0.144
S_{M1} :	0.146	F_{PGA} :	1.600
		I_e :	1

Seismic Design Category B





Data Accessed: Wed Oct 24 2018

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Wed Oct 24 2018

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

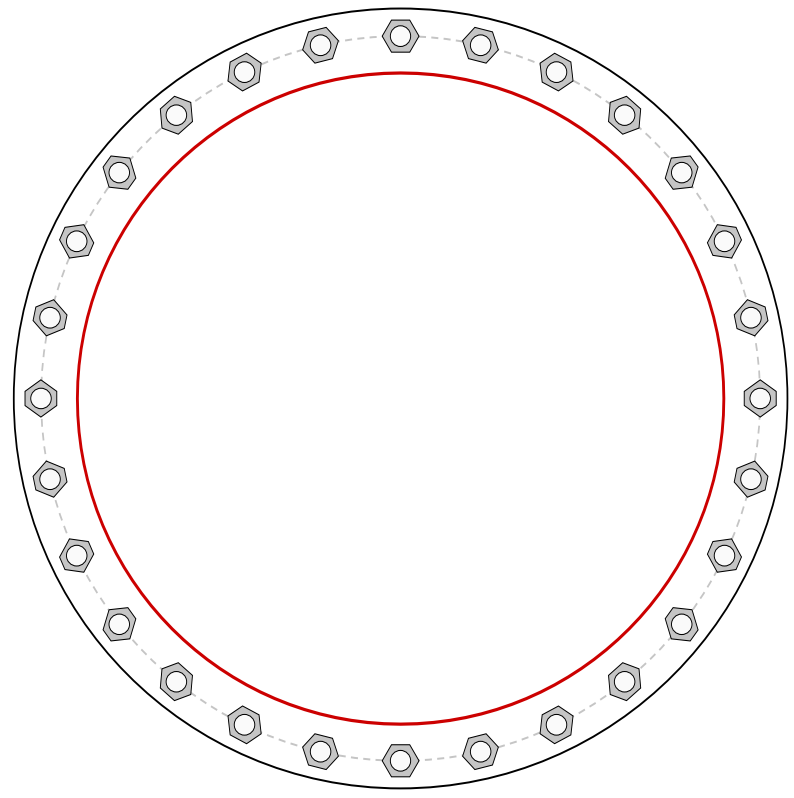
Monopole Base Plate Connection

Site Info	
BU #	876343
Site Name	Ilford West Stone Prope
Order #	1650760

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	0.5

Applied Loads	
Moment (kip-ft)	5000.95
Axial Force (kips)	66.12
Shear Force (kips)	47.58

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(28) 2-1/4" ø bolts (A615-75 X; Fy=75 ksi, Fu=100 ksi) on 79" BC

Base Plate Data

85" OD x 2.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Stiffener Data

N/A

Pole Data

71" x 0.375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

Pu_c = 110.85	ϕPn_c = 243.75	**Stress Rating**
Vu = 1.7	ϕVn = 73.13	**43.4%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	18.33	(Flexural)
Allowable Stress (ksi):	45	
Stress Rating:	**38.8%**	**Pass**

Pier and Pad Foundation

BU # :	876343
Site Name:	Guilford West Ston
App. Number:	463039

TIA-222 Revision:	H
Tower Type:	Monopole

Block Foundation?:	☐

Superstructure Analysis Reactions

Compression, P_{comp}:	66	kips
Base Shear, Vu_comp:	48	kips
Moment, M_u:	5001	ft-kips
Tower Height, **H**:	149	ft
BP Dist. Above Fdn, bp_{dist}:	0.5	in

Pier Properties

Pier Shape:	Square	
Pier Diameter, **dpier**:	8.5	ft
Ext. Above Grade, **E**:	1	ft
Pier Rebar Size, **Sc**:	9	
Pier Rebar Quantity, **mc**:	48	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	20	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	12	ft
Pad Width, **W**:	30	ft
Pad Thickness, **T**:	3	ft
Pad Rebar Size, **Sp**:	8	
Pad Rebar Quantity, **mp**:	58	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

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

Soil Properties

Total Soil Unit Weight, γ:	120	pcf
Ultimate Net Bearing, Qnet:	16.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	0	degrees
SPT Blow Count, N_{blows}:	50	
Base Friction, μ:	0.5	
Neglected Depth, **N**:	4.25	ft
Foundation Bearing on Rock?	Yes	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	602.67	48.00	**7.6%**	**Pass**
Bearing Pressure (ksf)	13.08	3.67	**26.8%**	**Pass**
*Overturning (kip*ft)*	16625.39	5627.00	**33.8%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	9610.21	5481.00	**54.3%**	**Pass**
Pier Compression (kip)	45985.68	196.05	**0.4%**	**Pass**
*Pad Flexure (kip*ft)*	6263.43	1847.01	**28.1%**	**Pass**
Pad Shear - 1-way (kips)	1075.81	249.98	**22.1%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.190	0.045	**22.7%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	3661.57	3288.60	**85.5%**	**Pass**

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

Soil Rating*:	**33.8%**
Structural Rating*:	**85.5%**

Version 3.0.2

CENTEK engineering

Centered on Solutions℠

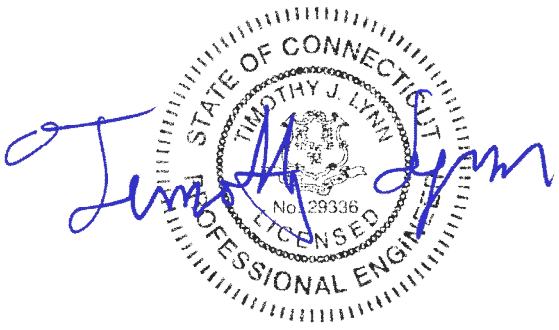
Structural Analysis Report

Antenna Mount Analysis

T-Mobile Site #: CT11027D

1919 Boston Post Road
Guilford, CT 06437

Centek Project No. 18127.19



Date: October 9, 2018

Max Stress Ratio = 80.3%

Prepared for:

T-Mobile USA
35 Griffin Road
Bloomfield, CT 06002

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CENTEK engineering

Centered on Solutions℠

October 9, 2018

Mr. Dan Reid
Transcend Wireless
10 Industrial Ave
Mahwah, NJ 07430

Re: Structural Letter ~ Antenna Mount
T-Mobile – Site Ref: CT11027D
1919 Boston Post Road
Guilford, CT 06437

Centek Project No. 18127.19

Dear Mr. Reid,

Centek Engineering, Inc. has reviewed the T-Mobile antenna installation at the above referenced site. The purpose of the review is to determine the structural adequacy of the existing mount, consisting of three (3) 12-ft T-Arms to support the equipment configuration. The review considered the effects of wind load, dead load and ice load in accordance with the 2015 International Building Code as modified by the 2018 Connecticut State Building Code (CTBC) including ASCE 7-10 and ANSI/TIA-222-G *Structural Standards for Steel Antenna Towers and Supporting Structures*.

The loads considered in this analysis consist of the following:

- T-Mobile:
  T-Arms: Three (3) RFS APXVAARR24-43-NA20 panel antennas, six (6) Ericsson AIR21 panel antennas, three (3) TMAs and three (3) Ericsson 4449 B71_B12 remote radio units mounted on three (3) T-Arms with a RAD center elevation of 147/149-ft +/- AGL.

The antenna mount was analyzed per the requirements of the 2015 International Building Code as modified by the 2018 Connecticut State Building Code considering a nominal design wind speed of 101 mph for Guilford as required in Appendix N of the 2016 Connecticut State Building Code.

A structural analysis of tower and foundation needs to be completed prior to any work.

Based on our review of the installation, it is our opinion that the existing antenna mounts are structurally inadequate to support the proposed antenna configuration. Installation of modifications per drawing SK-1 included in this report is required. If there are any questions regarding this matter, please feel free to call.

Respectfully Submitted by:

Timothy J. Lynn, PE
Structural Engineer

STATE OF CONNECTICUT
TIMOTHY J. LYNN
No. 29336
LICENSED
PROFESSIONAL ENGINEER

Section 2 - Calculations

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

Subject: TIA-222-G Loads

Location: Guilford, CT

Rev. 0: 10/9/18

Prepared by: T.J.L. Checked by: C.F.C.
Job No. 18127.19

Development of Design Heights, Exposure Coefficients, and Velocity Pressures Per TIA-222-G

Wind Speeds

Basic Wind Speed: $V := 101$ mph (User Input - 2016 CSBC Appendix N)

Basic Wind Speed with Ice: $V_i := 50$ mph (User Input per Annex B of TIA-222-G)

Input

Structure Type = Structure_Type := Pole (User Input)

Structure Category = $SC := II$ (User Input)

Exposure Category = $Exp := C$ (User Input)

Structure Height = $h := 150$ ft (User Input)

Height to Center of Antennas = $z_{Ant} := 148$ ft (User Input)

Radial Ice Thickness = $t_i := 0.75$ in (User Input per Annex B of TIA-222-G)

Radial Ice Density = $Id := 56.00$ pcf (User Input)

Topograpic Factor = $K_{zt} := 1.0$ (User Input)

$K_a := 1.0$ (User Input)

Gust Response Factor = $G_H = 1.1$ (User Input)

Output

Wind Direction Probability Factor =

$$K_d := \begin{cases} 0.95 & \text{if Structure\_Type = Pole} \\ 0.85 & \text{if Structure\_Type = Lattice} \end{cases} = 0.95$$

(Per Table 2-2 of TIA-222-G)

Importance Factors =

$$I_{Wind} := \begin{cases} 0.87 & \text{if } SC = 1 \\ 1.00 & \text{if } SC = 2 \\ 1.15 & \text{if } SC = 3 \end{cases} = 1$$

(Per Table 2-3 of TIA-222-G)

$$I_{Wind\_w\_Ice} := \begin{cases} 0 & \text{if } SC = 1 \\ 1.00 & \text{if } SC = 2 \\ 1.00 & \text{if } SC = 3 \end{cases} = 1$$

$$I_{ice} := \begin{cases} 0 & \text{if } SC = 1 \\ 1.00 & \text{if } SC = 2 \\ 1.25 & \text{if } SC = 3 \end{cases} = 1$$

$$K_{iz} := \left(\frac{z_{Ant}}{33}\right)^{0.1} = 1.162$$

$$t_{iz} := 2.0 \cdot t_i \cdot I_{ice} \cdot K_{iz} \cdot K_{zt}^{0.35} = 1.743$$

Velocity Pressure Coefficient Antennas =

$$Kz_{Ant} := 2.01\left(\left(\frac{z_{Ant}}{zg}\right)\right)^{\frac{2}{\alpha}} = 1.375$$

Velocity Pressure w/o Ice Antennas =

$$qz_{Ant} := 0.00256 \cdot K_d \cdot Kz_{Ant} \cdot V^2 \cdot I_{Wind} = 34.1$$

Velocity Pressure with Ice Antennas =

$$qz_{ice.Ant} := 0.00256 \cdot K_d \cdot Kz_{Ant} \cdot V_i^2 \cdot I_{Wind} = 8.357$$

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	RFSAPXVAARR24-43		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 95.9$	in	(User Input)
Antenna Width =	$W_{ant} := 24$	in	(User Input)
Antenna Thickness =	$T_{ant} := 8.7$	in	(User Input)
Antenna Weight =	$WT_{ant} := 153$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 1$		(User Input)
Antenna Aspect Ratio =	$Ar_{ant} := \frac{L_{ant}}{W_{ant}} = 4.0$		
Antenna Force Coefficient =	$Ca_{ant} = 1.27$		

Wind Load (without ice)

Surface Area for One Antenna =	$SA_{antF} := \frac{L_{ant} \cdot W_{ant}}{144} = 16$	sf
Total Antenna Wind Force =	$F_{ant} := qz_{Ant} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{antF} = 759$	lbs
Surface Area for One Antenna =	$SA_{antS} := \frac{L_{ant} \cdot T_{ant}}{144} = 5.8$	sf
Total Antenna Wind Force =	$F_{ant} := qz_{Ant} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{antS} = 275$	lbs

Wind Load (with ice)

Surface Area for One Antenna w/ Ice =	$SA_{ICEantF} := \frac{(L_{ant} + 2 \cdot t_{iz}) \cdot (W_{ant} + 2 \cdot t_{iz})}{144} = 19$	sf
Total Antenna Wind Force w/ Ice =	$Fi_{ant} := qz_{ice.Ant} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{ICEantF} = 221$	lbs
Surface Area for One Antenna w/ Ice =	$SA_{ICEantS} := \frac{(L_{ant} + 2 \cdot t_{iz}) \cdot (T_{ant} + 2 \cdot t_{iz})}{144} = 8.4$	sf
Total Antenna Wind Force w/ Ice =	$Fi_{ant} := qz_{ice.Ant} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{ICEantS} = 98$	lbs

Gravity Load (without ice)

Weight of All Antennas =	$WT_{ant} \cdot N_{ant} = 153$	lbs

Gravity Loads (ice only)

Volume of Each Antenna =	$V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 2 \times 10^4$	cu in
Volume of Ice on Each Antenna =	$V_{ice} := (L_{ant} + 2 \cdot t_{iz})(W_{ant} + 2 \cdot t_{iz}) \cdot (T_{ant} + 2 \cdot t_{iz}) - V_{ant} = 1 \times 10^4$	cu in
Weight of Ice on Each Antenna =	$W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 430$	lbs
Weight of Ice on All Antennas =	$W_{ICEant} \cdot N_{ant} = 430$	lbs

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	Ericsson AIR21		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 56$	in	(User Input)
Antenna Width =	$W_{ant} := 12.1$	in	(User Input)
Antenna Thickness =	$T_{ant} := 7.9$	in	(User Input)
Antenna Weight =	$WT_{ant} := 90$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 1$		(User Input)
Antenna Aspect Ratio =	$Ar_{ant} := \frac{L_{ant}}{W_{ant}} = 4.6$		
Antenna Force Coefficient =	$Ca_{ant} = 1.29$		

Wind Load (without ice)

Surface Area for One Antenna =	$SA_{antF} := \frac{L_{ant} \cdot W_{ant}}{144} = 4.7$	sf
Total Antenna Wind Force =	$F_{ant} := qz_{Ant} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{antF} = 229$	lbs
Surface Area for One Antenna =	$SA_{antS} := \frac{L_{ant} \cdot T_{ant}}{144} = 3.1$	sf
Total Antenna Wind Force =	$F_{ant} := qz_{Ant} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{antS} = 149$	lbs

Wind Load (with ice)

Surface Area for One Antenna w/ Ice =	$SA_{ICEantF} := \frac{(L_{ant} + 2 \cdot t_{iz}) \cdot (W_{ant} + 2 \cdot t_{iz})}{144} = 6.4$	sf
Total Antenna Wind Force w/ Ice =	$Fi_{ant} := qz_{ice.Ant} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{ICEantF} = 77$	lbs
Surface Area for One Antenna w/ Ice =	$SA_{ICEantS} := \frac{(L_{ant} + 2 \cdot t_{iz}) \cdot (T_{ant} + 2 \cdot t_{iz})}{144} = 4.7$	sf
Total Antenna Wind Force w/ Ice =	$Fi_{ant} := qz_{ice.Ant} \cdot G_H \cdot Ca_{ant} \cdot K_a \cdot SA_{ICEantS} = 56$	lbs

Gravity Load (without ice)

Weight of All Antennas =	$WT_{ant} \cdot N_{ant} = 90$	lbs

Gravity Loads (ice only)

Volume of Each Antenna =	$V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 5353$	cu in
Volume of Ice on Each Antenna =	$V_{ice} := (L_{ant} + 2 \cdot t_{iz})(W_{ant} + 2 \cdot t_{iz}) \cdot (T_{ant} + 2 \cdot t_{iz}) - V_{ant} = 5203$	cu in
Weight of Ice on Each Antenna =	$W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 169$	lbs
Weight of Ice on All Antennas =	$W_{ICEant} \cdot N_{ant} = 169$	lbs

Development of Wind & Ice Load on RRUS's

RRUS Data:

RRUS Model = Ericsson 4449 B71B12

RRUS Shape = Flat (User Input)

RRUS Height = $L_{RRUS} := 14.9$ in (User Input)

RRUS Width = $W_{RRUS} := 13.2$ in (User Input)

RRUS Thickness = $T_{RRUS} := 10.4$ in (User Input)

RRUS Weight = $WT_{RRUS} := 74$ lbs (User Input)

Number of RRUS's = $N_{RRUS} := 1$ (User Input)

RRUS Aspect Ratio = $Ar_{RRUS} := \frac{L_{RRUS}}{W_{RRUS}} = 1.1$

RRUS Force Coefficient = $Ca_{RRUS} = 1.2$

Wind Load (without ice)

Surface Area for One RRUS = $SA_{RRUSF} := \frac{L_{RRUS} \cdot W_{RRUS}}{144} = 1.4$ sf

Total RRUS Wind Force = $F_{RRUS} := qz_{Ant} \cdot G_H \cdot Ca_{RRUS} \cdot K_a \cdot SA_{RRUSF} = 61$ lbs

Surface Area for One RRUS = $SA_{RRUSS} := \frac{L_{RRUS} \cdot T_{RRUS}}{144} = 1.1$ sf

Total RRUS Wind Force = $F_{RRUS} := qz_{Ant} \cdot G_H \cdot Ca_{RRUS} \cdot K_a \cdot SA_{RRUSS} = 48$ lbs

Wind Load (with ice)

Surface Area for One RRUS w/ Ice = $SA_{ICERRUSF} := \frac{(L_{RRUS} + 2 \cdot t_{iz}) \cdot (W_{RRUS} + 2 \cdot t_{iz})}{144} = 2.1$ sf

Total RRUS Wind Force w/ Ice = $Fi_{RRUS} := qz_{ice.Ant} \cdot G_H \cdot Ca_{RRUS} \cdot K_a \cdot SA_{ICERRUSF} = 24$ lbs

Surface Area for One RRUS w/ Ice = $SA_{ICERRUSS} := \frac{(L_{RRUS} + 2 \cdot t_{iz}) \cdot (T_{RRUS} + 2 \cdot t_{iz})}{144} = 1.8$ sf

Total RRUS Wind Force w/ Ice = $Fi_{RRUS} := qz_{ice.Ant} \cdot G_H \cdot Ca_{RRUS} \cdot K_a \cdot SA_{ICERRUSS} = 20$ lbs

Gravity Load (without ice)

Weight of All RRUSs = $WT_{RRUS} \cdot N_{RRUS} = 74$ lbs

Gravity Loads (ice only)

Volume of Each RRUS = $V_{RRUS} := L_{RRUS} \cdot W_{RRUS} \cdot T_{RRUS} = 2045$ cu in

Volume of Ice on Each RRUS = $V_{ice} := (L_{RRUS} + 2 \cdot t_{iz})(W_{RRUS} + 2 \cdot t_{iz}) \cdot (T_{RRUS} + 2 \cdot t_{iz}) - V_{RRUS} = 2241$ cu in

Weight of Ice on Each RRUS = $W_{ICERRUS} := \frac{V_{ice}}{1728} \cdot Id = 72$ lbs

Weight of Ice on All RRUSs = $W_{ICERRUS} \cdot N_{RRUS} = 72$ lbs

Development of Wind & Ice Load on TMA's

TMA Data:

TMA Model =	TMA		
TMA Shape =	Flat		(User Input)
TMA Height =	$L_{TMA} := 7.7$	in	(User Input)
TMA Width =	$W_{TMA} := 7.5$	in	(User Input)
TMA Thickness =	$T_{TMA} := 3.4$	in	(User Input)
TMA Weight =	$WT_{TMA} := 11$	lbs	(User Input)
Number of TMA's =	$N_{TMA} := 1$		(User Input)
TMA Aspect Ratio =	$Ar_{TMA} := \frac{L_{TMA}}{W_{TMA}} = 1$		
TMA Force Coefficient =	$Ca_{TMA} = 1.2$		

Wind Load (without ice)

Surface Area for One TMA =	$SA_{TMAF} := \frac{L_{TMA} \cdot W_{TMA}}{144} = 0.4$	sf
Total TMA Wind Force =	$F_{TMA} := qz_{Ant} \cdot G_H \cdot Ca_{TMA} \cdot K_a \cdot SA_{TMAF} = 18$	lbs
Surface Area for One TMA =	$SA_{TMAS} := \frac{L_{TMA} \cdot T_{TMA}}{144} = 0.2$	sf
Total TMA Wind Force =	$F_{TMA} := qz_{Ant} \cdot G_H \cdot Ca_{TMA} \cdot K_a \cdot SA_{TMAS} = 8$	lbs

Wind Load (with ice)

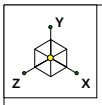
Surface Area for One TMA w/ Ice =	$SA_{ICETMAF} := \frac{(L_{TMA} + 2 \cdot t_{iz}) \cdot (W_{TMA} + 2 \cdot t_{iz})}{144} = 0.9$	sf
Total TMA Wind Force w/ Ice =	$Fi_{TMA} := qz_{ice.Ant} \cdot G_H \cdot Ca_{TMA} \cdot K_a \cdot SA_{ICETMAF} = 9$	lbs
Surface Area for One TMA w/ Ice =	$SA_{ICETMAS} := \frac{(L_{TMA} + 2 \cdot t_{iz}) \cdot (T_{TMA} + 2 \cdot t_{iz})}{144} = 0.5$	sf
Total TMA Wind Force w/ Ice =	$Fi_{TMA} := qz_{ice.Ant} \cdot G_H \cdot Ca_{TMA} \cdot K_a \cdot SA_{ICETMAS} = 6$	lbs

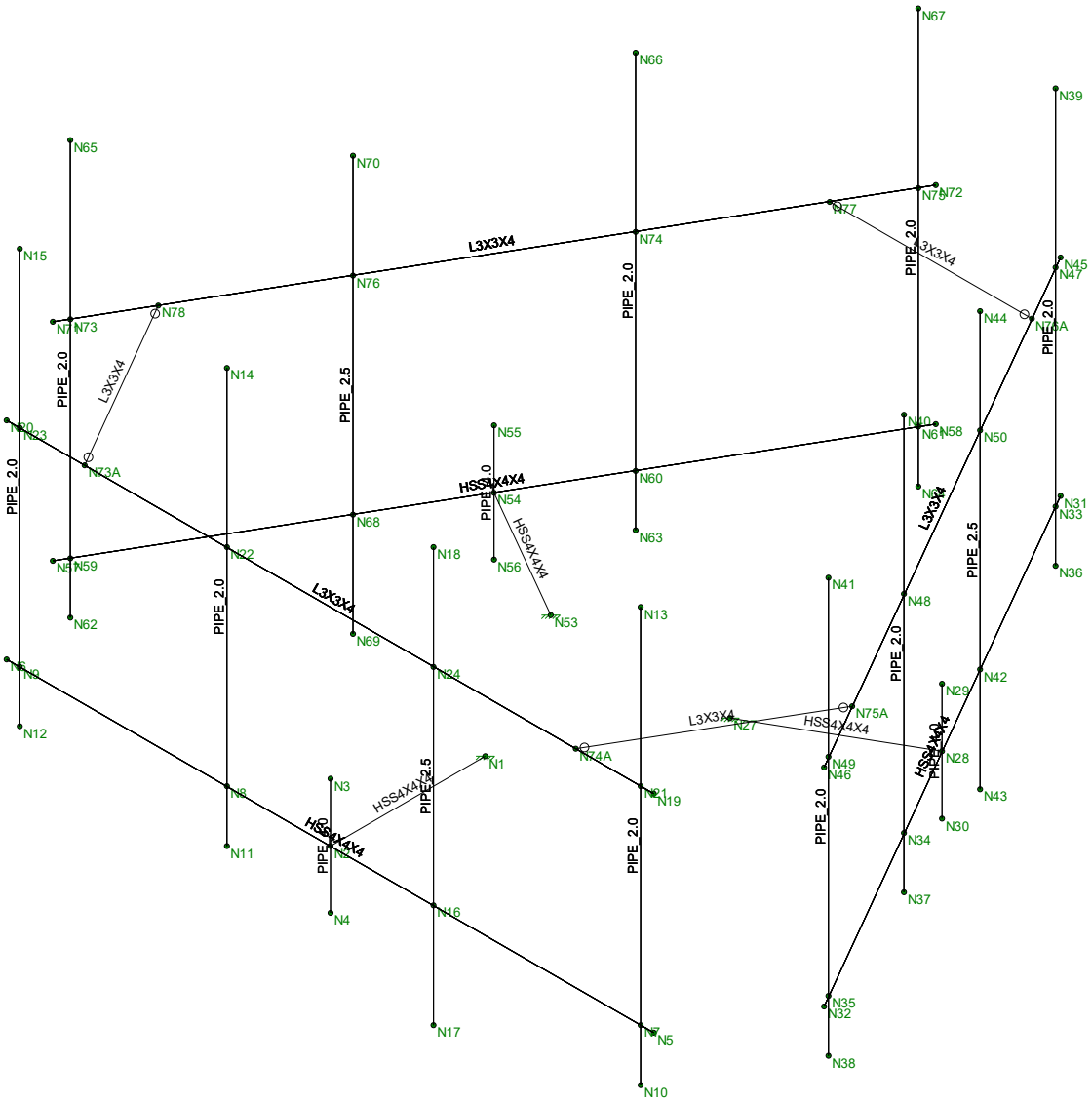
Gravity Load (without ice)

Weight of All TMAs =	$WT_{TMA} \cdot N_{TMA} = 11$	lbs

Gravity Loads (ice only)

Volume of Each TMA =	$V_{TMA} := L_{TMA} \cdot W_{TMA} \cdot T_{TMA} = 196$	cu in
Volume of Ice on Each TMA =	$V_{ice} := (L_{TMA} + 2 \cdot t_{iz})(W_{TMA} + 2 \cdot t_{iz}) \cdot (T_{TMA} + 2 \cdot t_{iz}) - V_{TMA} = 650$	cu in
Weight of Ice on Each TMA =	$W_{ICETMA} := \frac{V_{ice}}{1728} \cdot Id = 21$	lbs
Weight of Ice on All TMAs =	$W_{ICETMA} \cdot N_{TMA} = 21$	lbs





Envelope Only Solution

Centek		
TJL	CT11027D - Mount	Oct 9, 2018 at 11:36 AM
18127.19	Member Framing	Mount.r3d

(Global) Model Settings

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

Hot Rolled Steel Code	AISC 14th(360-10): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 14th(360-10): ASD
Cold Formed Steel Code	AISI S100-10: ASD
Wood Code	AWC NDS-12: ASD
Wood Temperature	< 100F
Concrete Code	ACI 318-11
Masonry Code	ACI 530-11: ASD
Aluminum Code	AA ADM1-10: ASD - Building
Stainless Steel Code	AISC 14th(360-10): ASD
Adjust Stiffness?	Yes(Iterative)

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

(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1
Footing Overturning Safety Factor	1
Optimize for OTM/Sliding	No
Check Concrete Bearing	No
Footing Concrete Weight (k/ft^3)	150.001
Footing Concrete f'c (ksi)	4
Footing Concrete Ec (ksi)	3644
Lambda	1
Footing Steel fy (ksi)	60
Minimum Steel	0.0018
Maximum Steel	0.0075
Footing Top Bar	#3
Footing Top Bar Cover (in)	2
Footing Bottom Bar	#3
Footing Bottom Bar Cover (in)	3.5
Pedestal Bar	#3
Pedestal Bar Cover (in)	1.5
Pedestal Ties	#3

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Outrigger	HSS4X4X4	Beam	Tube	A500 Gr.46	Typical	3.37	7.8	7.8	12.8
2	Horz	HSS4X4X4	Beam	Pipe	A500 Gr.46	Typical	3.37	7.8	7.8	12.8
3	Antenna Mast	PIPE_2.0	Column	Pipe	A53 Grade B	Typical	1.02	.627	.627	1.25
4	Vert	PIPE_4.0	Column	Pipe	A53 Grade B	Typical	2.96	6.82	6.82	13.6
5	Handrail	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
6	Brace	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
7	New Pipe Mast	PIPE_2.5	Column	Wide Flange	A53 Grade B	Typical	1.61	1.45	1.45	2.89

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Outrigger	3			Lbyy						Lateral
2	M2	Vert	2.25			Lbyy						Lateral
3	M3	Horz	12.5			Lbyy						Lateral
4	M4	Antenna Mast	8			Lbyy						Lateral
5	M5	Antenna Mast	8			Lbyy						Lateral
6	M6	Antenna Mast	8			Lbyy						Lateral
7	M7	New Pipe M...	8			Lbyy						Lateral
8	M8	Handrail	12.5			Lbyy						Lateral
9	M9	Outrigger	3			Lbyy						Lateral
10	M10	Vert	2.25			Lbyy						Lateral
11	M11	Horz	12.5			Lbyy						Lateral
12	M12	Antenna Mast	8			Lbyy						Lateral
13	M13	Antenna Mast	8			Lbyy						Lateral
14	M14	Antenna Mast	8			Lbyy						Lateral
15	M15	New Pipe M...	8			Lbyy						Lateral
16	M16	Handrail	12.5			Lbyy						Lateral
17	M17	Outrigger	3			Lbyy						Lateral
18	M18	Vert	2.25			Lbyy						Lateral
19	M19	Horz	12.5			Lbyy						Lateral
20	M20	Antenna Mast	8			Lbyy						Lateral
21	M21	Antenna Mast	8			Lbyy						Lateral
22	M22	Antenna Mast	8			Lbyy						Lateral
23	M23	New Pipe M...	8			Lbyy						Lateral
24	M24	Handrail	12.5			Lbyy						Lateral
25	M28	Handrail	3.91			Lbyy						Lateral
26	M29	Handrail	3.91			Lbyy						Lateral
27	M30	Handrail	3.91			Lbyy						Lateral

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N1	N2			Outrigger	Beam	Tube	A500 Gr...	Typical
2	M2	N3	N4			Vert	Column	Pipe	A53 Gra...	Typical
3	M3	N6	N5			Horz	Beam	Pipe	A500 Gr...	Typical
4	M4	N12	N15			Antenna Mast	Column	Pipe	A53 Gra...	Typical
5	M5	N11	N14			Antenna Mast	Column	Pipe	A53 Gra...	Typical
6	M6	N10	N13			Antenna Mast	Column	Pipe	A53 Gra...	Typical
7	M7	N17	N18			New Pipe Mast	Column	Wide Flange	A53 Gra...	Typical
8	M8	N20	N19		180	Handrail	Beam	Single Angle	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
9	M9	N27	N28			Outrigger	Beam	Tube	A500 Gr...	Typical
10	M10	N29	N30			Vert	Column	Pipe	A53 Gra...	Typical
11	M11	N32	N31			Horz	Beam	Pipe	A500 Gr...	Typical
12	M12	N38	N41			Antenna Mast	Column	Pipe	A53 Gra...	Typical
13	M13	N37	N40			Antenna Mast	Column	Pipe	A53 Gra...	Typical
14	M14	N36	N39			Antenna Mast	Column	Pipe	A53 Gra...	Typical
15	M15	N43	N44			New Pipe Mast	Column	Wide Flange	A53 Gra...	Typical
16	M16	N46	N45		180	Handrail	Beam	Single Angle	A36 Gr.36	Typical
17	M17	N53	N54			Outrigger	Beam	Tube	A500 Gr...	Typical
18	M18	N55	N56			Vert	Column	Pipe	A53 Gra...	Typical
19	M19	N58	N57			Horz	Beam	Pipe	A500 Gr...	Typical
20	M20	N64	N67			Antenna Mast	Column	Pipe	A53 Gra...	Typical
21	M21	N63	N66			Antenna Mast	Column	Pipe	A53 Gra...	Typical
22	M22	N62	N65			Antenna Mast	Column	Pipe	A53 Gra...	Typical
23	M23	N69	N70			New Pipe Mast	Column	Wide Flange	A53 Gra...	Typical
24	M24	N72	N71		180	Handrail	Beam	Single Angle	A36 Gr.36	Typical
25	M28	N73A	N78			Handrail	Beam	Single Angle	A36 Gr.36	Typical
26	M29	N77	N76A			Handrail	Beam	Single Angle	A36 Gr.36	Typical
27	M30	N75A	N74A			Handrail	Beam	Single Angle	A36 Gr.36	Typical

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Dia...
1	N1	0	0	2	0	
2	N2	0	0	5	0	
3	N3	0	1.125	5	0	
4	N4	0	-1.125	5	0	
5	N5	6.25	0	5	0	
6	N6	-6.25	0	5	0	
7	N7	6	0	5	0	
8	N8	-2	0	5	0	
9	N9	-6	0	5	0	
10	N10	6	-1	5	0	
11	N11	-2	-1	5	0	
12	N12	-6	-1	5	0	
13	N13	6	7	5	0	
14	N14	-2	7	5	0	
15	N15	-6	7	5	0	
16	N16	2	0	5	0	
17	N17	2	-2	5	0	
18	N18	2	6	5	0	
19	N19	6.25	4	5	0	
20	N20	-6.25	4	5	0	
21	N21	6	4	5	0	
22	N22	-2	4	5	0	
23	N23	-6	4	5	0	
24	N24	2	4	5	0	
25	N27	1.732051	0	-1.	0	
26	N28	4.330127	0	-2.5	0	
27	N29	4.330127	1.125	-2.5	0	
28	N30	4.330127	-1.125	-2.5	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Dia...
29	N31	1.205127	0	-7.912659	0	
30	N32	7.455127	0	2.912659	0	
31	N33	1.330127	0	-7.696152	0	
32	N34	5.330127	0	-0.767949	0	
33	N35	7.330127	0	2.696152	0	
34	N36	1.330127	-1	-7.696152	0	
35	N37	5.330127	-1	-0.767949	0	
36	N38	7.330127	-1	2.696152	0	
37	N39	1.330127	7	-7.696152	0	
38	N40	5.330127	7	-0.767949	0	
39	N41	7.330127	7	2.696152	0	
40	N42	3.330127	0	-4.232051	0	
41	N43	3.330127	-2	-4.232051	0	
42	N44	3.330127	6	-4.232051	0	
43	N45	1.205127	4	-7.912659	0	
44	N46	7.455127	4	2.912659	0	
45	N47	1.330127	4	-7.696152	0	
46	N48	5.330127	4	-0.767949	0	
47	N49	7.330127	4	2.696152	0	
48	N50	3.330127	4	-4.232051	0	
49	N53	-1.732051	0	-1.	0	
50	N54	-4.330127	0	-2.5	0	
51	N55	-4.330127	1.125	-2.5	0	
52	N56	-4.330127	-1.125	-2.5	0	
53	N57	-7.455127	0	2.912659	0	
54	N58	-1.205127	0	-7.912659	0	
55	N59	-7.330127	0	2.696152	0	
56	N60	-3.330127	0	-4.232051	0	
57	N61	-1.330127	0	-7.696152	0	
58	N62	-7.330127	-1	2.696152	0	
59	N63	-3.330127	-1	-4.232051	0	
60	N64	-1.330127	-1	-7.696152	0	
61	N65	-7.330127	7	2.696152	0	
62	N66	-3.330127	7	-4.232051	0	
63	N67	-1.330127	7	-7.696152	0	
64	N68	-5.330127	0	-0.767949	0	
65	N69	-5.330127	-2	-0.767949	0	
66	N70	-5.330127	6	-0.767949	0	
67	N71	-7.455127	4	2.912659	0	
68	N72	-1.205127	4	-7.912659	0	
69	N73	-7.330127	4	2.696152	0	
70	N74	-3.330127	4	-4.232051	0	
71	N75	-1.330127	4	-7.696152	0	
72	N76	-5.330127	4	-0.767949	0	
73	N73A	-4.75	4	5	0	
74	N74A	4.75	4	5	0	
75	N75A	6.705127	4	1.613621	0	
76	N76A	1.955127	4	-6.613621	0	
77	N77	-1.955127	4	-6.613621	0	
78	N78	-6.705127	4	1.613621	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N27	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N53	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Point Loads (BLC 2 : Equipment Weight)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M4	Y	-.045	1.5
2	M6	Y	-.045	1.5
3	M4	Y	-.045	5.5
4	M6	Y	-.045	5.5
5	M7	Y	-.077	.5
6	M7	Y	-.077	7.5
7	M7	Y	-.074	%50
8	M4	Y	-.011	%50
9	M6	Y	-.011	%50
10	M12	Y	-.045	1.5
11	M12	Y	-.045	5.5
12	M12	Y	-.011	%50
13	M15	Y	-.077	.5
14	M15	Y	-.077	7.5
15	M15	Y	-.074	%50
16	M14	Y	-.045	1.5
17	M14	Y	-.045	5.5
18	M14	Y	-.011	%50
19	M20	Y	-.045	1.5
20	M20	Y	-.045	5.5
21	M20	Y	-.011	%50
22	M23	Y	-.077	.5
23	M23	Y	-.077	7.5
24	M23	Y	-.074	%50
25	M22	Y	-.045	1.5
26	M22	Y	-.045	5.5
27	M22	Y	-.011	%50

Member Point Loads (BLC 3 : Ice Weight)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M4	Y	-.085	1.5
2	M6	Y	-.085	1.5
3	M4	Y	-.085	5.5
4	M6	Y	-.085	5.5
5	M7	Y	-.215	.5
6	M7	Y	-.215	7.5
7	M7	Y	-.072	%50
8	M4	Y	-.021	%50
9	M6	Y	-.021	%50
10	M12	Y	-.085	1.5
11	M12	Y	-.085	5.5
12	M12	Y	-.021	%50
13	M15	Y	-.215	.5

Member Point Loads (BLC 3 : Ice Weight) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
14	M15	Y	-.215	7.5
15	M15	Y	-.072	%50
16	M14	Y	-.085	1.5
17	M14	Y	-.085	5.5
18	M14	Y	-.021	%50
19	M20	Y	-.085	1.5
20	M20	Y	-.085	5.5
21	M20	Y	-.021	%50
22	M23	Y	-.215	.5
23	M23	Y	-.215	7.5
24	M23	Y	-.072	%50
25	M22	Y	-.085	1.5
26	M22	Y	-.085	5.5
27	M22	Y	-.021	%50

Member Point Loads (BLC 4 : Wind w/ Ice X)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M4	X	.028	1.5
2	M6	X	.028	1.5
3	M4	X	.028	5.5
4	M6	X	.028	5.5
5	M7	X	.049	.5
6	M7	X	.049	7.5
7	M7	X	.02	%50
8	M4	X	.006	%50
9	M6	X	.006	%50
10	M12	X	.039	1.5
11	M14	X	.039	1.5
12	M20	X	.039	1.5
13	M22	X	.039	1.5
14	M12	X	.039	5.5
15	M14	X	.039	5.5
16	M20	X	.039	5.5
17	M22	X	.039	5.5
18	M15	X	.111	.5
19	M23	X	.111	.5
20	M15	X	.111	7.5
21	M23	X	.111	7.5

Member Point Loads (BLC 5 : Wind X)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M4	X	.075	1.5
2	M6	X	.075	1.5
3	M4	X	.075	5.5
4	M6	X	.075	5.5
5	M7	X	.138	.5
6	M7	X	.138	7.5
7	M7	X	.048	%50
8	M4	X	.008	%50
9	M6	X	.008	%50
10	M12	X	.115	1.5

Member Point Loads (BLC 5 : Wind X) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
11	M14	X	.115	1.5
12	M20	X	.115	1.5
13	M22	X	.115	1.5
14	M12	X	.115	5.5
15	M14	X	.115	5.5
16	M20	X	.115	5.5
17	M22	X	.115	5.5
18	M15	X	.38	.5
19	M23	X	.38	.5
20	M15	X	.38	7.5
21	M23	X	.38	7.5

Member Point Loads (BLC 6 : Wind w/ Ice Z)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M4	Z	.039	1.5
2	M6	Z	.039	1.5
3	M4	Z	.039	5.5
4	M6	Z	.039	5.5
5	M7	Z	.111	.5
6	M7	Z	.111	7.5
7	M12	Z	.028	1.5
8	M14	Z	.028	1.5
9	M20	Z	.028	1.5
10	M22	Z	.028	1.5
11	M12	Z	.028	5.5
12	M14	Z	.028	5.5
13	M20	Z	.028	5.5
14	M22	Z	.028	5.5
15	M15	Z	.049	.5
16	M23	Z	.049	.5
17	M15	Z	.049	7.5
18	M23	Z	.049	7.5
19	M15	Z	.02	%50
20	M23	Z	.02	%50
21	M12	Z	.006	%50
22	M14	Z	.006	%50
23	M20	Z	.006	%50
24	M22	Z	.006	%50

Member Point Loads (BLC 7 : Wind Z)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M4	Z	.115	1.5
2	M6	Z	.115	1.5
3	M4	Z	.115	5.5
4	M6	Z	.115	5.5
5	M7	Z	.38	.5
6	M7	Z	.38	7.5
7	M12	Z	.075	1.5
8	M14	Z	.075	1.5
9	M20	Z	.075	1.5
10	M22	Z	.075	1.5

Member Point Loads (BLC 7 : Wind Z) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
11	M12	Z	.075	5.5
12	M14	Z	.075	5.5
13	M20	Z	.075	5.5
14	M22	Z	.075	5.5
15	M15	Z	.138	.5
16	M23	Z	.138	.5
17	M15	Z	.138	7.5
18	M23	Z	.138	7.5
19	M15	Z	.048	%50
20	M23	Z	.048	%50
21	M12	Z	.008	%50
22	M14	Z	.008	%50
23	M20	Z	.008	%50
24	M22	Z	.008	%50

Member Distributed Loads (BLC 4 : Wind w/ Ice X)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/...	Start Location[ft,%]	End Location[ft,%]
1	M4	X	.002	.002	0	0
2	M5	X	.002	.002	0	0
3	M7	X	.002	.002	0	0
4	M6	X	.002	.002	0	0
5	M21	X	.002	.002	0	0
6	M13	X	.002	.002	0	0
7	M24	X	.002	.002	0	0
8	M16	X	.002	.002	0	0
9	M19	X	.002	.002	0	0
10	M11	X	.002	.002	0	0

Member Distributed Loads (BLC 5 : Wind X)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/...	Start Location[ft,%]	End Location[ft,%]
1	M4	X	.008	.008	0	0
2	M5	X	.008	.008	0	0
3	M7	X	.008	.008	0	0
4	M6	X	.008	.008	0	0
5	M21	X	.008	.008	0	0
6	M13	X	.008	.008	0	0
7	M24	X	.008	.008	0	0
8	M16	X	.008	.008	0	0
9	M19	X	.008	.008	0	0
10	M11	X	.008	.008	0	0

Member Distributed Loads (BLC 6 : Wind w/ Ice Z)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/...	Start Location[ft,%]	End Location[ft,%]
1	M5	Z	.002	.002	0	0
2	M22	Z	.002	.002	0	0
3	M23	Z	.002	.002	0	0
4	M21	Z	.002	.002	0	0
5	M20	Z	.002	.002	0	0
6	M14	Z	.002	.002	0	0

Member Distributed Loads (BLC 6 : Wind w/ Ice Z) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/...	Start Location[ft,%]	End Location[ft,%]
7	M15	Z	.002	.002	0	0
8	M13	Z	.002	.002	0	0
9	M12	Z	.002	.002	0	0
10	M8	Z	.002	.002	0	0
11	M3	Z	.002	.002	0	0
12	M24	Z	.002	.002	0	0
13	M19	Z	.002	.002	0	0
14	M16	Z	.002	.002	0	0
15	M11	Z	.002	.002	0	0

Member Distributed Loads (BLC 7 : Wind Z)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/...	Start Location[ft,%]	End Location[ft,%]
1	M5	Z	.008	.008	0	0
2	M22	Z	.008	.008	0	0
3	M23	Z	.008	.008	0	0
4	M21	Z	.008	.008	0	0
5	M20	Z	.008	.008	0	0
6	M14	Z	.008	.008	0	0
7	M15	Z	.008	.008	0	0
8	M13	Z	.008	.008	0	0
9	M12	Z	.008	.008	0	0
10	M8	Z	.008	.008	0	0
11	M3	Z	.008	.008	0	0
12	M24	Z	.008	.008	0	0
13	M19	Z	.008	.008	0	0
14	M16	Z	.008	.008	0	0
15	M11	Z	.008	.008	0	0

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface...
1	Self Weight	DL		-1						
2	Equipment Weight	None					27			
3	Ice Weight	None					27			
4	Wind w/ Ice X	None					21	10		
5	Wind X	None					21	10		
6	Wind w/ Ice Z	None					24	15		
7	Wind Z	None					24	15		

Load Combinations

	Description	So...	P...	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	1.2D + 1.6W (X-d..	Yes	Y		1	1.2	2	1.2	5	1.6														
2	0.9D + 1.6W (X-d..	Yes	Y		1	.9	2	.9	5	1.6														
3	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1.2	3	1	4	1												
4	1.2D + 1.6W (Z-d..	Yes	Y		1	1.2	2	1.2	7	1.6														
5	0.9D + 1.6W (Z-d..	Yes	Y		1	.9	2	.9	7	1.6														
6	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1.2	3	1	6	1												

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	-.017	6	1.89	6	.189	3	-2.39	2	1.063	5	4.199	1
2		min	-1.469	1	.754	2	-2.173	5	-7.278	4	-4.694	1	.836	5
3	N27	max	.218	4	1.89	6	-.012	2	3.782	3	4.755	4	6.622	1
4		min	-2.174	2	.753	5	-1.959	4	-3.398	5	.818	3	.904	5
5	N53	max	-.096	5	1.89	3	.055	2	1.109	1	3.063	1	3.823	2
6		min	-2.564	1	.752	2	-1.779	4	-3.417	5	-4.637	4	-4.906	6
7	Totals:	max	0	6	5.669	6	0	3						
8		min	-6.182	1	2.262	2	-5.882	4						

Envelope Joint Displacements

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
1	N1	max	0	6	0	6	0	6	0	6	0	6	0	6
2		min	0	1	0	1	0	1	0	1	0	1	0	1
3	N2	max	.142	1	-.072	2	.001	5	1.388e-02	4	5.947e-03	1	-2.529e-03	5
4		min	-.05	5	-.273	4	0	3	3.042e-03	2	-2.902e-03	5	-1.27e-02	1
5	N3	max	.313	1	-.072	2	.188	4	1.388e-02	4	5.947e-03	1	-2.529e-03	5
6		min	-.016	5	-.273	4	.041	2	3.042e-03	2	-2.902e-03	5	-1.27e-02	1
7	N4	max	-.024	2	-.072	2	-.041	2	1.388e-02	4	5.947e-03	1	-2.529e-03	5
8		min	-.09	4	-.273	4	-.186	4	3.042e-03	2	-2.902e-03	5	-1.27e-02	1
9	N5	max	.142	1	-.554	5	.572	5	2.187e-02	4	6.326e-03	1	-4.416e-03	5
10		min	-.05	5	-1.359	1	-.465	1	3.13e-03	2	-9.16e-03	5	-1.859e-02	1
11	N6	max	.142	1	.996	1	.47	2	2.083e-02	4	6.453e-03	2	-2.44e-03	5
12		min	-.05	5	-.083	4	-.025	6	3.405e-03	3	-2.627e-04	6	-1.561e-02	1
13	N7	max	.142	1	-.54	5	.544	5	2.187e-02	4	6.326e-03	1	-4.416e-03	5
14		min	-.05	5	-1.303	1	-.446	1	3.13e-03	2	-9.16e-03	5	-1.859e-02	1
15	N8	max	.142	1	.243	2	.146	2	1.781e-02	4	6.206e-03	2	-2.281e-03	5
16		min	-.05	5	-.209	4	-.025	4	3.242e-03	2	-3.61e-04	6	-1.426e-02	1
17	N9	max	.142	1	.949	1	.451	2	2.083e-02	4	6.453e-03	2	-2.44e-03	5
18		min	-.05	5	-.091	4	-.024	6	3.405e-03	3	-2.627e-04	6	-1.561e-02	1
19	N10	max	-.07	2	-.54	5	.287	5	2.187e-02	4	6.326e-03	1	-4.416e-03	5
20		min	-.113	4	-1.303	1	-.489	1	3.13e-03	2	-9.16e-03	5	-1.856e-02	1
21	N11	max	-.026	2	.243	2	.107	2	1.779e-02	4	6.206e-03	2	-2.281e-03	5
22		min	-.08	4	-.209	4	-.239	4	3.242e-03	2	-3.61e-04	6	-1.424e-02	1
23	N12	max	-.043	2	.949	1	.409	2	2.083e-02	4	6.453e-03	2	-2.44e-03	5
24		min	-.081	4	-.091	4	-.197	4	3.405e-03	3	-2.627e-04	6	-1.559e-02	1
25	N13	max	1.749	1	-.541	5	3.421	4	3.778e-02	4	7.366e-03	1	-3.494e-03	5
26		min	.25	5	-1.304	1	-.201	1	4.544e-05	3	-5.706e-03	5	-1.934e-02	1
27	N14	max	1.626	1	.243	2	3.137	4	4.282e-02	4	7.217e-03	2	-2.898e-03	5
28		min	.228	5	-.21	4	.177	3	1.282e-03	3	-3.408e-03	4	-1.594e-02	1
29	N15	max	1.715	1	.949	1	2.817	5	3.628e-02	5	8.087e-03	2	-3.16e-03	5
30		min	.238	5	-.091	4	.074	3	-4.068e-04	3	-6.38e-04	6	-1.842e-02	1
31	N16	max	.142	1	-.331	6	.133	5	1.875e-02	4	6.183e-03	1	-3.848e-03	5
32		min	-.05	5	-.446	1	-.146	1	3.193e-03	2	-7.174e-03	5	-1.653e-02	1
33	N17	max	-.142	5	-.331	6	-.133	3	1.582e-02	4	6.183e-03	1	-3.847e-03	5
34		min	-.234	1	-.446	1	-.264	4	3.192e-03	2	-7.174e-03	5	-1.539e-02	1
35	N18	max	1.52	1	-.332	6	3.075	4	5.136e-02	4	7.786e-03	1	-3.578e-03	5
36		min	.21	5	-.447	1	.13	2	1.993e-03	3	-5.378e-03	5	-1.952e-02	1
37	N19	max	1.058	1	-.551	5	2.078	4	3.75e-02	4	7.366e-03	1	-3.49e-03	5
38		min	.124	5	-1.359	1	-.323	1	4.529e-05	3	-5.706e-03	5	-1.859e-02	1

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
39	N20	max	1.058	1	1.002	1	1.512	5	3.601e-02	5	8.087e-03	2	-3.157e-03	5
40		min	.124	5	-.08	4	.091	3	-4.054e-04	3	-6.38e-04	6	-1.767e-02	1
41	N21	max	1.058	1	-.541	5	2.062	4	3.75e-02	4	7.366e-03	1	-3.49e-03	5
42		min	.124	5	-1.304	1	-.301	1	4.529e-05	3	-5.706e-03	5	-1.859e-02	1
43	N22	max	1.057	1	.243	2	1.6	4	4.223e-02	4	7.217e-03	2	-2.897e-03	5
44		min	.124	5	-.21	4	.13	3	1.282e-03	3	-3.408e-03	4	-1.537e-02	1
45	N23	max	1.058	1	.949	1	1.512	5	3.601e-02	5	8.087e-03	2	-3.157e-03	5
46		min	.124	5	-.091	4	.089	3	-4.054e-04	3	-6.38e-04	6	-1.767e-02	1
47	N24	max	1.058	1	-.332	6	1.859	4	4.841e-02	4	7.786e-03	1	-3.577e-03	5
48		min	.124	5	-.447	1	.034	2	1.99e-03	3	-5.378e-03	5	-1.837e-02	1
49	N27	max	0	6	0	6	0	6	0	6	0	6	0	6
50		min	0	1	0	1	0	1	0	1	0	1	0	1
51	N28	max	.074	1	.07	5	.127	1	1.132e-02	5	-1.07e-03	6	-9.453e-04	5
52		min	.013	6	-.246	1	.023	3	-6.309e-03	3	-6.722e-03	1	-1.33e-02	1
53	N29	max	.254	1	.07	5	.273	5	1.132e-02	5	-1.07e-03	6	-9.453e-04	5
54		min	.036	6	-.246	1	-.062	3	-6.309e-03	3	-6.722e-03	1	-1.33e-02	1
55	N30	max	.056	5	.07	5	.151	1	1.132e-02	5	-1.07e-03	6	-9.453e-04	5
56		min	-.106	1	-.246	1	-.032	5	-6.309e-03	3	-6.722e-03	1	-1.33e-02	1
57	N31	max	.777	2	.987	5	.023	6	1.674e-02	5	4.088e-04	6	2.299e-03	4
58		min	.014	6	-.61	3	-.279	2	-8.702e-03	3	-1.217e-02	2	-1.953e-02	2
59	N32	max	-.061	3	-.041	3	.445	4	1.85e-02	5	-1.127e-03	3	1.496e-03	5
60		min	-.491	4	-.966	4	.066	3	-4.186e-03	3	-9.926e-03	4	-2.031e-02	1
61	N33	max	.746	2	.947	5	.023	6	1.674e-02	5	4.088e-04	6	2.299e-03	4
62		min	.015	6	-.591	3	-.261	2	-8.702e-03	3	-1.217e-02	2	-1.953e-02	2
63	N34	max	-.011	3	-.073	6	.206	4	1.544e-02	5	-1.157e-03	3	-2.281e-05	5
64		min	-.078	4	-.4	1	.037	3	-4.866e-03	3	-8.171e-03	4	-1.745e-02	1
65	N35	max	-.058	3	-.045	3	.43	4	1.85e-02	5	-1.127e-03	3	1.496e-03	5
66		min	-.465	4	-.921	4	.064	3	-4.186e-03	3	-9.926e-03	4	-2.031e-02	1
67	N36	max	.511	2	.947	5	.078	6	1.672e-02	5	4.088e-04	6	2.299e-03	4
68		min	.037	6	-.591	3	-.221	2	-8.702e-03	3	-1.217e-02	2	-1.953e-02	2
69	N37	max	-.039	6	-.073	6	.208	1	1.542e-02	5	-1.157e-03	3	-2.281e-05	5
70		min	-.242	1	-.4	1	.02	5	-4.866e-03	3	-8.171e-03	4	-1.743e-02	1
71	N38	max	-.116	3	-.045	3	.28	1	1.848e-02	5	-1.127e-03	3	1.496e-03	5
72		min	-.45	4	-.921	4	.103	6	-4.186e-03	3	-9.926e-03	4	-2.031e-02	1
73	N39	max	3.222	2	.947	5	1.927	5	2.372e-02	5	7.144e-04	6	1.077e-02	4
74		min	-.438	4	-.591	3	-.899	1	-9.545e-03	1	-9.345e-03	2	-3.177e-02	2
75	N40	max	2.742	2	-.074	6	2.13	5	2.346e-02	5	-2.447e-03	3	1.245e-02	4
76		min	-.856	4	-.4	1	-.648	1	-1.287e-02	1	-1.048e-02	4	-3.666e-02	1
77	N41	max	2.371	2	-.045	3	2.526	5	2.66e-02	5	-1.611e-03	3	1.399e-02	4
78		min	-1.414	4	-.921	4	-.403	3	-8.749e-03	1	-1.213e-02	4	-3.261e-02	2
79	N42	max	.261	2	.336	5	.069	4	1.456e-02	5	-1.388e-04	6	1.153e-03	5
80		min	.024	6	-.284	3	.007	3	-8.336e-03	3	-1.046e-02	2	-1.689e-02	1
81	N43	max	.187	5	.336	5	.207	3	1.342e-02	5	-1.388e-04	6	1.152e-03	5
82		min	-.091	1	-.284	3	-.26	5	-8.325e-03	3	-1.046e-02	2	-1.395e-02	1
83	N44	max	2.778	1	.336	5	1.723	5	2.467e-02	5	-8.104e-05	6	1.112e-02	4
84		min	-.408	4	-.285	3	-.703	1	-1.365e-02	1	-9.619e-03	2	-4.328e-02	2
85	N45	max	2.103	2	.991	5	1.074	5	2.298e-02	5	7.145e-04	6	1.075e-02	4
86		min	-.161	6	-.606	3	-.569	1	-9.53e-03	1	-9.345e-03	2	-3.151e-02	2
87	N46	max	1.186	2	-.037	3	1.592	5	2.586e-02	5	-1.611e-03	3	1.397e-02	4
88		min	-.942	4	-.967	4	-.222	3	-8.736e-03	1	-1.213e-02	4	-3.234e-02	2
89	N47	max	2.079	2	.947	5	1.079	5	2.298e-02	5	7.144e-04	6	1.075e-02	4
90		min	-.159	6	-.591	3	-.556	1	-9.53e-03	1	-9.345e-03	2	-3.151e-02	2

Envelope Joint Displacements (Continued)

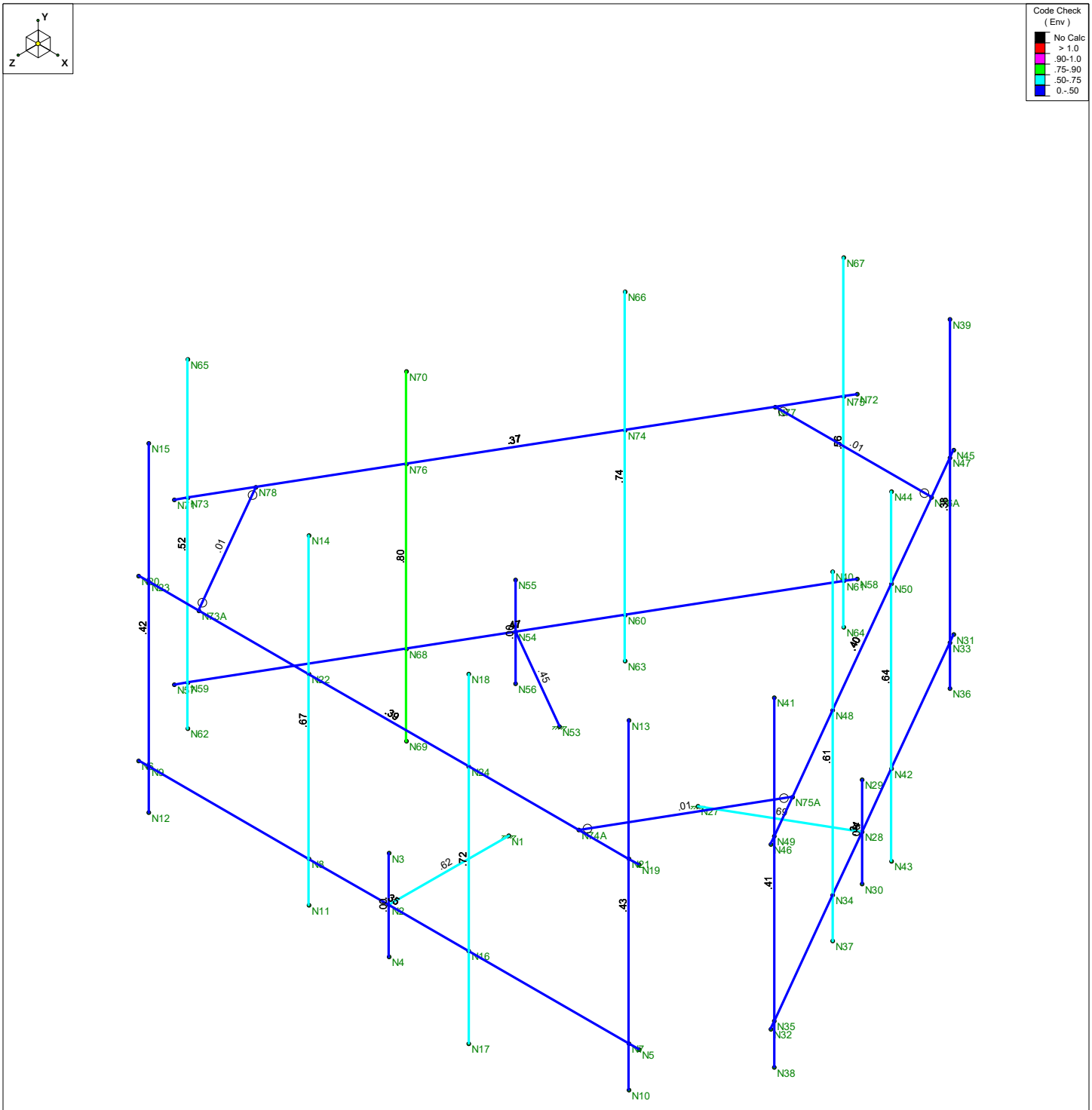
	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
91	N48	max	1.428	2	-.074	6	1.291	5	2.288e-02	5	-2.447e-03	3	1.245e-02	4
92		min	-.408	4	-.4	1	-.297	3	-1.286e-02	1	-1.048e-02	4	-3.608e-02	2
93	N49	max	1.198	2	-.045	3	1.574	5	2.586e-02	5	-1.611e-03	3	1.397e-02	4
94		min	-.911	4	-.921	4	-.224	3	-8.736e-03	1	-1.213e-02	4	-3.234e-02	2
95	N50	max	1.756	1	.336	5	1.138	5	2.353e-02	5	-8.104e-05	6	1.112e-02	4
96		min	-.141	4	-.285	3	-.375	1	-1.365e-02	1	-9.619e-03	2	-4.034e-02	2
97	N53	max	0	6	0	6	0	6	0	6	0	6	0	6
98		min	0	1	0	1	0	1	0	1	0	1	0	1
99	N54	max	.04	1	.153	2	.12	4	1.171e-02	4	5.756e-03	4	6.618e-03	6
100		min	-.069	4	-.11	6	-.067	1	-2.388e-03	2	-2.574e-03	1	-1.226e-02	2
101	N55	max	.205	2	.153	2	.278	4	1.171e-02	4	5.756e-03	4	6.618e-03	6
102		min	-.12	4	-.11	6	-.099	2	-2.388e-03	2	-2.574e-03	1	-1.226e-02	2
103	N56	max	.075	6	.153	2	-.03	3	1.171e-02	4	5.756e-03	4	6.618e-03	6
104		min	-.126	2	-.11	6	-.038	4	-2.388e-03	2	-2.574e-03	1	-1.226e-02	2
105	N57	max	.455	4	.884	2	.423	4	1.892e-02	4	8.934e-03	4	6.709e-03	6
106		min	.072	3	-1.196	4	.009	2	-1.966e-04	2	1.533e-03	3	-2.138e-02	2
107	N58	max	.492	1	1.036	4	.194	1	1.621e-02	5	2.529e-03	5	3.931e-03	6
108		min	-.294	5	-.698	1	-.009	5	-1.903e-03	1	-8.777e-03	1	-2.203e-02	2
109	N59	max	.432	4	.851	2	.41	4	1.892e-02	4	8.934e-03	4	6.709e-03	6
110		min	.068	3	-1.143	4	.003	2	-1.966e-04	2	1.533e-03	3	-2.138e-02	2
111	N60	max	.137	1	.336	5	.065	4	1.408e-02	5	3.788e-03	5	5.12e-03	6
112		min	-.165	5	-.09	1	-.011	2	-2.498e-03	1	-6.304e-03	1	-1.767e-02	2
113	N61	max	.469	1	.993	4	.181	1	1.621e-02	5	2.529e-03	5	3.931e-03	6
114		min	-.287	5	-.66	1	-.006	5	-1.902e-03	1	-8.777e-03	1	-2.203e-02	2
115	N62	max	.468	4	.851	2	.186	5	1.89e-02	4	8.934e-03	4	6.709e-03	6
116		min	-.095	2	-1.143	4	-.041	3	-1.966e-04	2	1.533e-03	3	-2.138e-02	2
117	N63	max	.048	3	.336	5	.02	1	1.405e-02	5	3.788e-03	5	5.119e-03	6
118		min	-.143	5	-.09	1	-.104	5	-2.498e-03	1	-6.304e-03	1	-1.765e-02	2
119	N64	max	.209	1	.993	4	.204	1	1.619e-02	5	2.529e-03	5	3.931e-03	6
120		min	-.281	5	-.66	1	-.2	5	-1.902e-03	1	-8.777e-03	1	-2.203e-02	2
121	N65	max	3.039	2	.851	2	2.307	4	2.375e-02	4	9.592e-03	4	1.882e-03	6
122		min	-.085	6	-1.143	4	.454	2	7.627e-03	3	8.01e-05	2	-3.699e-02	2
123	N66	max	3.229	2	.336	5	1.927	4	2.196e-02	4	3.088e-03	5	9.963e-04	6
124		min	-.236	6	-.09	1	.423	3	5.323e-03	3	-5.596e-03	1	-4.101e-02	2
125	N67	max	3.512	2	.993	4	1.997	4	2.489e-02	4	3.099e-03	5	-3.644e-04	6
126		min	-.112	6	-.661	1	.537	3	6.009e-03	3	-8.589e-03	1	-3.994e-02	1
127	N68	max	.076	4	.362	2	.204	4	1.633e-02	4	7.814e-03	4	7.02e-03	6
128		min	.014	3	-.323	6	-.068	2	-7.007e-04	2	8.256e-04	3	-1.763e-02	2
129	N69	max	.19	6	.362	2	-.051	2	1.519e-02	4	7.814e-03	4	7.011e-03	6
130		min	-.331	2	-.324	6	-.167	4	-7.005e-04	2	8.256e-04	3	-1.47e-02	2
131	N70	max	2.828	2	.362	2	1.816	4	2.419e-02	4	8.233e-03	4	2.947e-03	6
132		min	-.249	6	-.324	6	.378	3	6.633e-03	3	-1.388e-03	2	-4.766e-02	2
133	N71	max	1.709	2	.885	2	1.472	4	2.3e-02	4	9.592e-03	4	1.876e-03	6
134		min	-.009	6	-1.196	4	.163	2	7.602e-03	3	8.038e-05	2	-3.673e-02	2
135	N72	max	2.099	2	1.044	4	1.102	4	2.413e-02	4	3.099e-03	5	-3.632e-04	6
136		min	-.124	6	-.698	1	.325	3	5.989e-03	3	-8.589e-03	1	-3.966e-02	1
137	N73	max	1.708	2	.851	2	1.457	4	2.3e-02	4	9.592e-03	4	1.876e-03	6
138		min	-.017	6	-1.143	4	.162	2	7.602e-03	3	8.01e-05	2	-3.673e-02	2
139	N74	max	1.758	2	.336	5	1.141	4	2.138e-02	4	3.088e-03	5	9.96e-04	6
140		min	-.201	6	-.09	1	.191	2	5.322e-03	3	-5.596e-03	1	-4.043e-02	2
141	N75	max	2.077	2	.993	4	1.106	4	2.413e-02	4	3.099e-03	5	-3.631e-04	6
142		min	-.125	6	-.661	1	.321	3	5.989e-03	3	-8.589e-03	1	-3.966e-02	1

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
143	N76	max	1.7	2	.362	2	1.242	4	2.304e-02	4	8.233e-03	4	2.943e-03	6
144		min	-.178	6	-.324	6	.158	2	6.624e-03	3	-1.388e-03	2	-4.472e-02	2
145	N73A	max	1.058	1	.71	2	1.52	4	3.694e-02	4	6.916e-03	2	-2.188e-03	5
146		min	.124	5	-.134	4	.092	3	7.571e-04	3	-2.201e-03	6	-1.491e-02	1
147	N74A	max	1.058	1	-.482	5	1.988	4	3.851e-02	4	7.028e-03	1	-4.321e-03	5
148		min	.124	5	-1.033	1	-.196	2	-1.443e-04	3	-4.506e-03	5	-1.768e-02	1
149	N75A	max	1.262	2	-.07	3	1.484	5	2.36e-02	5	-3.029e-03	3	1.139e-02	4
150		min	-.753	4	-.698	4	-.242	3	-9.365e-03	1	-1.238e-02	4	-3.289e-02	1
151	N76A	max	1.97	2	.747	5	1.096	5	2.091e-02	5	2.163e-03	6	1.239e-02	4
152		min	-.14	6	-.501	3	-.495	1	-1.202e-02	1	-7.467e-03	2	-3.125e-02	2
153	N77	max	1.97	2	.766	5	1.122	4	2.129e-02	4	1.498e-03	5	-2.65e-04	6
154		min	-.14	6	-.477	1	.297	3	3.492e-03	3	-8.558e-03	1	-3.806e-02	1
155	N78	max	1.702	2	.698	2	1.387	4	2.195e-02	4	9.175e-03	4	2.367e-03	6
156		min	-.065	6	-.884	4	.159	2	9.532e-03	3	7.377e-04	2	-3.661e-02	2

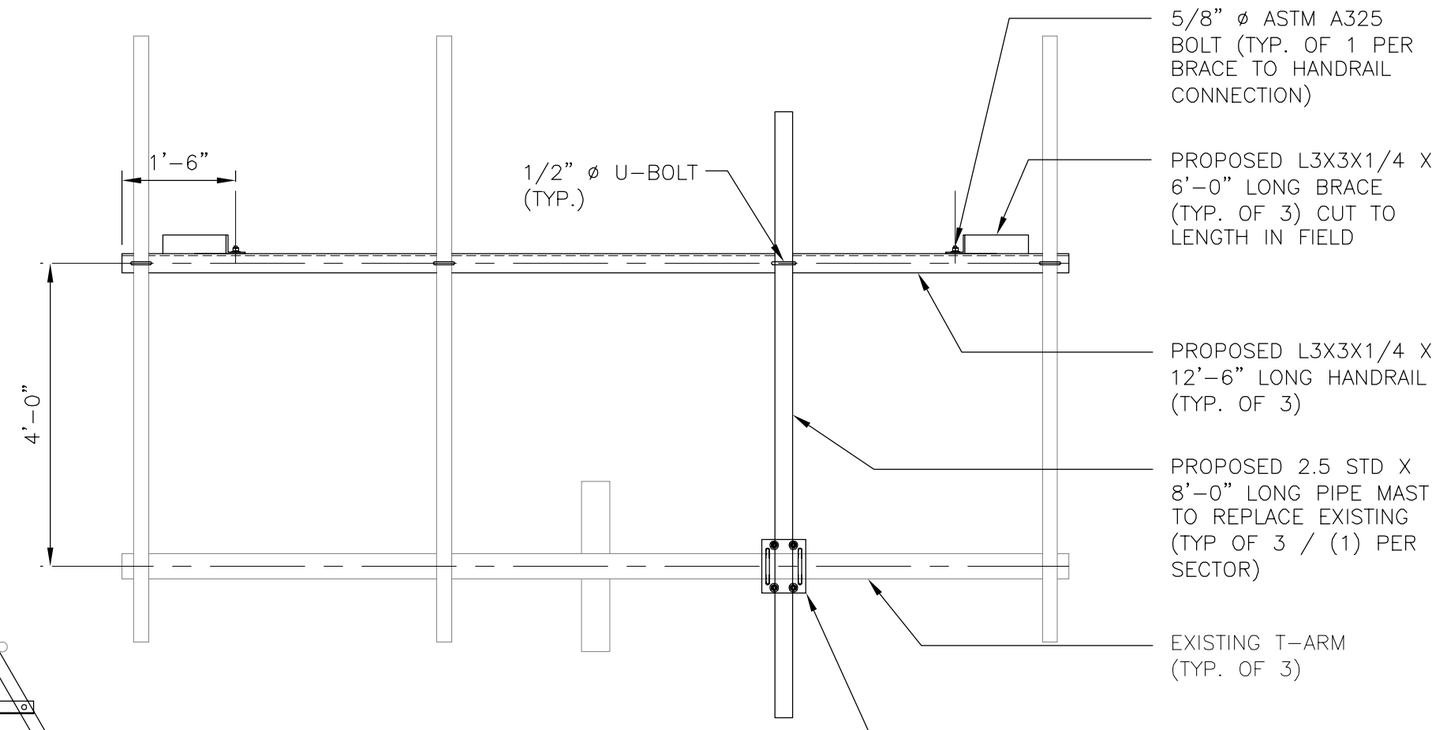
Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc...	LC	Shea..	Loc.....	L...	phi*Pn..	phi*Pn..	phi*M...	phi*M...	...	Eqn
1	M1	HSS4X4X4	.616	0	1	.345	0 z	1	134.361	139.518	16.181	16.181	1..	H3-6
2	M2	PIPE_4.0	.000	1.1...	4	.000	0	4	91.742	93.24	10.631	10.631	1..	H1-1b
3	M3	HSS4X4X4	.351	6.25	4	.218	6.25 z	5	72.55	139.518	16.181	16.181	1..	H1-1b
4	M4	PIPE_2.0	.421	1	5	.067	1	4	14.916	32.13	1.872	1.872	2..	H1-1b
5	M5	PIPE_2.0	.668	1	5	.087	1	4	14.916	32.13	1.872	1.872	2..	H1-1b
6	M6	PIPE_2.0	.430	1	5	.086	1	4	14.916	32.13	1.872	1.872	2..	H1-1b
7	M7	PIPE_2.5	.723	2	5	.073	6	4	30.038	50.715	3.596	3.596	1..	H1-1b
8	M8	L3X3X4	.388	8.2...	1	.046	10.... z	4	4.948	46.656	1.688	3.509	3..	H2-1
9	M9	HSS4X4X4	.694	0	1	.290	0 z	5	134.361	139.518	16.181	16.181	1..	H1-1b
10	M10	PIPE_4.0	.000	1.1...	1	.000	0	1	91.742	93.24	10.631	10.631	1..	H1-1b
11	M11	HSS4X4X4	.344	6.25	1	.183	6.25 z	2	72.55	139.518	16.181	16.181	1..	H1-1b
12	M12	PIPE_2.0	.408	1	4	.071	1	2	14.916	32.13	1.872	1.872	2..	H1-1b
13	M13	PIPE_2.0	.611	1	2	.075	1	1	14.916	32.13	1.872	1.872	2..	H1-1b
14	M14	PIPE_2.0	.382	1	2	.078	1	1	14.916	32.13	1.872	1.872	2..	H1-1b
15	M15	PIPE_2.5	.643	2	2	.072	2	4	30.038	50.715	3.596	3.596	1..	H1-1b
16	M16	L3X3X4	.402	8.2...	5	.045	8.3... y	1	4.948	46.656	1.688	3.317	2..	H2-1
17	M17	HSS4X4X4	.448	0	4	.330	0 z	4	134.361	139.518	16.181	16.181	1..	H3-6
18	M18	PIPE_4.0	.000	1.1...	4	.000	0	4	91.742	93.24	10.631	10.631	1..	H1-1b
19	M19	HSS4X4X4	.474	6.25	1	.241	6.25 z	1	72.55	139.518	16.181	16.181	1..	H3-6
20	M20	PIPE_2.0	.564	1	1	.046	1	4	14.916	32.13	1.872	1.872	2..	H1-1b
21	M21	PIPE_2.0	.736	1	1	.051	1	2	14.916	32.13	1.872	1.872	2..	H1-1b
22	M22	PIPE_2.0	.524	1	1	.095	1	1	14.916	32.13	1.872	1.872	2..	H1-1b
23	M23	PIPE_2.5	.803	2	1	.092	2	1	30.038	50.715	3.596	3.596	1..	H1-1b
24	M24	L3X3X4	.370	8.2...	2	.041	8.3... y	1	4.948	46.656	1.688	3.067	1..	H2-1
25	M28	L3X3X4	.009	1.9...	6	.039	3.91 y	2	33.252	46.656	1.688	3.552	1..	H2-1
26	M29	L3X3X4	.011	1.9...	1	.052	0 y	1	33.252	46.656	1.688	3.552	1..	H2-1
27	M30	L3X3X4	.012	1.9...	4	.056	0 y	4	33.252	46.656	1.688	3.552	1..	H2-1



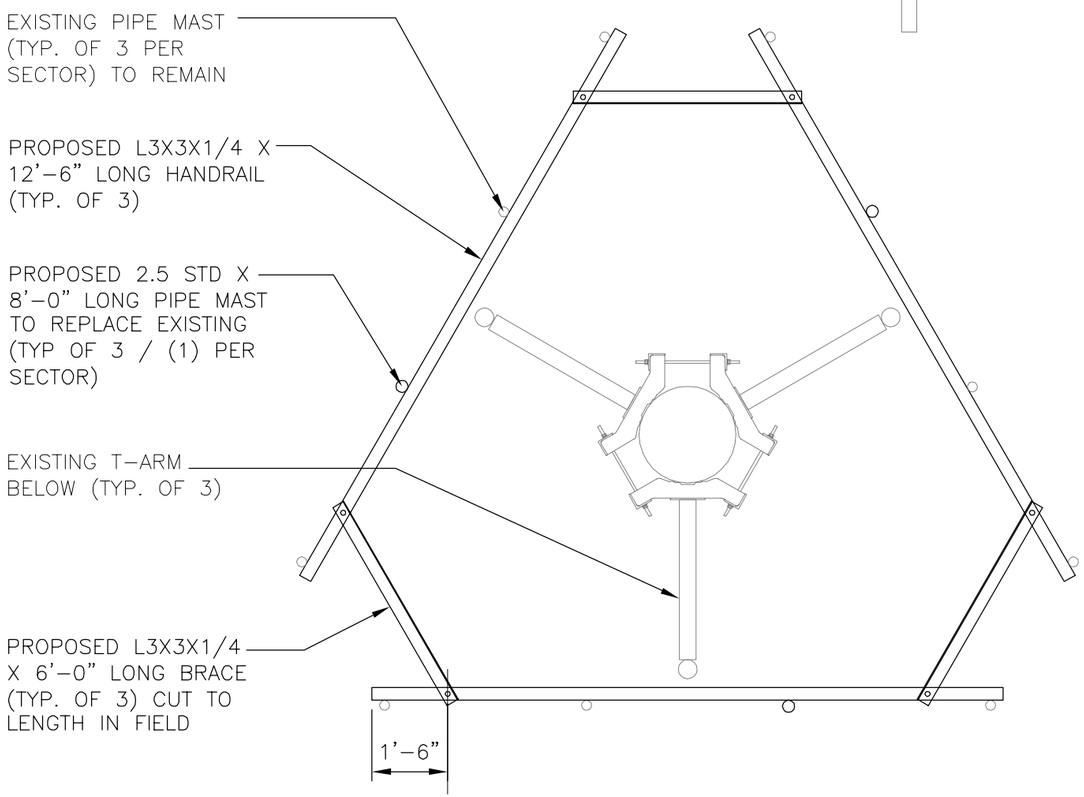
Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Centek		
TJL	CT11027D - Mount	Oct 9, 2018 at 11:36 AM
18127.19	Unity Check	Mount.r3d



2 SK-1 **MOUNT MOD ELEVATION**

SCALE: NOT TO SCALE



1 SK-1 **MOUNT MOD PLAN**

SCALE: NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	10/9/18	TJL	CAG	ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

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

T-MOBILE
MOUNT MODIFICATION

CT11027D

199 BOSTON POST ROAD
GUILFORD, CT 06437

DATE:	10/9/18
SCALE:	AS SHOWN
JOB NO.	18127.19

MOUNT MODIFICATION

SHEET NO.
SK-1
Sheet No. 1 of 1

EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11027D

CT027/Sprint Guilford
1919 Boston Post Road
Guilford, CT 06437

November 9, 2018

EBI Project Number: 6218007088

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	12.40 %

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

EBI Consulting
environmental | engineering | due diligence

November 9, 2018

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

Emissions Analysis for Site: **CT11027D – CT027/Sprint Guilford**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1919 Boston Post Road, Guilford, 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 **1919 Boston Post Road, Guilford, 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. These Channels have a transmit power of 15 Watts per Channel.

2) 1 UMTS channel (AWS Band – 2100 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

3) 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.

4) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

5) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

6) 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.

7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

8) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB 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.

9) The antennas used in this modeling are the **Ericsson AIR21 B2A/B4P** & **Ericsson AIR21 B4A/B2P** 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.

10) The antenna mounting height centerline of the proposed antennas is **148 feet** above ground level (AGL).

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

12) 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 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):	148 feet	Height (AGL):	148 feet	Height (AGL):	148 feet
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	135	Total TX Power(W):	135	Total TX Power(W):	135
ERP (W):	5,252.11	ERP (W):	5,252.11	ERP (W):	5,252.11
Antenna A1 MPE%	**0.94**	Antenna B1 MPE%	**0.94**	Antenna C1 MPE%	**0.94**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	148 feet	Height (AGL):	148 feet	Height (AGL):	148 feet
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	**0.83**	Antenna B2 MPE%	**0.83**	Antenna C2 MPE%	**0.83**
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:	12.95 / 13.35 dBd	Gain:	12.95 / 13.35 dBd	Gain:	12.95 / 13.35 dBd
Height (AGL):	148 feet	Height (AGL):	148 feet	Height (AGL):	148 feet
Frequency Bands	600 MHz / 700 MHz	Frequency Bands	600 MHz / 700 MHz	Frequency Bands	600 MHz / 700 MHz
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	200	Total TX Power(W):	200	Total TX Power(W):	200
ERP (W):	4,097.08	ERP (W):	4,097.08	ERP (W):	4,097.08
Antenna A3 MPE%	**1.71**	Antenna B3 MPE%	**1.71**	Antenna C3 MPE%	**1.71**

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**3.48 %**
Verizon Wireless	**2.68** %
AT&T	**4.78** %
MetroPCS	**0.72** %
Nextel	**0.32** %
Sprint	**0.42** %
Site Total MPE %:	**12.40 %**

T-Mobile Sector A Total:	3.48 %
T-Mobile Sector B Total:	3.48 %
T-Mobile Sector C Total:	3.48 %
Site Total:	12.40 %

T-Mobile Maximum MPE 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 PCS - 1900 MHz LTE	2	1,556.18	148	5.55	PCS - 1900 MHz	1000.00	0.55%
T-Mobile PCS - 1900 MHz GSM	1	583.57	148	1.04	PCS - 1900 MHz	1000.00	0.11%
T-Mobile AWS - 2100 MHz UMTS	1	1,556.18	148	2.77	AWS - 2100 MHz	1000.00	0.28%
T-Mobile AWS - 2100 MHz LTE	2	2,334.27	148	8.32	AWS - 2100 MHz	1000.00	0.83%
T-Mobile 600 MHz LTE	2	1,183.45	148	4.22	600 MHz	400.00	1.05%
T-Mobile 700 MHz LTE	2	865.09	148	3.08	700 MHz	467.00	0.66%
						Total:	**3.48 %**

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:	3.48 %
Sector B:	3.48 %
Sector C:	3.48 %
T-Mobile Maximum MPE % (Per Sector):	3.48 %
Site Total:	12.40 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **12.40%** 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.