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

July 21, 2016

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

RE: **Notice of Exempt Modification for AT&T/ LTE 3C Crown Site BU: 845455**
AT&T Site ID: CT2256
85 Quaker Farms Road, Oxford, CT 06478
Latitude: 41° 23' 2.36"/ Longitude: -73° 8' 14.54"

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 106-foot level of the existing 149-foot monopole tower at 85 Quaker Farms Road in Oxford, CT. The tower is owned by Crown Castle. The property is owned by the James Schiavi and Elaine Wolf. AT&T now intends to install three (3) RR11s, six (6) diplexers, and three (3) Bias-Tees.

This facility was approved by the by the Planning & Zoning Commission of the Town of Oxford on April 28, 2005. This approval was given without conditions.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.S.C.A. § 16-50j-73, a copy of this letter is being sent to Mr. George Temple, First-Selectman, Town of Oxford, as well as the property owner, and Crown Castle is the tower owner.

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

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

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

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

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

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

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

Sincerely,

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

Attachments:

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

cc: Mr. George Temple, First-Selectman
Town of Oxford
486 Oxford Road
Oxford, CT 06478

James Schiavi and Elaine Wolf
85 Quaker Farms Road
Oxford, CT 06478

PLANNING & ZONING COMMISSION
TOWN OF OXFORD
486 Oxford Road
Oxford, CT 06478
(203) 888-2543

Z#:	Z-05-116
Date Rec'd:	4-28-05
Date on Agenda:	
65-Day Expiration:	

ZONING PERMIT APPLICATION

(This permit is hereby applied for in accordance with the requirements of the Oxford Zoning Regulations)

Property Identification

Street Address: 85 QUAKER FARMS RD
Subdivision Name: _____ Date Approved: _____
Map: 23 Block: 7 Lot: 8 Zoning district: R-A

Owner/Applicant

Owner Name: SCHIAVI
Owner Address: 85 QUAKER FARMS RD
Owner Telephone: _____

Applicant Name: NEW CINGULAR WIRELESS PCS, LLC
Applicant Address: 500 ENTERPRISE DR., ROCKY HILL CT 06067
Applicant Telephone: 860-513-7636

Miscellaneous Information

* CT SITING COUNCIL CERTIFICATE

Special Exception: Article _____ Section _____ Yes (No) *
Site Plan Approval: Article _____ Section _____ Yes (No)
Estimated Cost of Construction: $150,000—
Variance Granted: _____ Date Granted: _____

Signatures/Authorization

Application for Zoning Permit approval as described herein is hereby made. The Oxford Planning & Zoning Commission and its technical staff are authorized to enter the property for the purpose of evaluating this application.

Permit Void If: a) Work or activity not commenced within 1 year of the date of issuance or b) Authorized construction not completed within 2 years of the date of issuance.

This permit, if issued, is based upon the plot plan submitted. Falsification, by misrepresentation or omission, or failure to comply with the conditions of approval of this permit constitute a violation of the Oxford Zoning Regulations.

[signature] for Cingular Wireless 4-28-05
Property Owner or Agent (Date)

Purpose
___ New Home
___ Addition
___ Garage
___ Cottage Business
___ Swimming Pool IG AG
___ Sign
___ Shed
___ Barn
___ Change of Use
___ Excavating/Filling
___ Trailer
✓ Other CELL SITE

Use
___ Single-Family Residence
___ Multi-Family Residence
✓ Commercial
___ Industrial
___ Residential/POD
✓ Other CELL SITE

Required Approvals and Dates
✓ Inland Wetlands _____
___ P.D.D.H. _____
___ Fire Marshal _____
___ Z.B.A. _____
___ W.P.C.A. _____
___ Floodplain _____
___ Copy of Deed _____
✓ Driveway Existing
___ Erosion Control Plan
✓ Plot Plan * 4-26-05
___ Other _____

100.00 Town Fee
30.00 State Fee
130.00 Total Fee

*Draw plot plan of proposed construction and attach. Plan must show property boundaries and dimensions; location of proposed buildings on property with respect to boundaries; location of existing buildings on property; outside dimensions of all buildings proposed or now existing; location of water supply; location of sewage system. All copies must have a complete sketch. Construction and use must be exactly as described in this application. If later changes from this plan are desired prior approval of an amended application is necessary.

Denied (Approved) By: Doug Volk Date: 4-26-05
Title: ZEO
Reason for Denial _____

ZPA-1
(Adopted 5/15/97)

White - P&Z Files / Yellow - Building Department / Pink - Applicant

Town of Oxford
Property Listing Report

Parcel ID 23/57/8/CELL

Account 23578CELL

Property Information

Owner	AT&T
Address	85 QUAKER FARMS RD
Mailing Address	,
Land Use	- Cell Tower
Land Class	I

Census Tract	
Neighborhood	
Zoning	
Acreage	0
Utilities	
Lot Setting/ Desc	/

Photo

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

	Appraised	Assessed
Buildings	0	0
Outbuildings	655600	458900
Improvements	655600	458900
Extras	0	0
Land	0	0
Total	655600	458900
Previous		

Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Total Rooms	
Bedrooms	
Full Bathrooms	0
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

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

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

SALES HISTORY:	
Sale Date	1/1/1900
Sale Price	
Book/ Page	

Report Created On 7/21/2016

Town of Oxford
Property Listing Report

Parcel ID 23/57/8

Account J0181100

Property Information

Owner	SCHIAVI WILLIAM & ELAINE W
Address	85 QUAKER FARMS RD
Mailing Address	85 QUAKER FARMS RD OXFORD , CT 06478
Land Use	- Res Dwelling
Land Class	R

Census Tract	L 6
Neighborhood	090
Zoning	RESA
Acreage	12.5
Utilities	
Lot Setting/ Desc	/ Clear

Photo

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

	Appraised	Assessed
Buildings	221200	154800
Outbuildings	41600	29200
Improvements	262800	184000
Extras	0	0
Land	399300	208800
Total	662100	392800
Previous		

Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Total Rooms	
Bedrooms	
Full Bathrooms	0
Half Bathrooms	
Bath Style	Average
Kitchen Style	Average
Roof Style	Gable
Roof Cover	Arch Shingles

EXTERIOR WALLS:	
Primary	Clapboard
Secondary	Wood Shingle
INTERIOR WALLS:	
Primary	Drywall
Secondary	
FLOORS:	
Primary	Hardwood
Secondary	Carpet
HEATING/AC:	
Heating Type	Hot Water
Heating Fuel	Oil
AC Type	None

BUILDING AREA:

Effective Building Area	
Gross Building Area	
Total Living Area	

SALES HISTORY:

Sale Date	4/1/1996
Sale Price	0
Book/ Page	187/ 390

Report Created On 7/21/2016

WIRELESS COMMUNICATIONS FACILITY
CT2256 - LTE 2C
OXFORD CT
CROWN CASTLE SITE ID NO.: 845455
85 QUAKER FARMS ROAD
OXFORD, CT 06478

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2009 AMENDMENTS, INCLUDING THE TIA/EIA-222 REVISION "F" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2005 CONNECTICUT FIRE SAFETY CODE AND 2009 AMENDMENTS, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMARCATION POINT ARE PROVIDED BY SITE OWNER. AS BUILT FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE CONFIRMED BY THE CONTRACTOR. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
7. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN 'AS-BUILT' SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
13. ANY AND ALL ERRORS, DISCREPANCIES, AND 'MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE AT&T CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
15. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
16. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
17. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
19. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
21. CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

FROM: 500 ENTERPRISE DRIVE, ROCKY HILL, CONNECTICUT

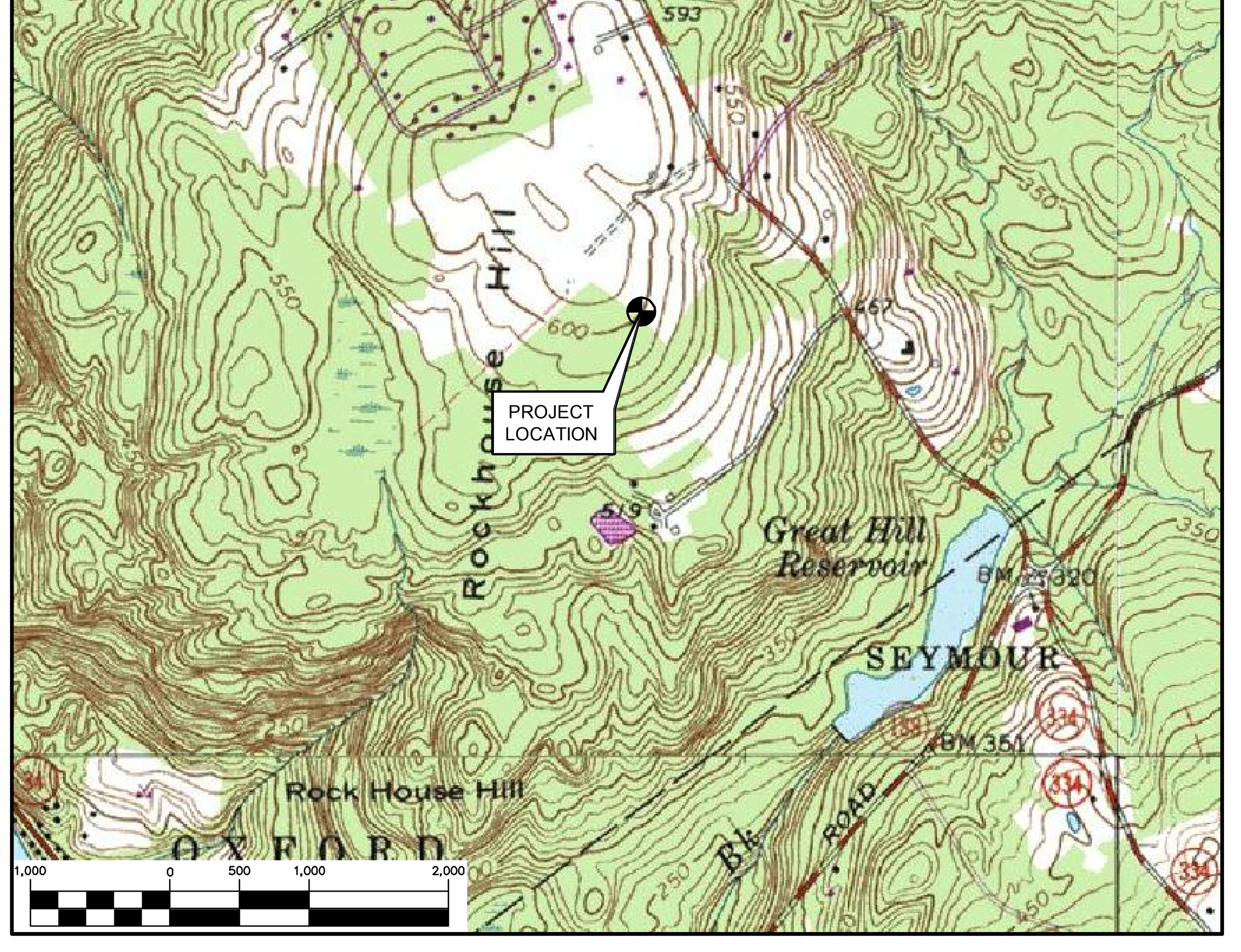
TO: 85 QUAKER FARMS ROAD, OXFORD, CONNECTICUT

1.	HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD	0.31 MI
2.	TURN LEFT ONTO CAPITAL BLVD	0.30 MI
3.	TURN LEFT ONTO WEST ST	0.30 MI
4.	TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN	9.06 MI
5.	MERGE ONTO I-691 W, EXIT 18 TOWARD MERIDEN/WATERBURY	7.98 MI
6.	MERGE ONTO I-84 W, EXIT 1 ON THE LEFT TOWARD WATERBURY/DANBURY	15.97 MI
7.	TAKE THE CT-188, EXIT 16 TOWARD SOUTHFORD	0.21 MI
8.	TURN LEFT ONTO CT-188/STRONGTOWN ROAD	2.27 MI
9.	TURN SLIGHT LEFT ONTO SOUTHFORD ROAD/CT-67/CT-188	0.14 MI
10.	TAKE THE FIRST RIGHT ONTO QUAKER FARMS ROAD/CT-188 85 QUAKER FARMS ROAD IS ON THE RIGHT	5.88 MI

VICINITY MAP

SCALE: 1" = 1000'

NORTH



PROJECT SUMMARY

1. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:

   A. INSTALL (3) NEW RRUS-11 ON EXISTING TOWER MOUNT.

PROJECT INFORMATION

AT&T SITE NUMBER:	CT2256 – LTE 2C
AT&T SITE NAME:	OXFORD
SITE ADDRESS:	CROWN CASTLE SITE NO.: 845455 85 QUAKER FARMS ROAD OXFORD, CT 06478
LESSEE/APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT. 06405
PROJECT COORDINATES:	LATITUDE: 41°-23'-05.60"N LONGITUDE: 73°-08'-17.15"W GROUND ELEVATION: ±609' AMSL COORDINATES REFERENCED FROM RFDS DOCUMENT AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH PRO

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
N-1	NOTES AND SPECIFICATIONS	0
C-1	PLANS, ELEVATION AND DETAILS	0
C-2	LTE 2C EQUIPMENT DETAILS	0
E-1	LTE SCHEMATIC DIAGRAM AND NOTES	0
E-2	LTE WIRING DIAGRAM	0
E-3	TYPICAL ELECTRICAL DETAILS	0

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	06/27/16	KAW	CAG	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

EMPIRE telecom

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

AT&T MOBILITY

WIRELESS COMMUNICATIONS FACILITY

OXFORD

CT2256- LTE 2C

85 QUAKER FARMS ROAD

OXFORD, CT 06478

DATE:	06/16/16
SCALE:	AS NOTED
JOB NO.	16071.27

TITLE SHEET

T-1

Sheet No. 1 of 7

NOTES AND SPECIFICATIONS

DESIGN BASIS:

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

1. DESIGN CRITERIA:

- WIND LOAD: PER EIA/TIA 222 F–96 (ANTENNA MOUNTS): 85 MPH (FASTEST MILE), EQUIVALENT TO 105 MPH (3 SECOND GUST)
- BUILDING CLASSIFICATION: II (BASED ON IBC TABLE 1604.5)
- BASIC WIND SPEED (OTHER STRUCTURE): 100 MPH (3 SECOND GUST) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7–02) PER 2003 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2009 AMMENDMENT.
- SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7–02 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
2. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
3. BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
4. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
5. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
6. ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
7. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE SHORING, BRACING, AND BARRICADES AS MAY BE REQUIRED FOR THE PROTECTION OF EXISTING PROPERTY, CONSTRUCTION WORKERS, AND FOR PUBLIC SAFETY.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING SITE OPERATIONS, COORDINATE WORK WITH NORTHEAST UTILITIES
10. THE STRUCTURE IS DESIGNED TO BE SELF–SUPPORTING AND STABLE AFTER FOUNDATION REMEDIATION WORK IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, TEMPORARY BRACING, GUYS OR TIEDOWNS, WHICH MIGHT BE NECESSARY.
11. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
12. SHOP DRAWINGS, CONCRETE MIX DESIGNS, TEST REPORTS, AND OTHER SUBMITTALS PERTAINING TO STRUCTURAL WORK SHALL BE FORWARDED TO THE OWNER FOR REVIEW BEFORE FABRICATION AND/OR INSTALLATION IS MADE. SHOP DRAWINGS SHALL INCLUDE ERECTION DRAWINGS AND COMPLETE DETAILS OF CONNECTIONS AS WELL AS MANUFACTURER'S SPECIFICATION DATA WHERE APPROPRIATE. SHOP DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR AND BEAR THE CHECKER'S INITIALS BEFORE BEING SUBMITTED FOR REVIEW.
13. NO DRILLING WELDING OR TAPING ON CL&P OWNED EQUIPMENT.
14. REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)

   A. STRUCTURAL STEEL (W SHAPES)–––ASTM A992 (FY = 50 KSI)
   B. STRUCTURAL STEEL (OTHER SHAPES)–––ASTM A36 (FY = 36 KSI)
   C. STRUCTURAL HSS (RECTANGULAR SHAPES)–––ASTM A500 GRADE B, (FY = 46 KSI)
   D. STRUCTURAL HSS (ROUND SHAPES)–––ASTM A500 GRADE B, (FY = 42 KSI)
   E. PIPE–––ASTM A53 (FY = 35 KSI)
   F. CONNECTION BOLTS–––ASTM A325–N
   G. U–BOLTS–––ASTM A36
   H. ANCHOR RODS–––ASTM F 1554
   I. WELDING ELECTRODE–––ASTM E 70XX

2. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING: SECTION PROFILES, SIZES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES. INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
3. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
4. PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
5. FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
6. INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
7. AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON–GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
8. ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
9. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT–DIP) ON IRON AND STEEL HARDWARE".
10. THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.
11. CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
12. STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE A MINIMUM OF TWO BOLTS, UNLESS OTHERWISE ON THE DRAWINGS.
13. LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
14. SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
15. MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
16. FABRICATE BEAMS WITH MILL CAMBER UP.
17. LEVEL AND PLUMB INDIVIDUAL MEMBERS OF THE STRUCTURE TO AN ACCURACY OF 1:500, BUT NOT TO EXCEED 1/4" IN THE FULL HEIGHT OF THE COLUMN.
18. COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
19. INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
20. FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

PAINT NOTES

PAINTING SCHEDULE:

1. ANTENNA PANELS:
   A. SHERWIN WILLIAMS POLANE–B
   B. COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.
2. COAXIAL CABLES:
   A. ONE COAT OF DTM BONDING PRIMER (2–5 MILS. DRY FINISH)
   B. TWO COATS OF DTM ACRYLIC PRIMER/FINISH (2.5–5 MILS. DRY FINISH)
   C. COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.

EXAMINATION AND PREPARATION:

1. DO NOT APPLY PAINT IN SNOW, RAIN, FOG OR MIST OR WHEN RELATIVE HUMIDITY EXCEEDS 85%. DO NOT APPLY PAINT TO DAMP OR WET SURFACES.
2. VERIFY THAT SUBSTRATE CONDITIONS ARE READY TO RECEIVE WORK. EXAMINE SURFACE SCHEDULED TO BE FINISHED PRIOR TO COMMENCEMENT OF WORK. REPORT ANY CONDITION THAT MAY POTENTIALLY AFFECT PROPER APPLICATION.
3. TEST SHOP APPLIED PRIMER FOR COMPATIBILITY WITH SUBSEQUENT COVER MATERIALS.
4. PERFORM PREPARATION AND CLEANING PROCEDURE IN STRICT ACCORDANCE WITH COATING MANUFACTURER'S INSTRUCTIONS FOR EACH SUBSTRATE CONDITION.
5. CORRECT DEFECTS AND CLEAN SURFACES WHICH AFFECT WORK OF THIS SECTION. REMOVE EXISTING COATINGS THAT EXHIBIT LOOSE SURFACE DEFECTS.
6. IMPERVIOUS SURFACE: REMOVE MILDEW BY SCRUBBING WITH SOLUTION OF TRI–SODIUM PHOSPHATE AND BLEACH. RINSE WITH CLEAN WATER AND ALLOW SURFACE TO DRY.
7. ALUMINUM SURFACE SCHEDULED FOR PAINT FINISH: REMOVE SURFACE CONTAMINATION BY STEAM OR HIGH–PRESSURE WATER. REMOVE OXIDATION WITH ACID ETCH AND SOLVENT WASHING. APPLY ETCHING PRIMER IMMEDIATELY FOLLOWING CLEANING.
8. FERROUS METALS: CLEAN UNGALVANIZED FERROUS METAL SURFACES THAT HAVE NOT BEEN SHOP COATED; REMOVE OIL, GREASE, DIRT, LOOSE MILL SCALE, AND OTHER FOREIGN SUBSTANCES. USE SOLVENT OR MECHANICAL CLEANING METHODS THAT COMPLY WITH THE STEEL STRUCTURES PAINTING COUNCIL'S (SSPC) RECOMMENDATIONS. TOUCH UP BARE AREAS AND SHOP APPLIED PRIME COATS THAT HAVE BEEN DAMAGED. WIRE BRUSH, CLEAN WITH SOLVENTS RECOMMENDED BY PAINT MANUFACTURER, AND TOUCH UP WITH THE SAME PRIMER AS THE SHOP COAT.
9. GALVANIZED SURFACES: CLEAN GALVANIZED SURFACES WITH NON–PETROLEUM–BASED SOLVENTS SO SURFACE IS FREE OF OIL AND SURFACE CONTAMINANTS. REMOVE PRETREATMENT FROM GALVANIZED SHEET METAL FABRICATED FROM COIL STOCK BY MECHANICAL METHODS.
10. ANTENNA PANELS: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION. PANELS MUST BE WIPED WITH METHYL ETHYL KETONE (MEK).
11. COAXIAL CABLES: REMOVE ALL OIL, DUST, GREASE. DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION.

CLEANING:

1. COLLECT WASTE MATERIAL, WHICH MAY CONSTITUTE A FIRE HAZARD, PLACE IN CLOSED METAL CONTAINERS AND REMOVE DAILY FROM SITE.

APPLICATION:

1. APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY.
3. APPLY EACH COAT TO UNIFORM FINISH.
4. APPLY EACH COAT OF PAINT SLIGHTLY DARKER THAN PRECEDING COAT UNLESS OTHERWISE APPROVED.
5. SAND METAL LIGHTLY BETWEEN COATS TO ACHIEVE REQUIRED FINISH.
6. VACUUM CLEAN SURFACES FREE OF LOOSE PARTICLES. USE TACK CLOTH JUST PRIOR TO APPLYING NEXT COAT.
7. ALLOW APPLIED COAT TO DRY BEFORE NEXT COAT IS APPLIED.

COMPLETED WORK:

1. SAMPLES: PREPARE 24" X 24" SAMPLE AREA FOR REVIEW.
2. MATCH APPROVED SAMPLES FOR COLOR, TEXTURE AND COVERAGE. REMOVE REFINISH OR REPAINT WORK NOT IN COMPLIANCE WITH SPECIFIED REQUIREMENTS.

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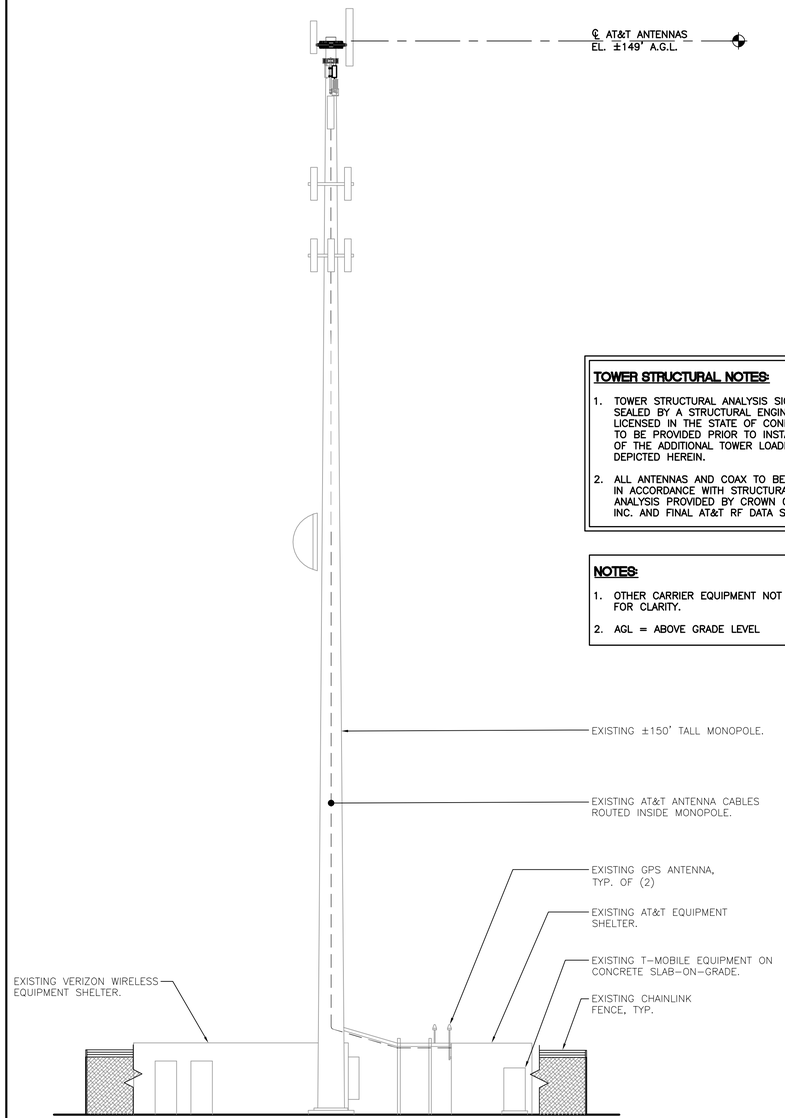
NOTES AND SPECIFICATIONS

N–1



4 / C-1 **NORTHEAST ELEVATION**
SCALE: 1" = 10'

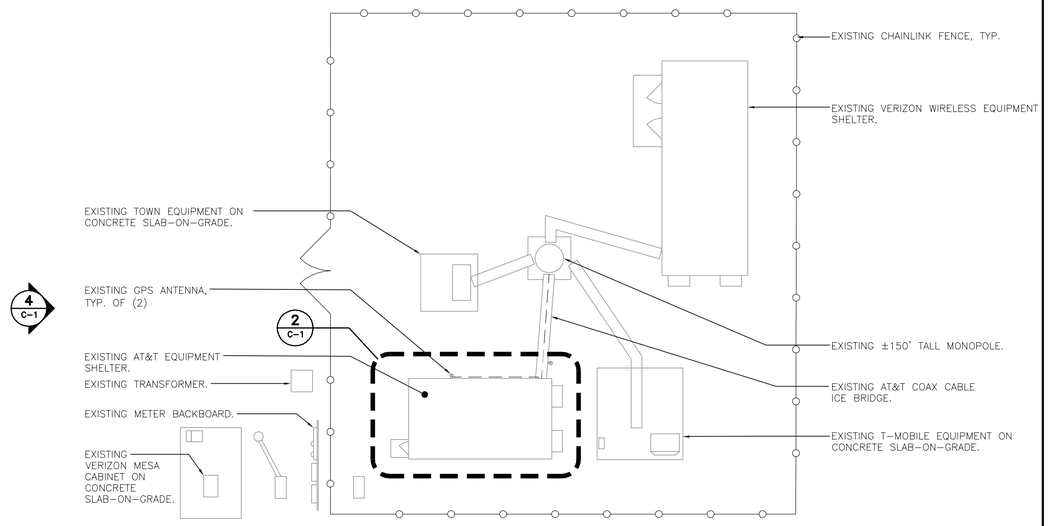
GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

TOWER STRUCTURAL NOTES:

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

NOTES:

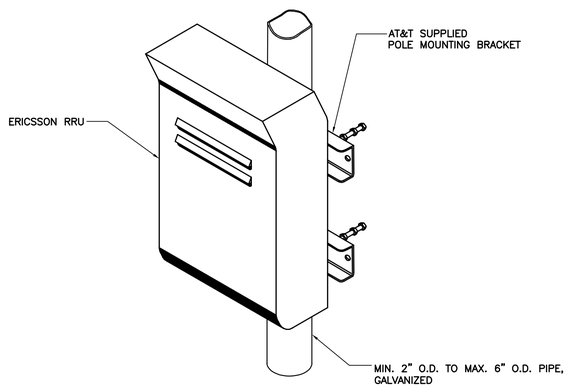
1. OTHER CARRIER EQUIPMENT NOT SHOWN FOR CLARITY.
2. AGL = ABOVE GRADE LEVEL



1 / C-1 **COMPOUND PLAN**
SCALE: 1" = 10'

APPROXIMATE NORTH

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

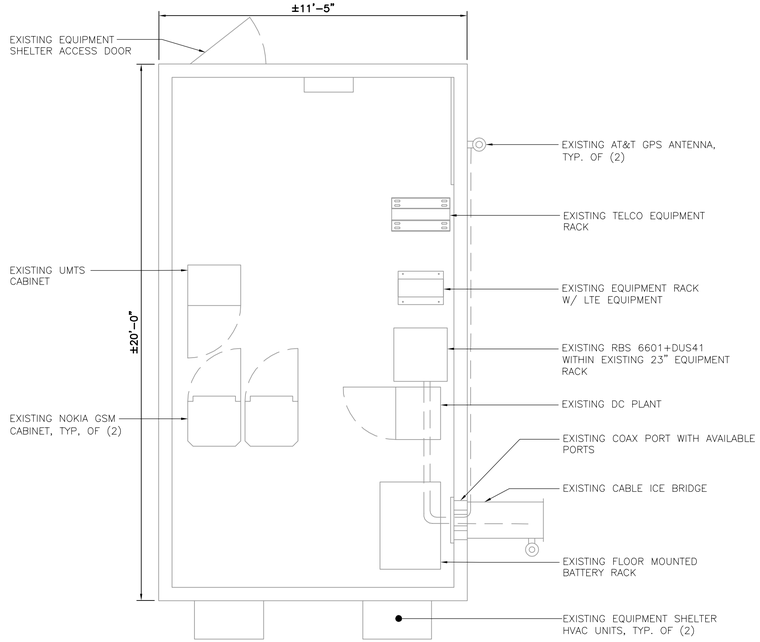


ISOMETRIC VIEW

NOTES:

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

3 / C-1 **TYPICAL RRUS MOUNTING DETAILS**
SCALE: 1 1/2" = 1'-0"



2 / C-1 **EQUIPMENT BUILDING FLOOR PLAN**
SCALE: 3/8" = 1'-0"

APPROXIMATE NORTH

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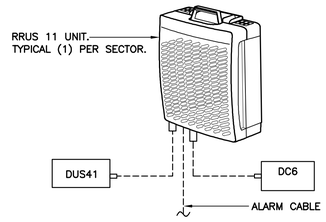
PLANS, ELEVATION AND DETAILS

C-1

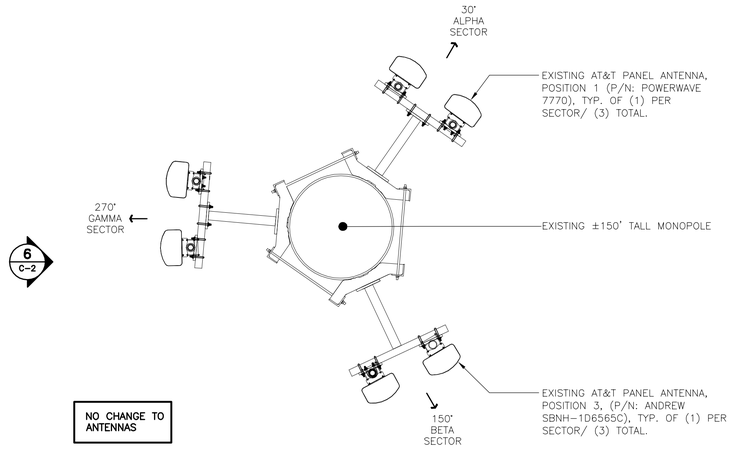
Sheet No. 3 of 7



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

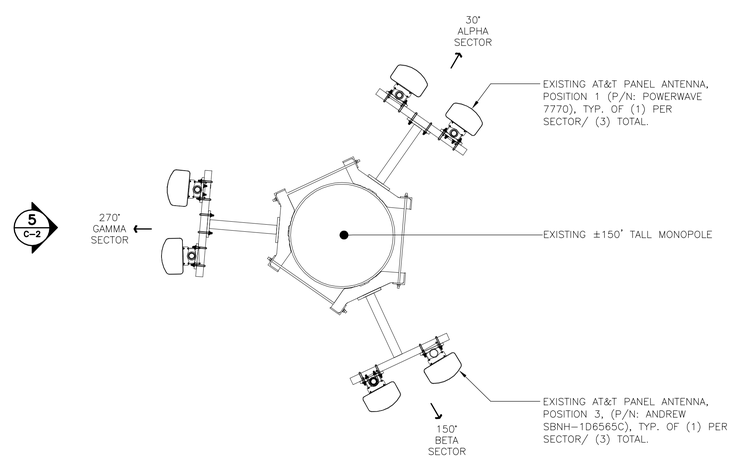
NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

7 C-2 ERICSSON RRUS 11 DETAIL
SCALE: 1" = 1'-0"



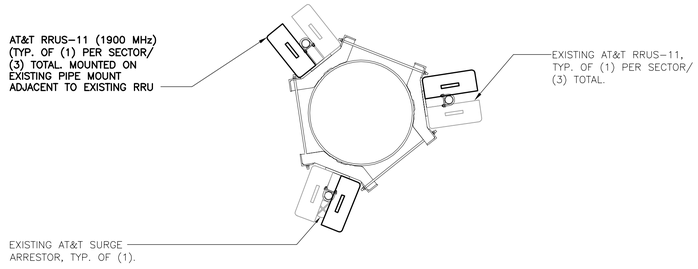
2 C-2 PROPOSED ANTENNA PLAN
SCALE: 1/2" = 1'-0"

NORTH

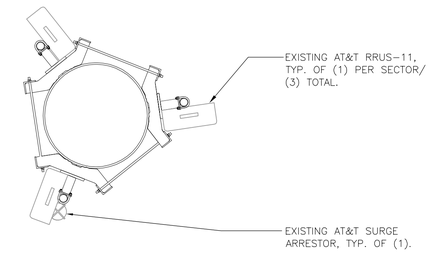


1 C-2 EXISTING ANTENNA PLAN
SCALE: 1/2" = 1'-0"

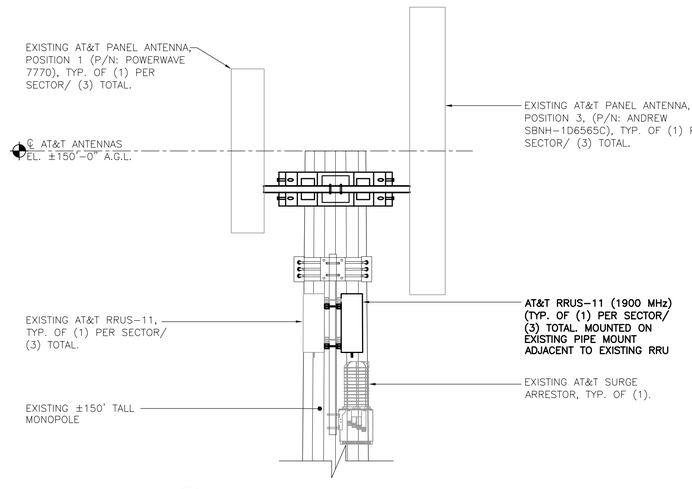
NORTH



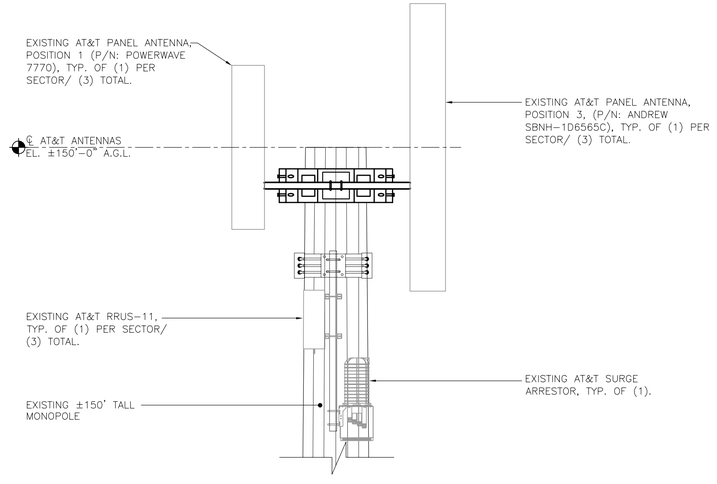
4 C-2 PROPOSED MOUNTING DETAIL
SCALE: 1/2" = 1'-0"



3 C-2 EXISTING MOUNTING DETAIL
SCALE: 1/2" = 1'-0"



6 C-2 PROPOSED ANTENNA PLAN
SCALE: 1/2" = 1'-0"



5 C-2 EXISTING ANTENNA PLAN
SCALE: 1/2" = 1'-0"

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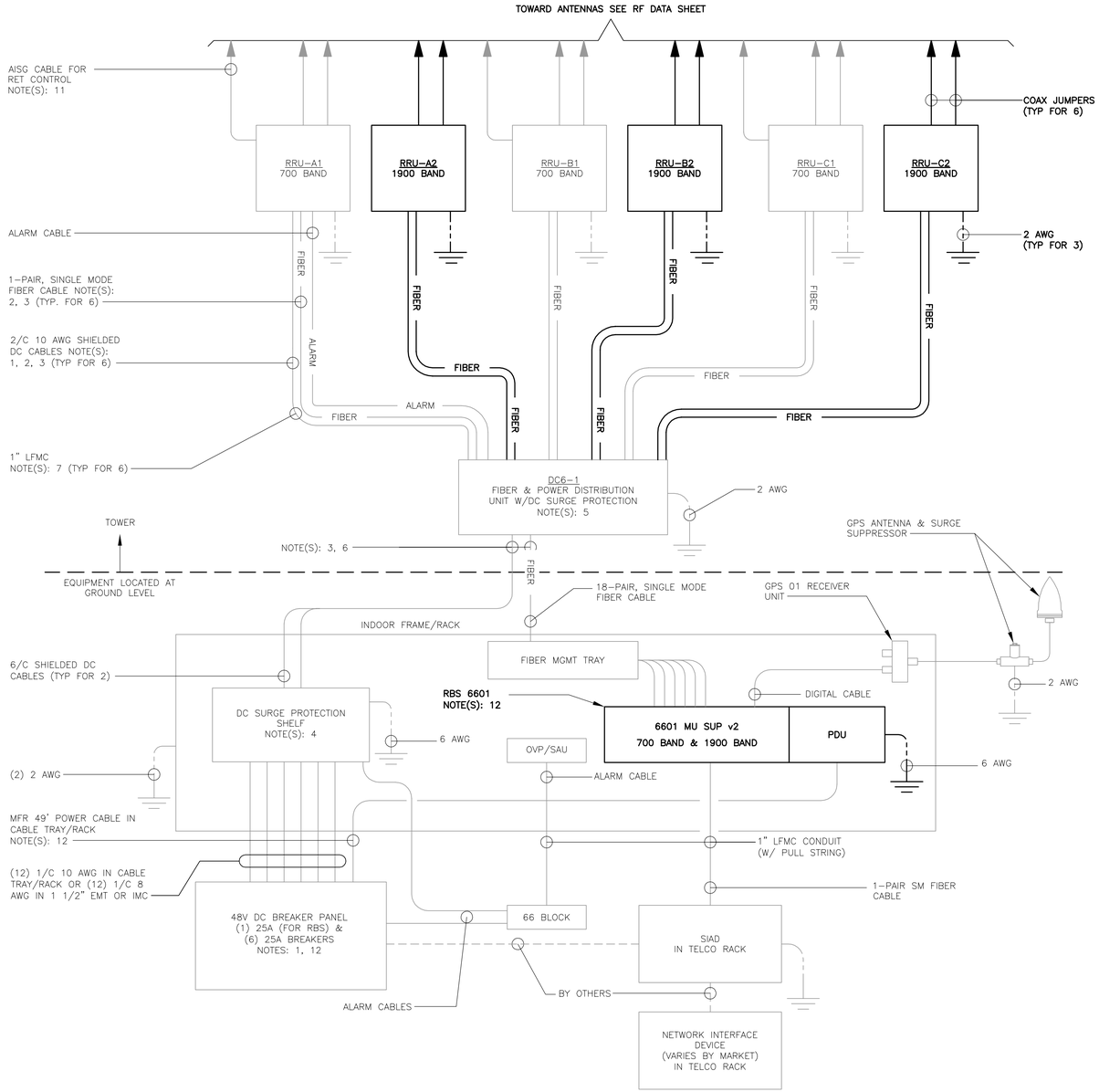
LTE BWE EQUIPMENT DETAILS AND ELEVATIONS

C-2

Sheet No. 4 of 7



1 / E-1

LTE SCHEMATIC DIAGRAM

NOT TO SCALE

LTE SCHEMATIC DIAGRAM NOTES:

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

ELECTRICAL NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL CONSTRUCTION STANDARDS AND SPECIFICATIONS, AND ALL MANUFACTURER DOCUMENTATION FOR ALL EQUIPMENT TO BE INSTALLED.
2. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRIC CODE, OWNER AND MANUFACTURER'S SPECIFICATIONS.
3. CONNECT ALL NEW EQUIPMENT TO EXISTING TELCO AS REQUIRED BY MANUFACTURER.
4. MAINTAIN ALL CLEARANCES REQUIRED BY NEC AND EQUIPMENT MANUFACTURER.
5. PRIOR TO INSTALLATION CONTRACTOR SHALL MEASURE EXISTING ELECTRICAL LOAD AND VERIFY EXISTING AVAILABLE CAPACITY FOR PROPOSED INSTALLATION. IF INADEQUATE CAPACITY IS AVAILABLE, CONTRACTOR SHALL COORDINATE WITH LOCAL ELECTRIC UTILITY COMPANY TO UPGRADE EXISTING ELECTRIC SERVICE.
6. CONTRACTOR SHALL INSPECT EXISTING GROUNDING AND LIGHTNING PROTECTION SYSTEM AND ENSURE THAT IT IS IN COMPLIANCE WITH NEC, AND SITE OWNER'S SPECIFICATIONS. THE RESULTS OF THIS INSPECTION SHALL BE PRESENTED TO OWNERS REPRESENTATIVE, AND ANY DEFICIENCIES SHALL BE CORRECTED.
7. ALL TRANSMISSION TOWER SITES CONTAIN AN EXTENSIVE BURIED GROUNDING SYSTEM. ALL GROUNDING WORK MUST BE COORDINATED WITH, AND APPROVED BY, THE TOWER OWNER'S SITE REPRESENTATIVE. ALL OF THE TOWER OWNER'S SPECIFICATIONS MUST BE STRICTLY FOLLOWED.
8. PROVIDE AND INSTALL GROUND KITS FOR ALL NEW COAXIAL CABLES AND BOND TO EXISTING OWNERS GROUNDING SYSTEM PER OWNERS SPECIFICATIONS AND NEC.
9. ALL CONDUCTORS SHALL BE TYPE THWN (INT. APPLICATION) AND XHHW (EXT. APPLICATION), 75 DEGREE C, 600 VOLT INSULATION, SOFT ANNEALED STRANDED COPPER. #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. #8 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLIT-BOLT TYPE CONNECTORS. #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION:
10. MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.
11. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.
12. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNER'S REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS AS MAY BE REQUIRED BY THE LOCAL AUTHORITY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE SITE AND/OR BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
15. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
16. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
17. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
18. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
19. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122. (MIN. #12 AWG).
20. CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 5 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 16960).

TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

A. CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) AS SPECIFIED BY OWNER TO PERFORM:

   TEST 1: RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM.

   THE TESTING FIRM SHALL INCLUDE THE FOLLOWING INFORMATION WITH THE REPORT:

   1. TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
   2. CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
   3. GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.

B. TESTING SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF OWNERS CONSTRUCTION REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND DATED BY THE CONSTRUCTION AND INCLUDED WITH THE WRITTEN REPORT/ANALYSIS.

C. THE CONTRACTOR SHALL FORWARD SIX (6) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM REPORT/ANALYSIS TO ENGINEER A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB TURNOVER.

D. CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

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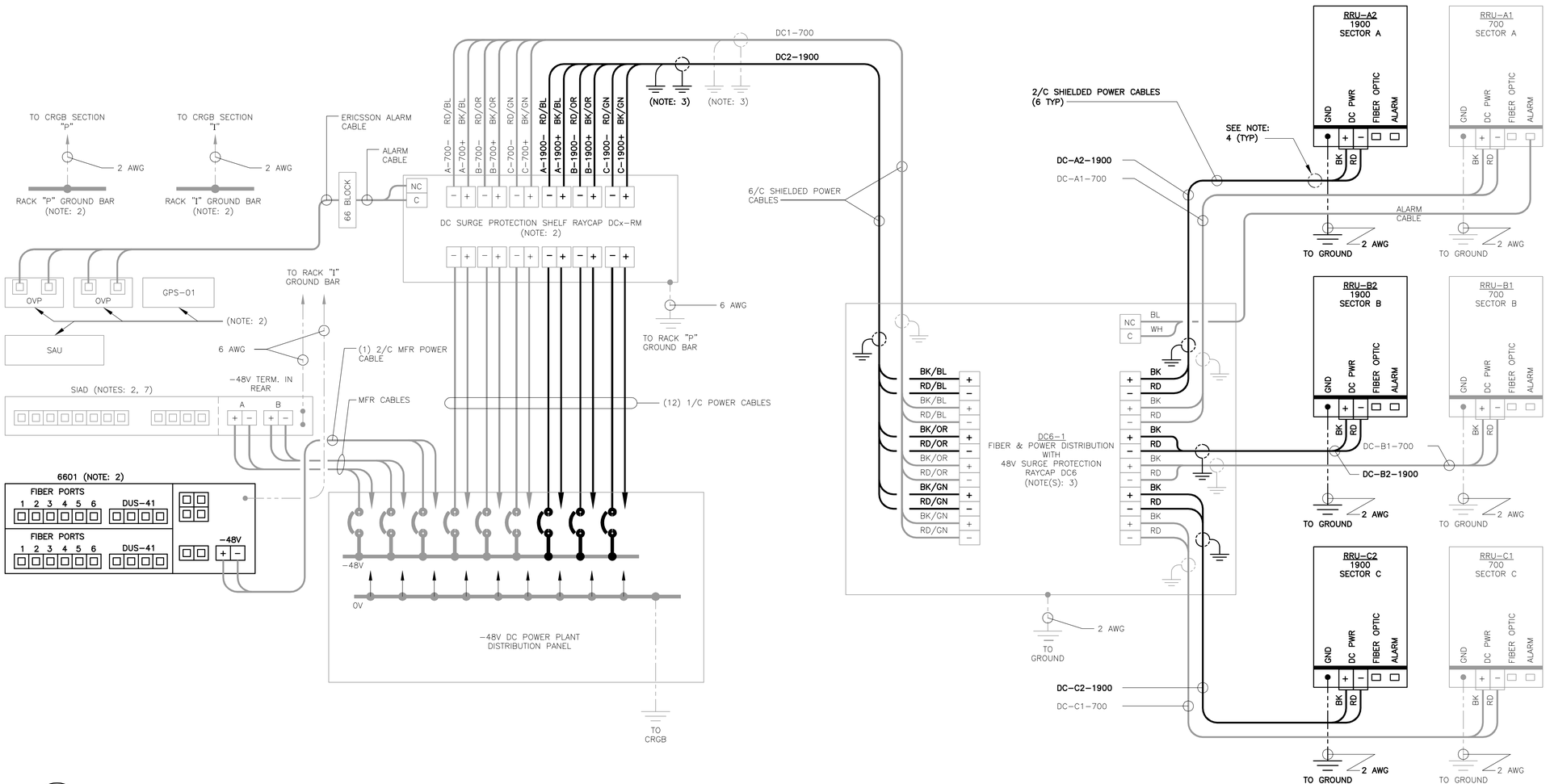
LTE SCHEMATIC DIAGRAM & NOTES

E-1

Sheet No. 5 of 7



1 / E-2 LTE WIRING DIAGRAM

NOT TO SCALE

LTE WIRING DIAGRAM NOTES:

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

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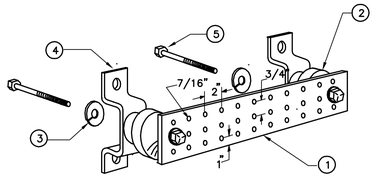
LTE WIRING DIAGRAM

E-2

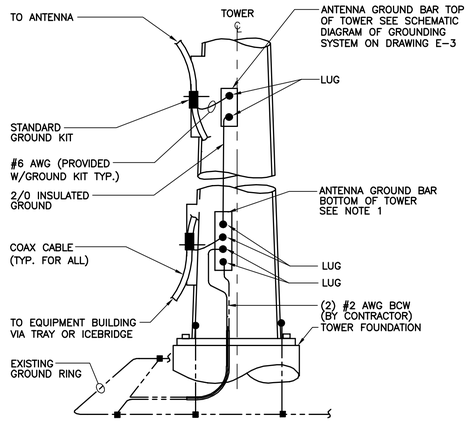
Sheet No. 6 of 7



LEGEND

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

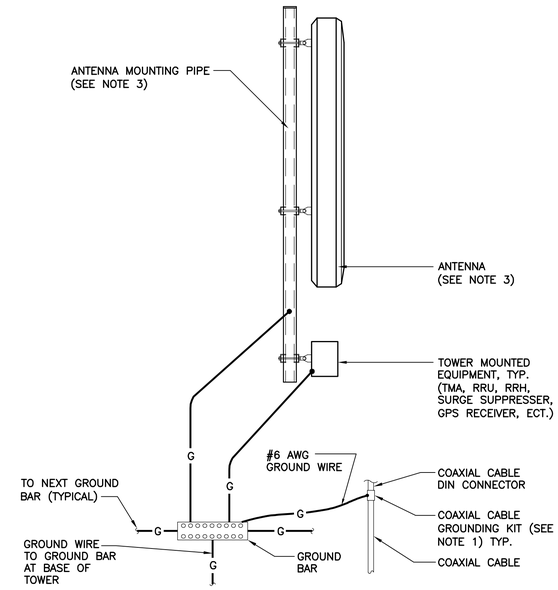
3 / E-3 **GROUND BAR DETAIL**
NOT TO SCALE



NOTES:

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

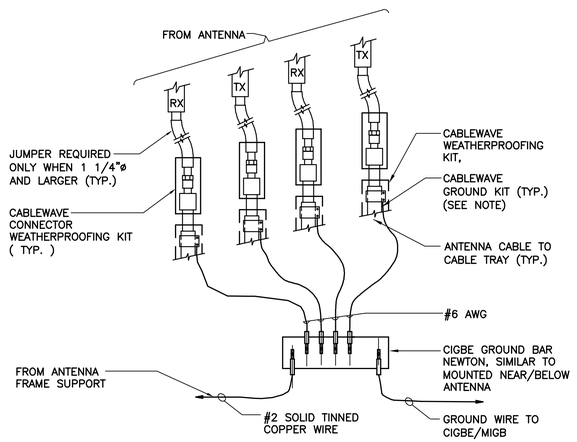
2 / E-3 **ANTENNA CABLE GROUNDING - TOWER**
NOT TO SCALE



NOTES:

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

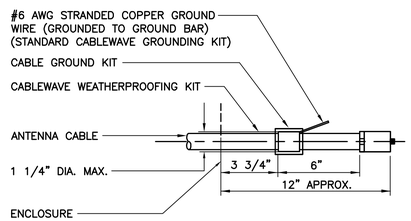
1 / E-3 **TYPICAL ANTENNA GROUNDING DETAIL**
NOT TO SCALE



NOTE:

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

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



NOTE:

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

4 / E-3 **ANTENNA CABLE GROUNDING DETAIL**
NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	06/27/16	KAW	CAG	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

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85 QUAKER FARMS ROAD
OXFORD, CT 06478

DATE:	06/16/16
SCALE:	AS NOTED
JOB NO.	16071.27

TYPICAL ELECTRICAL DETAILS

E-3

Sheet No. 7 of 7

Date: **June 28, 2016**

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

Velocitel, Inc., d.b.a. FDH Velocitel
6521 Meridien Drive, Suite 107
Raleigh, North Carolina 27616
9197551012

Subject: Structural Modification Report

Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Carrier Site Number:	CTL02256
	Carrier Site Name:	Oxford Ct
Crown Castle Designation:	**Crown Castle BU Number:**	845455
	Crown Castle Site Name:	OXFORD-QUAKER FARMS
	Crown Castle JDE Job Number:	381528
	Crown Castle Work Order Number:	1252414
	Crown Castle Application Number:	350059 Rev. 2
Engineering Firm Designation:	**FDH Velocitel Project Number:**	16BKFD1400
Site Data:	**85 QUAKER FARMS ROAD, OXFORD, New Haven County, CT**	
	Latitude *41° 23' 2.36"*, Longitude *-73° 8' 14.54"*	
	149 Foot - Monopole Tower	

Dear Charles McGuirt,

FDH Velocitel is pleased to submit this **"Structural Modification Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 914839, in accordance with application 350059, revision 2.

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:

LC4.7: Modified Structure w/ Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

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

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

Respectfully submitted by:

Mark S. Girgis, EI
Project Engineer II

Reviewed by:

Dennis D. Abel, PE
Director of Structural Engineering
CT PE License No. 23247

STATE OF CONNECTICUT
DENNIS D. ABEL
No. 23247
LICENSED
PROFESSIONAL ENGINEER

06-28-2016

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 149 ft Monopole tower designed by PAUL J FORD in April of 2005. The tower was originally designed for a wind speed of 85 mph per TIA/EIA-222-F.

The modification drawings designed by CCI on October 31, 2014 were considered in this analysis.

2) ANALYSIS CRITERIA

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

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
149.0	150.0	3	ericsson	RRUS-11	-	-	-

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
149.0	150.0	1	antenna systems and solutions inc	FO150-3	1	1/2	1
		2	andrew	SBNH-1D6565C w/ Mount Pipe	3 6	1/2 1-5/8	1
		3	ericsson	RRUS-11			
		1	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe			
		3	powerwave technologies	7770.00 w/ Mount Pipe			
		6	powerwave technologies	LGP21401			
		1	raycap	DC6-48-60-18-8F			
	149.0	1	crown mounts	Side Arm Mount [SO 103-3]			
139.0	140.0	3	powerwave technologies	7770.00 w/ Mount Pipe	6	1-5/8	1
		6	powerwave technologies	TMA DD 1900 with 850 BYPASS			
	139.0	1	crown mounts	Side Arm Mount [SO 104-3]			
129.0	132.0	3	commscope	LNX-6515DS-VTM w/ Mount Pipe	12	1-5/8	1
		3	kathrein	782 11066			
		3	powerwave technologies	LGP 13901			
		3	rfs celwave	APXV18-209014-C w/ Mount Pipe			
	129.0	1	crown mounts	Side Arm Mount [SO 104-3]			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
120.0	120.0	3	alcatel lucent	RRH2X60-AWS	2	1-5/8	2
		3	alcatel lucent	RRH2X60-PCS			
		3	andrew	HBXX-6517DS-A2M w/ Mount Pipe			
		3	andrew	SBNHH-1D65B w/ Mount Pipe			
		2	rfs celwave	DB-T1-6Z-8AB-0Z			
		3	antel	BXA-80080/6CF w/ Mount Pipe	18	1-5/8	1
		1	crown mounts	Side Arm Mount [SO 104-3]			
80.0	80.0	1	pctel	MPRD2449	2	1/2	1
		1	antenna systems and solutions inc	FO150-3			
		1	crown mounts	Pipe Mount [PM 601-1]			

Notes:
1) Existing Equipment
2) Reserved Equipment
3) Empty Mount; Considered In This Analysis

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
148.5	148.5	6	allgon	7920 Panel	-	-
139	139	9	generic	48" x 12" x 3" Panel Antenna	-	-
129	129	9	generic	48" x 12" x 3" Panel Antenna	-	-
119	119	9	generic	48" x 12" x 3" Panel Antenna	-	-
109	109	6	generic	48" x 12" x 3" Panel Antenna	-	-
99	99	6	generic	48" x 12" x 3" Panel Antenna	-	-

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	WEI Geotechnical Engineers	4911888	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Paul J. Ford and Company	5113082	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	WEI Geotechnical Engineers	5113091	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Crown Castle	5356088	CCISITES

3.1) Analysis Method

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

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) When applicable, transmission cables are considered as structural components for calculating wind loads as allowed by TIA/EIA-222-F.
5) The modifications outlined in Crown Castle (Work Order No. 933260, Rev. 1) Tower Modification Drawings dated October 29, 2014 must be installed as specified in order for this analysis to be considered valid.

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

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
149 - 144	Pole	TP23.865x23x0.1875	Pole	6.9%	Pass
144 - 139	Pole	TP24.73x23.865x0.1875	Pole	12.3%	Pass
139 - 134	Pole	TP25.595x24.73x0.1875	Pole	19.1%	Pass
134 - 129	Pole	TP26.46x25.595x0.1875	Pole	25.2%	Pass
129 - 124	Pole	TP27.325x26.46x0.1875	Pole	34.6%	Pass
124 - 119	Pole	TP28.19x27.325x0.1875	Pole	43.1%	Pass
119 - 115.25	Pole	TP29.487x28.19x0.1875	Pole	52.2%	Pass
115.25 - 110.25	Pole	TP29.328x28.463x0.2188	Pole	55.0%	Pass
110.25 - 107.5	Pole	TP29.804x29.328x0.2188	Pole	59.7%	Pass
107.5 - 107.25	Pole + Reinf.	TP29.847x29.804x0.4375	Reinf. 1 Compression	38.8%	Pass
107.25 - 102.25	Pole + Reinf.	TP30.712x29.847x0.4313	Reinf. 1 Compression	44.7%	Pass
102.25 - 97.25	Pole + Reinf.	TP31.577x30.712x0.4188	Reinf. 1 Compression	50.4%	Pass
97.25 - 92.25	Pole + Reinf.	TP32.442x31.577x0.4188	Reinf. 1 Compression	55.8%	Pass
92.25 - 90.5	Pole + Reinf.	TP32.745x32.442x0.4125	Reinf. 1 Compression	57.7%	Pass
90.5 - 90.25	Pole + Reinf.	TP32.788x32.745x0.4125	Reinf. 3 Compression	57.9%	Pass
90.25 - 88	Pole + Reinf.	TP33.177x32.788x0.4125	Reinf. 3 Compression	60.3%	Pass
88 - 87.75	Pole + Reinf.	TP33.221x33.177x0.5313	Reinf. 3 Compression	51.8%	Pass
87.75 - 87.5	Pole + Reinf.	TP33.264x33.221x0.5313	Reinf. 3 Compression	52.0%	Pass
87.5 - 87.25	Pole + Reinf.	TP33.307x33.264x0.4688	Reinf. 4 Compression	53.0%	Pass
87.25 - 82.25	Pole + Reinf.	TP34.172x33.307x0.4563	Reinf. 4 Compression	57.5%	Pass
82.25 - 79.75	Pole + Reinf.	TP35.383x34.172x0.4563	Reinf. 4 Compression	59.7%	Pass
79.75 - 74.75	Pole + Reinf.	TP35.032x34.167x0.5188	Reinf. 4 Compression	57.4%	Pass
74.75 - 70.5	Pole + Reinf.	TP35.767x35.032x0.5125	Reinf. 4 Compression	60.5%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
70.5 - 70.25	Pole + Reinf.	TP35.81x35.767x0.6063	Reinf. 5 Bolt Shear	52.5%	Pass
70.25 - 65.25	Pole + Reinf.	TP36.675x35.81x0.5938	Reinf. 5 Compression	54.7%	Pass
65.25 - 60.25	Pole + Reinf.	TP37.54x36.675x0.5813	Reinf. 5 Compression	57.8%	Pass
60.25 - 55.25	Pole + Reinf.	TP38.405x37.54x0.5813	Reinf. 5 Compression	60.7%	Pass
55.25 - 50.25	Pole + Reinf.	TP39.27x38.405x0.5688	Reinf. 5 Compression	63.5%	Pass
50.25 - 45.25	Pole + Reinf.	TP40.135x39.27x0.5563	Reinf. 5 Compression	66.3%	Pass
45.25 - 45	Pole + Reinf.	TP41.086x40.135x0.5563	Reinf. 5 Compression	66.4%	Pass
45 - 38.75	Pole + Reinf.	TP40.697x39.615x0.65	Reinf. 5 Compression	61.0%	Pass
38.75 - 35.5	Pole + Reinf.	TP41.259x40.697x0.65	Reinf. 5 Bolt Shear	63.4%	Pass
35.5 - 35.25	Pole + Reinf.	TP41.302x41.259x0.65	Reinf. 6 Bolt Shear	63.5%	Pass
35.25 - 30.25	Pole + Reinf.	TP42.167x41.302x0.6375	Reinf. 6 Compression	64.6%	Pass
30.25 - 25.25	Pole + Reinf.	TP43.032x42.167x0.6375	Reinf. 6 Compression	66.5%	Pass
25.25 - 20.25	Pole + Reinf.	TP43.897x43.032x0.625	Reinf. 6 Compression	68.4%	Pass
20.25 - 15.25	Pole + Reinf.	TP44.762x43.897x0.625	Reinf. 6 Compression	70.2%	Pass
15.25 - 10.25	Pole + Reinf.	TP45.627x44.762x0.625	Reinf. 6 Compression	72.0%	Pass
10.25 - 5.25	Pole + Reinf.	TP46.492x45.627x0.6125	Reinf. 6 Compression	73.6%	Pass
5.25 - 0.25	Pole + Reinf.	TP47.357x46.492x0.6125	Reinf. 6 Compression	75.3%	Pass
0.25 - 0	Pole + Reinf.	TP47.4x47.357x0.6125	Reinf. 6 Bolt Shear	76.6%	Pass
				Summary	
			Pole	62.3%	Pass
			Reinforcement	76.6%	Pass
			Overall	76.6%	Pass

Table 6 - Tower Component Stresses vs. Capacity - LC4.7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	84.6	Pass
1	Base Plate	0	69.4	Pass
1	Transfer Stiffeners	0	63.8	Pass
1	Base Foundation	0	30.9	Pass
1	Base Foundation Soil Interaction	0	66.1	Pass

Structure Rating (max from all components) =	**84.6%**

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

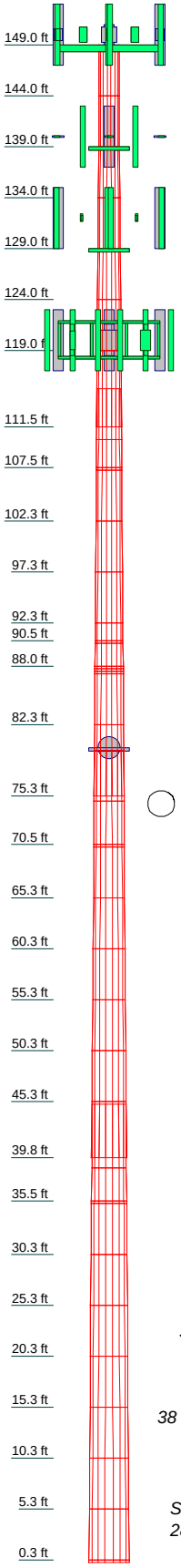
4.1) Recommendations

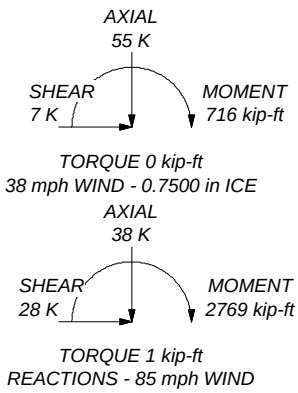
The tower, anchor rods, base plate, and foundation have sufficient capacity to carry the existing, reserved, and proposed loading once the proposed modifications have been installed.

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	18	0.1875		23.0000	23.8649		0.2
2	5.00	18	0.1875		23.8649	24.7299		0.2
3	5.00	18	0.1875		24.7299	25.5948		0.3
4	5.00	18	0.1875		25.5948	26.4597		0.3
5	5.00	18	0.1875		26.4597	27.3247		0.3
6	5.00	18	0.1875		27.3247	28.1896		0.3
7	7.50	18	0.1875	3.75	28.1896	29.4870		0.4
8	5.00	18	0.1875		29.4870	30.3521		0.3
9	2.75	18	0.1875		30.3521	30.7122		0.2
10	0.25	18	0.1875		30.7122	30.7772		0.0
11	5.00	18	0.4313		30.7772	31.5772		0.7
12	5.00	18	0.4188		31.5772	32.4421		0.7
13	5.00	18	0.4188		32.4421	33.3070		0.7
14	2.75	18	0.4188		33.3070	33.7419		0.2
15	0.25	18	0.4188		33.7419	33.8069		0.0
16	5.00	18	0.4188		33.8069	34.6718		0.8
17	0.25	18	0.4188		34.6718	34.7368		0.0
18	5.00	18	0.4562		34.7368	35.6017		0.8
19	0.25	18	0.4562		35.6017	35.6667		0.0
20	5.00	18	0.4562		35.6667	36.5316		0.8
21	5.00	18	0.4562	4.50	36.5316	37.3965		1.1
22	0.25	18	0.4562		37.3965	37.4615		0.0
23	4.25	18	0.4562		37.4615	38.1864		0.8
24	0.25	18	0.4562		38.1864	38.2514		0.0
25	5.00	18	0.5938		38.2514	39.1163		1.1
26	5.00	18	0.5813		39.1163	39.9812		1.1
27	5.00	18	0.5813		39.9812	40.8461		1.1
28	5.00	18	0.5687		40.8461	41.7110		1.1
29	5.00	18	0.5563		41.7110	42.5759		1.1
30	6.50	18	0.5563		42.5759	43.5409		1.3
31	0.50	18	0.5563	5.25	43.5409	43.6059		0.1
32	0.25	18	0.5563		43.6059	43.6708		0.0
33	4.25	18	0.5563		43.6708	44.3958		0.9
34	5.00	18	0.6313		44.3958	45.2607		1.4
35	5.00	18	0.6375		45.2607	46.1256		1.4
36	5.00	18	0.6250		46.1256	46.9905		1.4
37	5.00	18	0.6250		46.9905	47.8554		1.4
38	5.00	18	0.6250		47.8554	48.7203		1.5
39	5.00	18	0.6125		48.7203	49.5852		1.5
40	5.00	18	0.6125		49.5852	50.4501		1.5
41	0.25	18	0.6125		50.4501	50.5151		0.1
					47.3965	47.4615	A607-65	28.0





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
FO150-3	149	LGP 13901	129
SBNH-1D6565C w/ Mount Pipe	149	LGP 13901	129
SBNH-1D6565C w/ Mount Pipe	149	LNX-6515DS-VTM w/ Mount Pipe	129
AM-X-CD-16-65-00T-RET w/ Mount Pipe	149	LNX-6515DS-VTM w/ Mount Pipe	129
7770.00 w/ Mount Pipe	149	LNX-6515DS-VTM w/ Mount Pipe	129
7770.00 w/ Mount Pipe	149	782 11066	129
7770.00 w/ Mount Pipe	149	782 11066	129
(2) LGP21401	149	782 11066	129
(2) LGP21401	149	Side Arm Mount [SO 104-3]	129
(2) LGP21401	149	BXA-80080/6CF w/ Mount Pipe	120
RRUS-11	149	BXA-80080/6CF w/ Mount Pipe	120
RRUS-11	149	BXA-80080/6CF w/ Mount Pipe	120
RRUS-11	149	HBXX-6517DS-A2M w/ Mount Pipe	120
RRUS-11	149	HBXX-6517DS-A2M w/ Mount Pipe	120
RRUS-11	149	HBXX-6517DS-A2M w/ Mount Pipe	120
RRUS-11	149	SBNHH-1D65B w/ Mount Pipe	120
RRUS-11	149	SBNHH-1D65B w/ Mount Pipe	120
DC6-48-60-18-8F	149	SBNHH-1D65B w/ Mount Pipe	120
Side Arm Mount [SO 103-3]	149	RRH2X60-AWS	120
4' x 2" Pipe Mount	147	RRH2X60-AWS	120
4' x 2" Pipe Mount	147	RRH2X60-AWS	120
4' x 2" Pipe Mount	147	RRH2X60-PCS	120
Side Arm Mount [SO 102-3]	147	RRH2X60-PCS	120
7770.00 w/ Mount Pipe	139	RRH2X60-PCS	120
7770.00 w/ Mount Pipe	139	DB-T1-6Z-8AB-0Z	120
7770.00 w/ Mount Pipe	139	DB-T1-6Z-8AB-0Z	120
(2) TMA DD 1900 with 850 BYPASS	139	(2) 4' x 2" Pipe Mount	120
(2) TMA DD 1900 with 850 BYPASS	139	(2) 4' x 2" Pipe Mount	120
(2) TMA DD 1900 with 850 BYPASS	139	(2) 4' x 2" Pipe Mount	120
4' x 2" Pipe Mount	139	(2) 6' x 2" Horizontal Mount Pipe	120
4' x 2" Pipe Mount	139	(2) 6' x 2" Horizontal Mount Pipe	120
4' x 2" Pipe Mount	139	(2) 6' x 2" Horizontal Mount Pipe	120
Side Arm Mount [SO 104-3]	139	Side Arm Mount [SO 104-3]	120
APXV18-209014-C w/ Mount Pipe	129	FO150-3	80
APXV18-209014-C w/ Mount Pipe	129	6' x 2" Mount Pipe	80
APXV18-209014-C w/ Mount Pipe	129	Pipe Mount [PM 601-1]	80
LGP 13901	129	MPRD2449	80

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

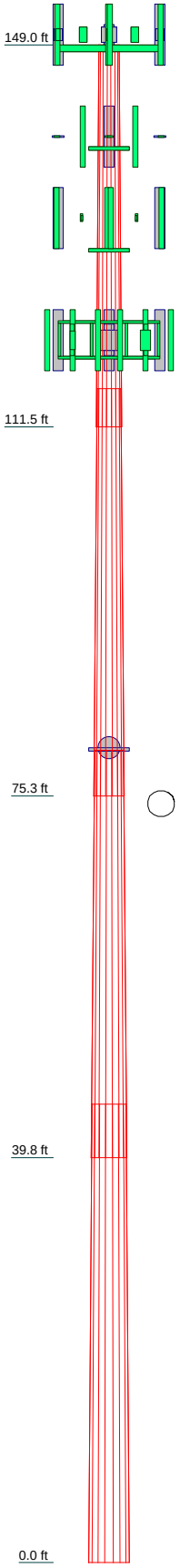
1. Tower is located in New Haven County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 62%

FDH VELOCITEL ENGINEERING INNOVATION
Tower Analysis

FDH Velocitel
6521 Meridien Drive, Suite 107
Raleigh, North Carolina 27616
Phone: 9197551012
FAX: 9197551031

Job:	***OXFORD-QUAKER FARMS, BU# 845455***		
Project:	***16BKFD1400***		
Client: Crown Castle	Drawn by: Mark S. Girgis, EI	App'd:	
Code: TIA/EIA-222-F	Date: 06/28/16	Scale: NTS	
Path:		Dwg No. E-1	

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	37.50	18	0.1875	3.75	23.0000	29.4870	A607-65	2.0
2	40.00	18	0.2188	4.50	28.4633	35.3830		3.0
3	40.00	18	0.2813	5.25	34.1670	41.0860		4.5
4	45.00	18	0.3750		39.6154	47.4000		7.9
								17.4



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
FO150-3	149	LGP 13901	129
SBNH-1D6565C w/ Mount Pipe	149	LGP 13901	129
SBNH-1D6565C w/ Mount Pipe	149	LNX-6515DS-VTM w/ Mount Pipe	129
AM-X-CD-16-65-00T-RET w/ Mount Pipe	149	LNX-6515DS-VTM w/ Mount Pipe	129
7770.00 w/ Mount Pipe	149	LNX-6515DS-VTM w/ Mount Pipe	129
7770.00 w/ Mount Pipe	149	782 11066	129
7770.00 w/ Mount Pipe	149	782 11066	129
(2) LGP21401	149	782 11066	129
(2) LGP21401	149	Side Arm Mount [SO 104-3]	129
(2) LGP21401	149	BXA-80080/6CF w/ Mount Pipe	120
RRUS-11	149	BXA-80080/6CF w/ Mount Pipe	120
RRUS-11	149	BXA-80080/6CF w/ Mount Pipe	120
RRUS-11	149	HBXX-6517DS-A2M w/ Mount Pipe	120
RRUS-11	149	HBXX-6517DS-A2M w/ Mount Pipe	120
RRUS-11	149	HBXX-6517DS-A2M w/ Mount Pipe	120
RRUS-11	149	SBNHH-1D65B w/ Mount Pipe	120
DC6-48-60-18-8F	149	SBNHH-1D65B w/ Mount Pipe	120
Side Arm Mount [SO 103-3]	149	SBNHH-1D65B w/ Mount Pipe	120
4' x 2" Pipe Mount	147	RRH2X60-AWS	120
4' x 2" Pipe Mount	147	RRH2X60-AWS	120
4' x 2" Pipe Mount	147	RRH2X60-AWS	120
Side Arm Mount [SO 102-3]	147	RRH2X60-PCS	120
7770.00 w/ Mount Pipe	139	RRH2X60-PCS	120
7770.00 w/ Mount Pipe	139	RRH2X60-PCS	120
7770.00 w/ Mount Pipe	139	DB-T1-6Z-8AB-0Z	120
(2) TMA DD 1900 with 850 BYPASS	139	DB-T1-6Z-8AB-0Z	120
(2) TMA DD 1900 with 850 BYPASS	139	(2) 4' x 2" Pipe Mount	120
(2) TMA DD 1900 with 850 BYPASS	139	(2) 4' x 2" Pipe Mount	120
4' x 2" Pipe Mount	139	(2) 4' x 2" Pipe Mount	120
4' x 2" Pipe Mount	139	(2) 6' x 2" Horizontal Mount Pipe	120
4' x 2" Pipe Mount	139	(2) 6' x 2" Horizontal Mount Pipe	120
Side Arm Mount [SO 104-3]	139	(2) 6' x 2" Horizontal Mount Pipe	120
APXV18-209014-C w/ Mount Pipe	129	Side Arm Mount [SO 104-3]	120
APXV18-209014-C w/ Mount Pipe	129	FO150-3	80
APXV18-209014-C w/ Mount Pipe	129	6' x 2" Mount Pipe	80
LGP 13901	129	Pipe Mount [PM 601-1]	80
		MPRD2449	80

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

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

FDH VELOCITEL ENGINEERING INNOVATION

Tower Analysis

FDH Velocitel
6521 Meridien Drive, Suite 107
Raleigh, North Carolina 27616
Phone: 9197551012
FAX: 9197551031

Job: ***OXFORD-QUAKER FARMS, BU# 845455***			
Project: ***16BKFD1400***			
Client: Crown Castle	Drawn by: Mark S. Girgis, EI		App'd:
Code: TIA/EIA-222-F	Date: 06/28/16		Scale: NTS
Path:			Dwg No. E-1

Tower Input Data

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

Tower is located in New Haven County, Connecticut.
Basic wind speed of 85 mph.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 38 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.333.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Tapered Pole Section Geometry

Section	Elevation 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	149.00-144.00	5.00	0.00	18	23.0000	23.8649	0.1875	0.7500	A607-65 (65 ksi)
L2	144.00-139.00	5.00	0.00	18	23.8649	24.7299	0.1875	0.7500	A607-65 (65 ksi)
L3	139.00-134.00	5.00	0.00	18	24.7299	25.5948	0.1875	0.7500	A607-65 (65 ksi)
L4	134.00-129.00	5.00	0.00	18	25.5948	26.4597	0.1875	0.7500	A607-65 (65 ksi)
L5	129.00-124.00	5.00	0.00	18	26.4597	27.3247	0.1875	0.7500	A607-65

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
L6	124.00-119.00	5.00	0.00	18	27.3247	28.1896	0.1875	0.7500	(65 ksi) A607-65 (65 ksi)
L7	119.00-111.50	7.50	3.75	18	28.1896	29.4870	0.1875	0.7500	A607-65 (65 ksi)
L8	111.50-110.25	5.00	0.00	18	28.4633	29.3283	0.2188	0.8750	A607-65 (65 ksi)
L9	110.25-107.50	2.75	0.00	18	29.3283	29.8040	0.2188	0.8750	A607-65 (65 ksi)
L10	107.50-107.25	0.25	0.00	18	29.8040	29.8472	0.4375	1.7500	A607-65 (65 ksi)
L11	107.25-102.25	5.00	0.00	18	29.8472	30.7122	0.4313	1.7250	A607-65 (65 ksi)
L12	102.25-97.25	5.00	0.00	18	30.7122	31.5772	0.4188	1.6750	A607-65 (65 ksi)
L13	97.25-92.25	5.00	0.00	18	31.5772	32.4421	0.4188	1.6750	A607-65 (65 ksi)
L14	92.25-90.50	1.75	0.00	18	32.4421	32.7449	0.4125	1.6500	A607-65 (65 ksi)
L15	90.50-90.25	0.25	0.00	18	32.7449	32.7881	0.4125	1.6500	A607-65 (65 ksi)
L16	90.25-88.00	2.25	0.00	18	32.7881	33.1773	0.4125	1.6500	A607-65 (65 ksi)
L17	88.00-87.75	0.25	0.00	18	33.1773	33.2206	0.5313	2.1250	A607-65 (65 ksi)
L18	87.75-87.50	0.25	0.00	18	33.2206	33.2638	0.5313	2.1250	A607-65 (65 ksi)
L19	87.50-87.25	0.25	0.00	18	33.2638	33.3071	0.4688	1.8750	A607-65 (65 ksi)
L20	87.25-82.25	5.00	0.00	18	33.3071	34.1721	0.4562	1.8250	A607-65 (65 ksi)
L21	82.25-75.25	7.00	4.50	18	34.1721	35.3830	0.4562	1.8250	A607-65 (65 ksi)
L22	75.25-74.75	5.00	0.00	18	34.1670	35.0319	0.5188	2.0750	A607-65 (65 ksi)
L23	74.75-70.50	4.25	0.00	18	35.0319	35.7670	0.5125	2.0500	A607-65 (65 ksi)
L24	70.50-70.25	0.25	0.00	18	35.7670	35.8103	0.6062	2.4250	A607-65 (65 ksi)
L25	70.25-65.25	5.00	0.00	18	35.8103	36.6752	0.5938	2.3750	A607-65 (65 ksi)
L26	65.25-60.25	5.00	0.00	18	36.6752	37.5400	0.5813	2.3250	A607-65 (65 ksi)
L27	60.25-55.25	5.00	0.00	18	37.5400	38.4049	0.5813	2.3250	A607-65 (65 ksi)
L28	55.25-50.25	5.00	0.00	18	38.4049	39.2698	0.5687	2.2750	A607-65 (65 ksi)
L29	50.25-45.25	5.00	0.00	18	39.2698	40.1346	0.5563	2.2250	A607-65 (65 ksi)
L30	45.25-39.75	5.50	5.25	18	40.1346	41.0860	0.5563	2.2250	A607-65 (65 ksi)
L31	39.75-38.75	6.25	0.00	18	39.6154	40.6966	0.6500	2.6000	A607-65 (65 ksi)
L32	38.75-35.50	3.25	0.00	18	40.6966	41.2588	0.6500	2.6000	A607-65 (65 ksi)
L33	35.50-35.25	0.25	0.00	18	41.2588	41.3021	0.6500	2.6000	A607-65 (65 ksi)
L34	35.25-30.25	5.00	0.00	18	41.3021	42.1670	0.6375	2.5500	A607-65 (65 ksi)
L35	30.25-25.25	5.00	0.00	18	42.1670	43.0320	0.6375	2.5500	A607-65 (65 ksi)

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
L36	25.25-20.25	5.00	0.00	18	43.0320	43.8969	0.6250	2.5000	A607-65 (65 ksi)
L37	20.25-15.25	5.00	0.00	18	43.8969	44.7619	0.6250	2.5000	A607-65 (65 ksi)
L38	15.25-10.25	5.00	0.00	18	44.7619	45.6268	0.6250	2.5000	A607-65 (65 ksi)
L39	10.25-5.25	5.00	0.00	18	45.6268	46.4918	0.6125	2.4500	A607-65 (65 ksi)
L40	5.25-0.25	5.00	0.00	18	46.4918	47.3568	0.6125	2.4500	A607-65 (65 ksi)
L41	0.25-0.00	0.25		18	47.3568	47.4000	0.6125	2.4500	A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	23.3548	13.5763	892.6152	8.0984	11.6840	76.3964	1786.4050	6.7894	3.7180	19.829
	24.2331	14.0910	998.0436	8.4055	12.1234	82.3238	1997.4004	7.0469	3.8702	20.641
L2	24.2331	14.0910	998.0436	8.4055	12.1234	82.3238	1997.4004	7.0469	3.8702	20.641
	25.1114	14.6058	1111.4629	8.7125	12.5628	88.4727	2224.3884	7.3043	4.0225	21.453
L3	25.1114	14.6058	1111.4629	8.7125	12.5628	88.4727	2224.3884	7.3043	4.0225	21.453
	25.9896	15.1205	1233.1650	9.0196	13.0022	94.8431	2467.9526	7.5617	4.1747	22.265
L4	25.9896	15.1205	1233.1650	9.0196	13.0022	94.8431	2467.9526	7.5617	4.1747	22.265
	26.8679	15.6353	1363.4418	9.3266	13.4415	101.4349	2728.6777	7.8191	4.3269	23.077
L5	26.8679	15.6353	1363.4418	9.3266	13.4415	101.4349	2728.6777	7.8191	4.3269	23.077
	27.7462	16.1500	1502.5854	9.6337	13.8809	108.2482	3007.1480	8.0765	4.4791	23.889
L6	27.7462	16.1500	1502.5854	9.6337	13.8809	108.2482	3007.1480	8.0765	4.4791	23.889
	28.6245	16.6647	1650.8874	9.9407	14.3203	115.2829	3303.9471	8.3340	4.6314	24.701
L7	28.6245	16.6647	1650.8874	9.9407	14.3203	115.2829	3303.9471	8.3340	4.6314	24.701
	29.9419	17.4369	1891.1513	10.4013	14.9794	126.2502	3784.7910	8.7201	4.8597	25.918
L8	29.5611	19.6105	1976.4982	10.0268	14.4594	136.6934	3955.5970	9.8071	4.6245	21.141
	29.7807	20.2111	2163.7010	10.3339	14.8988	145.2269	4330.2491	10.1075	4.7768	21.837
L9	29.7807	20.2111	2163.7010	10.3339	14.8988	145.2269	4330.2491	10.1075	4.7768	21.837
	30.2638	20.5414	2271.5265	10.5028	15.1404	150.0305	4546.0420	10.2727	4.8605	22.219
L10	30.2638	40.7790	4443.0238	10.4251	15.1404	293.4543	8891.8939	20.3934	4.4755	10.23
	30.3077	40.8391	4462.6825	10.4405	15.1624	294.3256	8931.2370	20.4234	4.4831	10.247
L11	30.3077	40.2642	4401.7350	10.4427	15.1624	290.3060	8809.2618	20.1359	4.4941	10.421
	31.1860	41.4482	4801.5571	10.7497	15.6018	307.7566	9609.4322	20.7280	4.6463	10.774
L12	31.1860	40.2634	4668.1578	10.7542	15.6018	299.2064	9342.4581	20.1355	4.6683	11.148
	32.0643	41.4130	5079.5503	11.0612	16.0412	316.6565	10165.7844	20.7105	4.8206	11.512
L13	32.0643	41.4130	5079.5503	11.0612	16.0412	316.6565	10165.7844	20.7105	4.8206	11.512
	32.9426	42.5627	5514.4294	11.3683	16.4806	334.6012	11036.1147	21.2854	4.9728	11.875
L14	32.9426	41.9356	5435.3056	11.3705	16.4806	329.8002	10877.7632	20.9718	4.9838	12.082
	33.2500	42.3320	5590.8869	11.4780	16.6344	336.1041	11189.1304	21.1700	5.0371	12.211
L15	33.2500	42.3320	5590.8869	11.4780	16.6344	336.1041	11189.1304	21.1700	5.0371	12.211
	33.2939	42.3886	5613.3521	11.4933	16.6564	337.0095	11234.0904	21.1983	5.0447	12.23
L16	33.2939	42.3886	5613.3521	11.4933	16.6564	337.0095	11234.0904	21.1983	5.0447	12.23
	33.6892	42.8982	5818.2546	11.6315	16.8541	345.2132	11644.1649	21.4532	5.1132	12.396
L17	33.6892	55.0474	7412.0284	11.5894	16.8541	439.7762	14833.8098	27.5289	4.9042	9.231
	33.7331	55.1204	7441.5248	11.6047	16.8761	440.9515	14892.8413	27.5654	4.9118	9.246
L18	33.7331	55.1204	7441.5248	11.6047	16.8761	440.9515	14892.8413	27.5654	4.9118	9.246
	33.7770	55.1933	7471.0993	11.6201	16.8980	442.1284	14952.0292	27.6019	4.9194	9.26
L19	33.7770	48.7929	6629.9799	11.6423	16.8980	392.3522	13268.6838	24.4011	5.0294	10.729
	33.8209	48.8573	6656.2441	11.6576	16.9200	393.3950	13321.2466	24.4333	5.0370	10.746
L20	33.8209	47.5725	6486.1455	11.6620	16.9200	383.3419	12980.8256	23.7908	5.0590	11.088

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
	34.6992	48.8251	7012.0941	11.9691	17.3594	403.9364	14033.4149	24.4172	5.2113	11.422
L21	34.6992	48.8251	7012.0941	11.9691	17.3594	403.9364	14033.4149	24.4172	5.2113	11.422
	35.9288	50.5787	7795.1015	12.3990	17.9746	433.6740	15600.4601	25.2942	5.4244	11.889
L22	35.4845	55.4023	7924.8535	11.9451	17.3569	456.5835	15860.1348	27.7064	5.1004	9.832
	35.5723	56.8263	8551.7790	12.2522	17.7962	480.5394	17114.8106	28.4186	5.2526	10.126
L23	35.5723	56.1519	8453.3363	12.2544	17.7962	475.0077	16917.7957	28.0813	5.2636	10.27
	36.3188	57.3477	9004.9972	12.5154	18.1697	495.6063	18021.8435	28.6793	5.3930	10.523
L24	36.3188	67.6577	10567.4982	12.4821	18.1697	581.6014	21148.9014	33.8353	5.2280	8.624
	36.3627	67.7409	10606.5359	12.4974	18.1916	583.0450	21227.0282	33.8769	5.2356	8.636
L25	36.3627	66.3678	10398.9137	12.5019	18.1916	571.6319	20811.5106	33.1902	5.2576	8.855
	37.2409	67.9977	11184.0336	12.8089	18.6310	600.2923	22382.7833	34.0053	5.4098	9.111
L26	37.2409	66.5892	10959.9632	12.8133	18.6310	588.2655	21934.3478	33.3009	5.4318	9.345
	38.1191	68.1848	11766.8500	13.1204	19.0703	617.0238	23549.1832	34.0989	5.5840	9.607
L27	38.1191	68.1848	11766.8500	13.1204	19.0703	617.0238	23549.1832	34.0989	5.5840	9.607
	38.9974	69.7804	12612.3984	13.4274	19.5097	646.4684	25241.3926	34.8968	5.7363	9.869
L28	38.9974	68.3023	12353.4037	13.4318	19.5097	633.1932	24723.0622	34.1576	5.7583	10.124
	39.8756	69.8636	13220.0486	13.7389	19.9490	662.6908	26457.4924	34.9384	5.9105	10.392
L29	39.8756	68.3502	12942.0303	13.7433	19.9490	648.7544	25901.0901	34.1816	5.9325	10.665
	40.7538	69.8771	13828.9381	14.0503	20.3884	678.2749	27676.0727	34.9452	6.0847	10.939
L30	40.7538	69.8771	13828.9381	14.0503	20.3884	678.2749	27676.0727	34.9452	6.0847	10.939
	41.7198	71.5568	14850.3323	14.3881	20.8717	711.5060	29720.2050	35.7852	6.2521	11.24
L31	41.1487	80.3895	15420.3659	13.8327	20.1246	766.2440	30861.0222	40.2024	5.8283	8.967
	41.3244	82.6201	16739.9476	14.2165	20.6739	809.7155	33501.9220	41.3179	6.0186	9.259
L32	41.3244	82.6201	16739.9476	14.2165	20.6739	809.7155	33501.9220	41.3179	6.0186	9.259
	41.8953	83.7800	17454.9386	14.4161	20.9595	832.7948	34932.8449	41.8980	6.1175	9.412
L33	41.8953	83.7800	17454.9386	14.4161	20.9595	832.7948	34932.8449	41.8980	6.1175	9.412
	41.9392	83.8692	17510.7661	14.4315	20.9814	834.5835	35044.5733	41.9426	6.1252	9.423
L34	41.9392	82.2817	17189.8678	14.4359	20.9814	819.2891	34402.3546	41.1487	6.1472	9.643
	42.8175	84.0318	18310.2786	14.7430	21.4208	854.7881	36644.6502	42.0239	6.2994	9.881
L35	42.8175	84.0318	18310.2786	14.7430	21.4208	854.7881	36644.6502	42.0239	6.2994	9.881
	43.6958	85.7820	19478.3457	15.0500	21.8602	891.0399	38982.3215	42.8992	6.4516	10.12
L36	43.6958	84.1248	19113.3141	15.0545	21.8602	874.3415	38251.7779	42.0704	6.4736	10.358
	44.5741	85.8407	20306.8709	15.3615	22.2996	910.6368	40640.4620	42.9285	6.6259	10.601
L37	44.5741	85.8407	20306.8709	15.3615	22.2996	910.6368	40640.4620	42.9285	6.6259	10.601
	45.4524	87.5565	21549.1086	15.6686	22.7390	947.6703	43126.5720	43.7866	6.7781	10.845
L38	45.4524	87.5565	21549.1086	15.6686	22.7390	947.6703	43126.5720	43.7866	6.7781	10.845
	46.3307	89.2724	22841.0017	15.9757	23.1784	985.4420	45712.0581	44.6447	6.9303	11.089
L39	46.3307	87.5112	22402.8396	15.9801	23.1784	966.5381	44835.1573	43.7639	6.9523	11.351
	47.2090	89.1928	23719.2347	16.2871	23.6178	1004.2935	47469.6798	44.6049	7.1046	11.599
L40	47.2090	89.1928	23719.2347	16.2871	23.6178	1004.2935	47469.6798	44.6049	7.1046	11.599
	48.0873	90.8743	25086.2132	16.5942	24.0572	1042.7723	50205.4356	45.4458	7.2568	11.848
L41	48.0873	90.8743	25086.2132	16.5942	24.0572	1042.7723	50205.4356	45.4458	7.2568	11.848
	48.1312	90.9584	25155.9073	16.6096	24.0792	1044.7152	50344.9154	45.4878	7.2644	11.86

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 149.00-144.00				1	1	1			
L2 144.00-139.00				1	1	1			
L3 139.00-134.00				1	1	1			
L4 134.00-129.00				1	1	1			
L5 129.00-124.00				1	1	1			
L6 124.00-119.00				1	1	1			

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
L7 119.00-111.50				1	1	1			
L8 111.50-110.25				1	1	1			
L9 110.25-107.50				1	1	1			
L10 107.50-107.25				1	1	0.944489			
L11 107.25-102.25				1	1	0.945099			
L12 102.25-97.25				1	1	0.960403			
L13 97.25-92.25				1	1	0.948572			
L14 92.25-90.50				1	1	0.958707			
L15 90.50-90.25				1	1	0.958135			
L16 90.25-88.00				1	1	0.953052			
L17 88.00-87.75				1	1	1.06884			
L18 87.75-87.50				1	1	1.06797			
L19 87.50-87.25				1	1	0.961464			
L20 87.25-82.25				1	1	0.974397			
L21 82.25-75.25				1	1	0.968129			
L22 75.25-74.75				1	1	0.968254			
L23 74.75-70.50				1	1	0.970895			
L24 70.50-70.25				1	1	0.947987			
L25 70.25-65.25				1	1	0.955762			
L26 65.25-60.25				1	1	0.964462			
L27 60.25-55.25				1	1	0.953473			
L28 55.25-50.25				1	1	0.963388			
L29 50.25-45.25				1	1	0.97425			
L30 45.25-39.75				1	1	0.973738			
L31 39.75-38.75				1	1	0.974266			
L32 38.75-35.50				1	1	0.968765			
L33 35.50-35.25				1	1	0.968348			
L34 35.25-30.25				1	1	0.978725			
L35 30.25-25.25				1	1	0.970758			
L36				1	1	0.982088			

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
25.25-20.25									
L37				1	1	0.974601			
20.25-15.25									
L38				1	1	0.967401			
15.25-10.25									
L39 10.25-5.25				1	1	0.979807			
L40 5.25-0.25				1	1	0.973005			
L41 0.25-0.00				1	1	0.972672			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

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

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
CCI-AFP-060100	A	No	CaAa (Out Of Face)	110.50 - 90.50	1	No Ice	0.17	0.00
						1/2" Ice	0.28	0.00
						1" Ice	0.39	0.00
						2" Ice	0.61	0.00
						4" Ice	1.06	0.00
***								
CCI-AFP-060100	B	No	CaAa (Out Of Face)	110.00 - 85.00	1	No Ice	0.17	0.00
						1/2" Ice	0.28	0.00
						1" Ice	0.39	0.00
						2" Ice	0.61	0.00
						4" Ice	1.06	0.00
CCI-AFP-060100	C	No	CaAa (Out Of Face)	110.00 - 85.00	1	No Ice	0.17	0.00
						1/2" Ice	0.28	0.00
						1" Ice	0.39	0.00
						2" Ice	0.61	0.00
						4" Ice	1.06	0.00
***								
CCI-AFP-060100	A	No	CaAa (Out Of Face)	90.50 - 70.50	1	No Ice	0.17	0.00
						1/2" Ice	0.28	0.00
						1" Ice	0.39	0.00
						2" Ice	0.61	0.00
						4" Ice	1.06	0.00
***								
CCI-AFP-060100	C	No	CaAa (Out Of Face)	90.50 - 70.50	1	No Ice	0.17	0.00
						1/2" Ice	0.28	0.00
						1" Ice	0.39	0.00
						2" Ice	0.61	0.00
						4" Ice	1.06	0.00
CCI-AFP-060100	B	No	CaAa (Out Of Face)	90.50 - 70.50	1	No Ice	0.17	0.00
						1/2" Ice	0.28	0.00
						1" Ice	0.39	0.00

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
						2" Ice	0.61	0.00
						4" Ice	1.06	0.00
CCI-AFP-060100	C	No	CaAa (Out Of Face)	90.50 - 70.50	1	No Ice	0.17	0.00
						1/2" Ice	0.28	0.00
						1" Ice	0.39	0.00
						2" Ice	0.61	0.00
						4" Ice	1.06	0.00
***								
CCI-SFP-065125	C	No	CaAa (Out Of Face)	70.50 - 35.50	1	No Ice	0.21	0.00
						1/2" Ice	0.32	0.00
						1" Ice	0.43	0.00
						2" Ice	0.65	0.00
						4" Ice	1.10	0.00
CCI-SFP-065125	B	No	CaAa (Out Of Face)	70.50 - 35.50	1	No Ice	0.21	0.00
						1/2" Ice	0.32	0.00
						1" Ice	0.43	0.00
						2" Ice	0.65	0.00
						4" Ice	1.10	0.00
CCI-SFP-065125	A	No	CaAa (Out Of Face)	70.50 - 35.50	1	No Ice	0.21	0.00
						1/2" Ice	0.32	0.00
						1" Ice	0.43	0.00
						2" Ice	0.65	0.00
						4" Ice	1.10	0.00
CCI-SFP-065125	C	No	CaAa (Out Of Face)	70.50 - 35.50	1	No Ice	0.21	0.00
						1/2" Ice	0.32	0.00
						1" Ice	0.43	0.00
						2" Ice	0.65	0.00
						4" Ice	1.10	0.00
***								
CCI-SFP-065125	C	No	CaAa (Out Of Face)	35.50 - 0.00	1	No Ice	0.21	0.00
						1/2" Ice	0.32	0.00
						1" Ice	0.43	0.00
						2" Ice	0.65	0.00
						4" Ice	1.10	0.00
CCI-SFP-065125	B	No	CaAa (Out Of Face)	35.50 - 0.00	1	No Ice	0.21	0.00
						1/2" Ice	0.32	0.00
						1" Ice	0.43	0.00
						2" Ice	0.65	0.00
						4" Ice	1.10	0.00
CCI-SFP-065125	A	No	CaAa (Out Of Face)	35.50 - 0.00	1	No Ice	0.21	0.00
						1/2" Ice	0.32	0.00
						1" Ice	0.43	0.00
						2" Ice	0.65	0.00
						4" Ice	1.10	0.00
CCI-SFP-065125	C	No	CaAa (Out Of Face)	35.50 - 0.00	1	No Ice	0.21	0.00
						1/2" Ice	0.32	0.00
						1" Ice	0.43	0.00
						2" Ice	0.65	0.00
						4" Ice	1.10	0.00
***								
Safety Line 3/8	C	No	CaAa (Out Of Face)	149.00 - 0.00	1	No Ice	0.04	0.22
						1/2" Ice	0.14	0.75
						1" Ice	0.24	1.28
						2" Ice	0.44	2.34
						4" Ice	0.84	4.46
***								
LDF4-50A(1/2")	C	No	Inside Pole	149.00 - 0.00	3	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
						2" Ice	0.00	0.15
						4" Ice	0.00	0.15

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
LDF7-50A(1-5/8")	C	No	Inside Pole	149.00 - 0.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
						2" Ice	0.00	0.82
						4" Ice	0.00	0.82
***								
LDF7-50A(1-5/8")	C	No	Inside Pole	139.00 - 0.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
						2" Ice	0.00	0.82
						4" Ice	0.00	0.82
***								
LDF7-50A(1-5/8")	B	No	CaAa (Out Of Face)	129.00 - 0.00	5	No Ice	0.00	0.82
						1/2" Ice	0.00	2.33
						1" Ice	0.00	4.46
						2" Ice	0.00	10.54
						4" Ice	0.00	30.04
LDF7-50A(1-5/8")	B	No	CaAa (Out Of Face)	129.00 - 0.00	1	No Ice	0.20	0.82
						1/2" Ice	0.30	2.33
						1" Ice	0.40	4.46
						2" Ice	0.60	10.54
						4" Ice	1.00	30.04
LDF7-50A(1-5/8")	B	No	Inside Pole	129.00 - 0.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
						2" Ice	0.00	0.82
						4" Ice	0.00	0.82
***								
LDF7-50A(1-5/8")	C	No	Inside Pole	120.00 - 0.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
						2" Ice	0.00	0.82
						4" Ice	0.00	0.82
LDF7-50A(1-5/8")	C	No	CaAa (Out Of Face)	120.00 - 0.00	7	No Ice	0.00	0.82
						1/2" Ice	0.00	2.33
						1" Ice	0.00	4.46
						2" Ice	0.00	10.54
						4" Ice	0.00	30.04
LDF7-50A(1-5/8")	C	No	CaAa (Out Of Face)	120.00 - 0.00	1	No Ice	0.20	0.82
						1/2" Ice	0.30	2.33
						1" Ice	0.40	4.46
						2" Ice	0.60	10.54
						4" Ice	1.00	30.04
2" Rigid Conduit	C	No	Inside Pole	120.00 - 0.00	1	No Ice	0.00	2.80
						1/2" Ice	0.00	2.80
						1" Ice	0.00	2.80
						2" Ice	0.00	2.80
						4" Ice	0.00	2.80
***								
LDF4-50A(1/2")	A	No	Inside Pole	149.00 - 0.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
						2" Ice	0.00	0.15
						4" Ice	0.00	0.15
LDF4-50A(1/2")	A	No	Inside Pole	80.00 - 0.00	2	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
						2" Ice	0.00	0.15
						4" Ice	0.00	0.15
***								

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	149.00-144.00	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	0.188	0.03
L2	144.00-139.00	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	0.188	0.03
L3	139.00-134.00	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	0.188	0.05
L4	134.00-129.00	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	0.188	0.05
L5	129.00-124.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.990	0.05
		C	0.000	0.000	0.000	0.188	0.05
L6	124.00-119.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.990	0.05
		C	0.000	0.000	0.000	0.386	0.07
L7	119.00-111.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	1.485	0.07
		C	0.000	0.000	0.000	1.766	0.22
L8	111.50-110.25	A	0.000	0.000	0.000	0.042	0.00
		B	0.000	0.000	0.000	0.248	0.01
		C	0.000	0.000	0.000	0.294	0.04
L9	110.25-107.50	A	0.000	0.000	0.000	0.458	0.00
		B	0.000	0.000	0.000	0.961	0.03
		C	0.000	0.000	0.000	1.064	0.08
L10	107.50-107.25	A	0.000	0.000	0.000	0.042	0.00
		B	0.000	0.000	0.000	0.091	0.00
		C	0.000	0.000	0.000	0.101	0.01
L11	107.25-102.25	A	0.000	0.000	0.000	0.833	0.00
		B	0.000	0.000	0.000	1.823	0.05
		C	0.000	0.000	0.000	2.011	0.15
L12	102.25-97.25	A	0.000	0.000	0.000	0.833	0.00
		B	0.000	0.000	0.000	1.823	0.05
		C	0.000	0.000	0.000	2.011	0.15
L13	97.25-92.25	A	0.000	0.000	0.000	0.833	0.00
		B	0.000	0.000	0.000	1.823	0.05
		C	0.000	0.000	0.000	2.011	0.15
L14	92.25-90.50	A	0.000	0.000	0.000	0.292	0.00
		B	0.000	0.000	0.000	0.638	0.02
		C	0.000	0.000	0.000	0.704	0.05
L15	90.50-90.25	A	0.000	0.000	0.000	0.042	0.00
		B	0.000	0.000	0.000	0.133	0.00
		C	0.000	0.000	0.000	0.184	0.01
L16	90.25-88.00	A	0.000	0.000	0.000	0.375	0.00
		B	0.000	0.000	0.000	1.196	0.02
		C	0.000	0.000	0.000	1.655	0.07
L17	88.00-87.75	A	0.000	0.000	0.000	0.042	0.00
		B	0.000	0.000	0.000	0.133	0.00
		C	0.000	0.000	0.000	0.184	0.01
L18	87.75-87.50	A	0.000	0.000	0.000	0.042	0.00
		B	0.000	0.000	0.000	0.133	0.00
		C	0.000	0.000	0.000	0.184	0.01
L19	87.50-87.25	A	0.000	0.000	0.000	0.042	0.00

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
		B	0.000	0.000	0.000	0.133	0.00
		C	0.000	0.000	0.000	0.184	0.01
L20	87.25-82.25	A	0.000	0.000	0.000	0.833	0.00
		B	0.000	0.000	0.000	2.198	0.05
		C	0.000	0.000	0.000	3.219	0.15
L21	82.25-75.25	A	0.000	0.000	0.000	1.167	0.00
		B	0.000	0.000	0.000	2.553	0.07
		C	0.000	0.000	0.000	3.982	0.21
L22	75.25-74.75	A	0.000	0.000	0.000	0.083	0.00
		B	0.000	0.000	0.000	0.182	0.00
		C	0.000	0.000	0.000	0.284	0.01
L23	74.75-70.50	A	0.000	0.000	0.000	0.708	0.00
		B	0.000	0.000	0.000	1.550	0.04
		C	0.000	0.000	0.000	2.418	0.13
L24	70.50-70.25	A	0.000	0.000	0.000	0.052	0.00
		B	0.000	0.000	0.000	0.102	0.00
		C	0.000	0.000	0.000	0.163	0.01
L25	70.25-65.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05
		C	0.000	0.000	0.000	3.261	0.15
L26	65.25-60.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05
		C	0.000	0.000	0.000	3.261	0.15
L27	60.25-55.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05
		C	0.000	0.000	0.000	3.261	0.15
L28	55.25-50.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05
		C	0.000	0.000	0.000	3.261	0.15
L29	50.25-45.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05
		C	0.000	0.000	0.000	3.261	0.15
L30	45.25-39.75	A	0.000	0.000	0.000	1.146	0.00
		B	0.000	0.000	0.000	2.235	0.05
		C	0.000	0.000	0.000	3.587	0.16
L31	39.75-38.75	A	0.000	0.000	0.000	0.208	0.00
		B	0.000	0.000	0.000	0.406	0.01
		C	0.000	0.000	0.000	0.652	0.03
L32	38.75-35.50	A	0.000	0.000	0.000	0.677	0.00
		B	0.000	0.000	0.000	1.321	0.03
		C	0.000	0.000	0.000	2.120	0.10
L33	35.50-35.25	A	0.000	0.000	0.000	0.052	0.00
		B	0.000	0.000	0.000	0.102	0.00
		C	0.000	0.000	0.000	0.163	0.01
L34	35.25-30.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05
		C	0.000	0.000	0.000	3.261	0.15
L35	30.25-25.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05
		C	0.000	0.000	0.000	3.261	0.15
L36	25.25-20.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05
		C	0.000	0.000	0.000	3.261	0.15
L37	20.25-15.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05
		C	0.000	0.000	0.000	3.261	0.15
L38	15.25-10.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05
		C	0.000	0.000	0.000	3.261	0.15
L39	10.25-5.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05

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
		C	0.000	0.000	0.000	3.261	0.15
L40	5.25-0.25	A	0.000	0.000	0.000	1.042	0.00
		B	0.000	0.000	0.000	2.032	0.05
		C	0.000	0.000	0.000	3.261	0.15
L41	0.25-0.00	A	0.000	0.000	0.000	0.052	0.00
		B	0.000	0.000	0.000	0.102	0.00
		C	0.000	0.000	0.000	0.163	0.01

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	149.00-144.00	A	0.897	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	1.084	0.03
L2	144.00-139.00	A	0.893	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	1.081	0.03
L3	139.00-134.00	A	0.889	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	1.077	0.06
L4	134.00-129.00	A	0.885	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	1.073	0.06
L5	129.00-124.00	A	0.881	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	1.871	0.14
		C		0.000	0.000	0.000	1.069	0.06
L6	124.00-119.00	A	0.877	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	1.867	0.14
		C		0.000	0.000	0.000	1.438	0.10
L7	119.00-111.50	A	0.871	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	2.792	0.21
		C		0.000	0.000	0.000	4.381	0.42
L8	111.50-110.25	A	0.867	0.000	0.000	0.000	0.090	0.00
		B		0.000	0.000	0.000	0.465	0.04
		C		0.000	0.000	0.000	0.730	0.07
L9	110.25-107.50	A	0.866	0.000	0.000	0.000	0.987	0.00
		B		0.000	0.000	0.000	1.918	0.08
		C		0.000	0.000	0.000	2.497	0.15
L10	107.50-107.25	A	0.864	0.000	0.000	0.000	0.090	0.00
		B		0.000	0.000	0.000	0.182	0.01
		C		0.000	0.000	0.000	0.235	0.01
L11	107.25-102.25	A	0.861	0.000	0.000	0.000	1.791	0.00
		B		0.000	0.000	0.000	3.642	0.14
		C		0.000	0.000	0.000	4.691	0.28
L12	102.25-97.25	A	0.856	0.000	0.000	0.000	1.785	0.00
		B		0.000	0.000	0.000	3.631	0.14
		C		0.000	0.000	0.000	4.675	0.27
L13	97.25-92.25	A	0.851	0.000	0.000	0.000	1.779	0.00
		B		0.000	0.000	0.000	3.620	0.14
		C		0.000	0.000	0.000	4.659	0.27
L14	92.25-90.50	A	0.847	0.000	0.000	0.000	0.621	0.00
		B		0.000	0.000	0.000	1.264	0.05
		C		0.000	0.000	0.000	1.627	0.10
L15	90.50-90.25	A	0.846	0.000	0.000	0.000	0.089	0.00
		B		0.000	0.000	0.000	0.269	0.01
		C		0.000	0.000	0.000	0.410	0.01

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
L16	90.25-88.00	A	0.845	0.000	0.000	0.000	0.797	0.00
		B		0.000	0.000	0.000	2.421	0.06
		C		0.000	0.000	0.000	3.683	0.12
L17	88.00-87.75	A	0.844	0.000	0.000	0.000	0.089	0.00
		B		0.000	0.000	0.000	0.269	0.01
		C		0.000	0.000	0.000	0.409	0.01
L18	87.75-87.50	A	0.843	0.000	0.000	0.000	0.089	0.00
		B		0.000	0.000	0.000	0.269	0.01
		C		0.000	0.000	0.000	0.409	0.01
L19	87.50-87.25	A	0.843	0.000	0.000	0.000	0.088	0.00
		B		0.000	0.000	0.000	0.269	0.01
		C		0.000	0.000	0.000	0.409	0.01
L20	87.25-82.25	A	0.840	0.000	0.000	0.000	1.766	0.00
		B		0.000	0.000	0.000	4.391	0.14
		C		0.000	0.000	0.000	7.185	0.27
L21	82.25-75.25	A	0.832	0.000	0.000	0.000	2.462	0.00
		B		0.000	0.000	0.000	5.013	0.19
		C		0.000	0.000	0.000	8.903	0.38
L22	75.25-74.75	A	0.828	0.000	0.000	0.000	0.176	0.00
		B		0.000	0.000	0.000	0.358	0.01
		C		0.000	0.000	0.000	0.636	0.03
L23	74.75-70.50	A	0.824	0.000	0.000	0.000	1.487	0.00
		B		0.000	0.000	0.000	3.029	0.12
		C		0.000	0.000	0.000	5.376	0.23
L24	70.50-70.25	A	0.821	0.000	0.000	0.000	0.098	0.00
		B		0.000	0.000	0.000	0.188	0.01
		C		0.000	0.000	0.000	0.336	0.01
L25	70.25-65.25	A	0.818	0.000	0.000	0.000	1.950	0.00
		B		0.000	0.000	0.000	3.758	0.14
		C		0.000	0.000	0.000	6.713	0.27
L26	65.25-60.25	A	0.810	0.000	0.000	0.000	1.942	0.00
		B		0.000	0.000	0.000	3.742	0.13
		C		0.000	0.000	0.000	6.681	0.27
L27	60.25-55.25	A	0.802	0.000	0.000	0.000	1.933	0.00
		B		0.000	0.000	0.000	3.725	0.13
		C		0.000	0.000	0.000	6.647	0.26
L28	55.25-50.25	A	0.793	0.000	0.000	0.000	1.923	0.00
		B		0.000	0.000	0.000	3.707	0.13
		C		0.000	0.000	0.000	6.611	0.26
L29	50.25-45.25	A	0.784	0.000	0.000	0.000	1.913	0.00
		B		0.000	0.000	0.000	3.687	0.13
		C		0.000	0.000	0.000	6.571	0.26
L30	45.25-39.75	A	0.773	0.000	0.000	0.000	2.091	0.00
		B		0.000	0.000	0.000	4.030	0.14
		C		0.000	0.000	0.000	7.177	0.29
L31	39.75-38.75	A	0.766	0.000	0.000	0.000	0.380	0.00
		B		0.000	0.000	0.000	0.733	0.03
		C		0.000	0.000	0.000	1.305	0.05
L32	38.75-35.50	A	0.761	0.000	0.000	0.000	1.226	0.00
		B		0.000	0.000	0.000	2.364	0.08
		C		0.000	0.000	0.000	4.207	0.17
L33	35.50-35.25	A	0.756	0.000	0.000	0.000	0.094	0.00
		B		0.000	0.000	0.000	0.181	0.01
		C		0.000	0.000	0.000	0.323	0.01
L34	35.25-30.25	A	0.750	0.000	0.000	0.000	1.875	0.00
		B		0.000	0.000	0.000	3.615	0.13
		C		0.000	0.000	0.000	6.427	0.26
L35	30.25-25.25	A	0.750	0.000	0.000	0.000	1.875	0.00
		B		0.000	0.000	0.000	3.615	0.13
		C		0.000	0.000	0.000	6.427	0.26
L36	25.25-20.25	A	0.750	0.000	0.000	0.000	1.875	0.00

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
		B		0.000	0.000	0.000	3.615	0.13
		C		0.000	0.000	0.000	6.427	0.26
L37	20.25-15.25	A	0.750	0.000	0.000	0.000	1.875	0.00
		B		0.000	0.000	0.000	3.615	0.13
		C		0.000	0.000	0.000	6.427	0.26
L38	15.25-10.25	A	0.750	0.000	0.000	0.000	1.875	0.00
		B		0.000	0.000	0.000	3.615	0.13
		C		0.000	0.000	0.000	6.427	0.26
L39	10.25-5.25	A	0.750	0.000	0.000	0.000	1.875	0.00
		B		0.000	0.000	0.000	3.615	0.13
		C		0.000	0.000	0.000	6.427	0.26
L40	5.25-0.25	A	0.750	0.000	0.000	0.000	1.875	0.00
		B		0.000	0.000	0.000	3.615	0.13
		C		0.000	0.000	0.000	6.427	0.26
L41	0.25-0.00	A	0.750	0.000	0.000	0.000	0.094	0.00
		B		0.000	0.000	0.000	0.181	0.01
		C		0.000	0.000	0.000	0.321	0.01

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	149.00-144.00	-0.0478	0.0276	-0.2372	0.1370
L2	144.00-139.00	-0.0478	0.0276	-0.2379	0.1373
L3	139.00-134.00	-0.0479	0.0276	-0.2384	0.1377
L4	134.00-129.00	-0.0479	0.0276	-0.2389	0.1379
L5	129.00-124.00	0.1887	0.1598	0.1570	0.3321
L6	124.00-119.00	0.1398	0.1847	0.0817	0.3680
L7	119.00-111.50	-0.0413	0.2754	-0.1886	0.4918
L8	111.50-110.25	-0.0409	0.2307	-0.1856	0.4108
L9	110.25-107.50	-0.0356	0.2214	-0.1474	0.3589
L10	107.50-107.25	-0.0354	0.2364	-0.1458	0.3810
L11	107.25-102.25	-0.0356	0.2373	-0.1466	0.3834
L12	102.25-97.25	-0.0358	0.2391	-0.1480	0.3877
L13	97.25-92.25	-0.0361	0.2408	-0.1493	0.3918
L14	92.25-90.50	-0.0363	0.2420	-0.1501	0.3945
L15	90.50-90.25	-0.1739	0.4591	-0.3352	0.6913
L16	90.25-88.00	-0.1743	0.4601	-0.3362	0.6935
L17	88.00-87.75	-0.1747	0.4612	-0.3372	0.6956
L18	87.75-87.50	-0.1748	0.4614	-0.3374	0.6961
L19	87.50-87.25	-0.1749	0.4616	-0.3376	0.6965
L20	87.25-82.25	-0.1836	0.3889	-0.3631	0.6027
L21	82.25-75.25	-0.1922	0.3263	-0.3891	0.5194
L22	75.25-74.75	-0.1926	0.3268	-0.3902	0.5208
L23	74.75-70.50	-0.1932	0.3279	-0.3908	0.5222
L24	70.50-70.25	-0.2241	0.3379	-0.4093	0.5253
L25	70.25-65.25	-0.2250	0.3391	-0.4111	0.5277
L26	65.25-60.25	-0.2265	0.3415	-0.4143	0.5321
L27	60.25-55.25	-0.2280	0.3438	-0.4172	0.5363
L28	55.25-50.25	-0.2295	0.3460	-0.4198	0.5401
L29	50.25-45.25	-0.2309	0.3481	-0.4221	0.5435
L30	45.25-39.75	-0.2324	0.3503	-0.4242	0.5467
L31	39.75-38.75	-0.2324	0.3503	-0.4242	0.5467
L32	38.75-35.50	-0.2329	0.3511	-0.4234	0.5463
L33	35.50-35.25	-0.2334	0.3518	-0.4238	0.5471
L34	35.25-30.25	-0.2341	0.3528	-0.4245	0.5484

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L35	30.25-25.25	-0.2354	0.3548	-0.4282	0.5531
L36	25.25-20.25	-0.2366	0.3566	-0.4317	0.5577
L37	20.25-15.25	-0.2378	0.3585	-0.4352	0.5621
L38	15.25-10.25	-0.2390	0.3602	-0.4386	0.5665
L39	10.25-5.25	-0.2401	0.3619	-0.4419	0.5708
L40	5.25-0.25	-0.2412	0.3636	-0.4451	0.5750
L41	0.25-0.00	-0.2418	0.3644	-0.4468	0.5772

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral / Vert	Azimuth Adjustment	Placement		C_AA_A Front	C_AA_A Side	Weight
			ft / ft / ft	°	ft		ft^2	ft^2	K
***									
FO150-3	C	From Leg	2.00 0.00 1.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.09 1.35 1.62 2.20 3.61	1.09 1.35 1.62 2.20 3.61	0.00 0.01 0.02 0.06 0.17
SBNH-1D6565C w/ Mount Pipe	A	From Leg	2.00 0.00 1.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.68 12.40 13.14 14.60 17.87	9.84 11.37 12.91 15.27 20.14	0.10 0.19 0.29 0.52 1.17
SBNH-1D6565C w/ Mount Pipe	B	From Leg	2.00 0.00 1.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.68 12.40 13.14 14.60 17.87	9.84 11.37 12.91 15.27 20.14	0.10 0.19 0.29 0.52 1.17
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	2.00 0.00 1.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.50 9.15 9.77 11.03 13.68	6.30 7.48 8.37 10.18 14.02	0.07 0.14 0.21 0.38 0.87
7770.00 w/ Mount Pipe	A	From Leg	2.00 0.00 1.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.12 6.63 7.13 8.16 10.36	4.25 5.01 5.71 7.16 10.41	0.06 0.10 0.16 0.29 0.66
7770.00 w/ Mount Pipe	B	From Leg	2.00 0.00 1.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.12 6.63 7.13 8.16 10.36	4.25 5.01 5.71 7.16 10.41	0.06 0.10 0.16 0.29 0.66
7770.00 w/ Mount Pipe	C	From Leg	2.00 0.00 1.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.12 6.63 7.13 8.16 10.36	4.25 5.01 5.71 7.16 10.41	0.06 0.10 0.16 0.29 0.66
(2) LGP21401	A	From Leg	2.00 0.00 1.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	1.29 1.45 1.61	0.36 0.48 0.60	0.01 0.02 0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	1.97	0.87	0.05
						4" Ice	2.79	1.52	0.14
(2) LGP21401	B	From Leg	2.00	0.0000	149.00	No Ice	1.29	0.36	0.01
			0.00			1/2" Ice	1.45	0.48	0.02
			1.00			1" Ice	1.61	0.60	0.03
						2" Ice	1.97	0.87	0.05
						4" Ice	2.79	1.52	0.14
(2) LGP21401	C	From Leg	2.00	0.0000	149.00	No Ice	1.29	0.36	0.01
			0.00			1/2" Ice	1.45	0.48	0.02
			1.00			1" Ice	1.61	0.60	0.03
						2" Ice	1.97	0.87	0.05
						4" Ice	2.79	1.52	0.14
RRUS-11	A	From Leg	2.00	0.0000	149.00	No Ice	2.94	1.25	0.06
			0.00			1/2" Ice	3.17	1.41	0.07
			1.00			1" Ice	3.41	1.59	0.10
						2" Ice	3.91	1.96	0.15
						4" Ice	5.02	2.82	0.30
RRUS-11	B	From Leg	2.00	0.0000	149.00	No Ice	2.94	1.25	0.06
			0.00			1/2" Ice	3.17	1.41	0.07
			1.00			1" Ice	3.41	1.59	0.10
						2" Ice	3.91	1.96	0.15
						4" Ice	5.02	2.82	0.30
RRUS-11	C	From Leg	2.00	0.0000	149.00	No Ice	2.94	1.25	0.06
			0.00			1/2" Ice	3.17	1.41	0.07
			1.00			1" Ice	3.41	1.59	0.10
						2" Ice	3.91	1.96	0.15
						4" Ice	5.02	2.82	0.30
RRUS-11	A	From Leg	2.00	0.0000	149.00	No Ice	2.94	1.25	0.06
			0.00			1/2" Ice	3.17	1.41	0.07
			1.00			1" Ice	3.41	1.59	0.10
						2" Ice	3.91	1.96	0.15
						4" Ice	5.02	2.82	0.30
RRUS-11	B	From Leg	2.00	0.0000	149.00	No Ice	2.94	1.25	0.06
			0.00			1/2" Ice	3.17	1.41	0.07
			1.00			1" Ice	3.41	1.59	0.10
						2" Ice	3.91	1.96	0.15
						4" Ice	5.02	2.82	0.30
RRUS-11	C	From Leg	2.00	0.0000	149.00	No Ice	2.94	1.25	0.06
			0.00			1/2" Ice	3.17	1.41	0.07
			1.00			1" Ice	3.41	1.59	0.10
						2" Ice	3.91	1.96	0.15
						4" Ice	5.02	2.82	0.30
DC6-48-60-18-8F	A	From Leg	2.00	0.0000	149.00	No Ice	2.57	4.32	0.03
			0.00			1/2" Ice	2.80	4.60	0.06
			1.00			1" Ice	3.04	4.88	0.10
						2" Ice	3.54	5.49	0.18
						4" Ice	4.66	6.80	0.40
Side Arm Mount [SO 103-3]	C	None		0.0000	149.00	No Ice	9.50	9.50	0.22
						1/2" Ice	11.80	11.80	0.32
						1" Ice	14.10	14.10	0.41
						2" Ice	18.70	18.70	0.60
						4" Ice	27.90	27.90	0.97
***									
4' x 2" Pipe Mount	A	From Leg	1.00	0.0000	147.00	No Ice	0.79	0.79	0.03
			0.00			1/2" Ice	1.03	1.03	0.04
			0.00			1" Ice	1.28	1.28	0.04
						2" Ice	1.81	1.81	0.07

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
						4" Ice	3.11	3.11	0.17
4' x 2" Pipe Mount	B	From Leg	1.00 0.00 0.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.79 1.03 1.28 1.81 3.11	0.79 1.03 1.28 1.81 3.11	0.03 0.04 0.04 0.07 0.17
4' x 2" Pipe Mount	C	From Leg	1.00 0.00 0.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.79 1.03 1.28 1.81 3.11	0.79 1.03 1.28 1.81 3.11	0.03 0.04 0.04 0.07 0.17
Side Arm Mount [SO 102-3]	C	None		0.0000	147.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.00 3.48 3.96 4.92 6.84	3.00 3.48 3.96 4.92 6.84	0.08 0.11 0.14 0.20 0.32
***									
7770.00 w/ Mount Pipe	A	From Leg	2.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.12 6.63 7.13 8.16 10.36	4.25 5.01 5.71 7.16 10.41	0.06 0.10 0.16 0.29 0.66
7770.00 w/ Mount Pipe	B	From Leg	2.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.12 6.63 7.13 8.16 10.36	4.25 5.01 5.71 7.16 10.41	0.06 0.10 0.16 0.29 0.66
7770.00 w/ Mount Pipe	C	From Leg	2.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.12 6.63 7.13 8.16 10.36	4.25 5.01 5.71 7.16 10.41	0.06 0.10 0.16 0.29 0.66
(2) TMA DD 1900 with 850 BYPASS	A	From Leg	2.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.36 0.48 0.60 0.87 1.52	0.17 0.24 0.32 0.49 0.95	0.02 0.02 0.03 0.05 0.12
(2) TMA DD 1900 with 850 BYPASS	B	From Leg	2.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.36 0.48 0.60 0.87 1.52	0.17 0.24 0.32 0.49 0.95	0.02 0.02 0.03 0.05 0.12
(2) TMA DD 1900 with 850 BYPASS	C	From Leg	2.00 0.00 1.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.36 0.48 0.60 0.87 1.52	0.17 0.24 0.32 0.49 0.95	0.02 0.02 0.03 0.05 0.12
4' x 2" Pipe Mount	A	From Leg	2.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.79 1.03 1.28 1.81 3.11	0.79 1.03 1.28 1.81 3.11	0.03 0.04 0.04 0.07 0.17
4' x 2" Pipe Mount	B	From Leg	2.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.79 1.03 1.28 1.81 3.11	0.79 1.03 1.28 1.81 3.11	0.03 0.04 0.04 0.07 0.17

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
4' x 2" Pipe Mount	C	From Leg	2.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.79 1.03 1.28 1.81 3.11	0.79 1.03 1.28 1.81 3.11	0.03 0.04 0.04 0.07 0.17
Side Arm Mount [SO 104-3]	C	None		0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.30 4.13 4.96 6.62 9.94	3.30 4.13 4.96 6.62 9.94	0.29 0.32 0.35 0.41 0.53
***									
APXV18-209014-C w/ Mount Pipe	A	From Leg	2.00 0.00 3.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.72 4.13 4.56 5.51 7.55	3.31 4.02 4.68 6.07 9.05	0.04 0.07 0.11 0.21 0.52
APXV18-209014-C w/ Mount Pipe	B	From Leg	2.00 0.00 3.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.72 4.13 4.56 5.51 7.55	3.31 4.02 4.68 6.07 9.05	0.04 0.07 0.11 0.21 0.52
APXV18-209014-C w/ Mount Pipe	C	From Leg	2.00 0.00 3.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.72 4.13 4.56 5.51 7.55	3.31 4.02 4.68 6.07 9.05	0.04 0.07 0.11 0.21 0.52
LGP 13901	A	From Leg	2.00 0.00 3.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.59 0.69 0.81 1.06 1.68	0.28 0.36 0.46 0.67 1.19	0.01 0.01 0.02 0.04 0.09
LGP 13901	B	From Leg	2.00 0.00 3.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.59 0.69 0.81 1.06 1.68	0.28 0.36 0.46 0.67 1.19	0.01 0.01 0.02 0.04 0.09
LGP 13901	C	From Leg	2.00 0.00 3.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.59 0.69 0.81 1.06 1.68	0.28 0.36 0.46 0.67 1.19	0.01 0.01 0.02 0.04 0.09
LNX-6515DS-VTM w/ Mount Pipe	A	From Leg	2.00 0.00 3.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.68 12.40 13.14 14.60 17.87	9.84 11.37 12.91 15.27 20.14	0.08 0.17 0.27 0.51 1.15
LNX-6515DS-VTM w/ Mount Pipe	B	From Leg	2.00 0.00 3.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.68 12.40 13.14 14.60 17.87	9.84 11.37 12.91 15.27 20.14	0.08 0.17 0.27 0.51 1.15
LNX-6515DS-VTM w/ Mount Pipe	C	From Leg	2.00 0.00 3.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.68 12.40 13.14 14.60 17.87	9.84 11.37 12.91 15.27 20.14	0.08 0.17 0.27 0.51 1.15
782 11066	A	From Leg	2.00	0.0000	129.00	No Ice	0.17	0.10	0.00

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
			0.00			1/2" Ice	0.23	0.15	0.00
			3.00			1" Ice	0.30	0.21	0.01
						2" Ice	0.47	0.35	0.01
						4" Ice	0.90	0.75	0.05
782 11066	B	From Leg	2.00	0.0000	129.00	No Ice	0.17	0.10	0.00
			0.00			1/2" Ice	0.23	0.15	0.00
			3.00			1" Ice	0.30	0.21	0.01
						2" Ice	0.47	0.35	0.01
						4" Ice	0.90	0.75	0.05
782 11066	C	From Leg	2.00	0.0000	129.00	No Ice	0.17	0.10	0.00
			0.00			1/2" Ice	0.23	0.15	0.00
			3.00			1" Ice	0.30	0.21	0.01
						2" Ice	0.47	0.35	0.01
						4" Ice	0.90	0.75	0.05
Side Arm Mount [SO 104-3]	C	None		0.0000	129.00	No Ice	3.30	3.30	0.29
						1/2" Ice	4.13	4.13	0.32
						1" Ice	4.96	4.96	0.35
						2" Ice	6.62	6.62	0.41
						4" Ice	9.94	9.94	0.53
*									
BXA-80080/6CF w/ Mount Pipe	A	From Leg	3.00	0.0000	120.00	No Ice	8.08	5.49	0.05
			0.00			1/2" Ice	8.73	6.65	0.11
			0.00			1" Ice	9.34	7.54	0.17
						2" Ice	10.60	9.33	0.34
						4" Ice	13.23	13.12	0.80
BXA-80080/6CF w/ Mount Pipe	B	From Leg	3.00	0.0000	120.00	No Ice	8.08	5.49	0.05
			0.00			1/2" Ice	8.73	6.65	0.11
			0.00			1" Ice	9.34	7.54	0.17
						2" Ice	10.60	9.33	0.34
						4" Ice	13.23	13.12	0.80
BXA-80080/6CF w/ Mount Pipe	C	From Leg	3.00	0.0000	120.00	No Ice	8.08	5.49	0.05
			0.00			1/2" Ice	8.73	6.65	0.11
			0.00			1" Ice	9.34	7.54	0.17
						2" Ice	10.60	9.33	0.34
						4" Ice	13.23	13.12	0.80
HBXX-6517DS-A2M w/ Mount Pipe	A	From Leg	3.00	0.0000	120.00	No Ice	8.98	6.96	0.07
			0.00			1/2" Ice	9.65	8.18	0.14
			0.00			1" Ice	10.29	9.14	0.21
						2" Ice	11.59	11.02	0.40
						4" Ice	14.32	15.03	0.91
HBXX-6517DS-A2M w/ Mount Pipe	B	From Leg	3.00	0.0000	120.00	No Ice	8.98	6.96	0.07
			0.00			1/2" Ice	9.65	8.18	0.14
			0.00			1" Ice	10.29	9.14	0.21
						2" Ice	11.59	11.02	0.40
						4" Ice	14.32	15.03	0.91
HBXX-6517DS-A2M w/ Mount Pipe	C	From Leg	3.00	0.0000	120.00	No Ice	8.98	6.96	0.07
			0.00			1/2" Ice	9.65	8.18	0.14
			0.00			1" Ice	10.29	9.14	0.21
						2" Ice	11.59	11.02	0.40
						4" Ice	14.32	15.03	0.91
SBNHH-1D65B w/ Mount Pipe	A	From Leg	3.00	0.0000	120.00	No Ice	8.86	7.30	0.07
			0.00			1/2" Ice	9.62	8.58	0.14
			0.00			1" Ice	10.34	9.72	0.22
						2" Ice	11.73	11.66	0.41
						4" Ice	14.64	15.92	0.94
SBNHH-1D65B w/ Mount Pipe	B	From Leg	3.00	0.0000	120.00	No Ice	8.86	7.30	0.07
			0.00			1/2" Ice	9.62	8.58	0.14

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	10.34	9.72	0.22
						2" Ice	11.73	11.66	0.41
						4" Ice	14.64	15.92	0.94
SBNHH-1D65B w/ Mount Pipe	C	From Leg	3.00	0.0000	120.00	No Ice	8.86	7.30	0.07
			0.00			1/2" Ice	9.62	8.58	0.14
			0.00			1" Ice	10.34	9.72	0.22
						2" Ice	11.73	11.66	0.41
						4" Ice	14.64	15.92	0.94
RRH2X60-AWS	A	From Leg	3.00	0.0000	120.00	No Ice	3.96	1.82	0.06
			0.00			1/2" Ice	4.27	2.08	0.08
			0.00			1" Ice	4.60	2.36	0.11
						2" Ice	5.27	2.96	0.17
						4" Ice	6.72	4.25	0.35
RRH2X60-AWS	B	From Leg	3.00	0.0000	120.00	No Ice	3.96	1.82	0.06
			0.00			1/2" Ice	4.27	2.08	0.08
			0.00			1" Ice	4.60	2.36	0.11
						2" Ice	5.27	2.96	0.17
						4" Ice	6.72	4.25	0.35
RRH2X60-AWS	C	From Leg	3.00	0.0000	120.00	No Ice	3.96	1.82	0.06
			0.00			1/2" Ice	4.27	2.08	0.08
			0.00			1" Ice	4.60	2.36	0.11
						2" Ice	5.27	2.96	0.17
						4" Ice	6.72	4.25	0.35
RRH2X60-PCS	A	From Leg	3.00	0.0000	120.00	No Ice	2.57	1.93	0.05
			0.00			1/2" Ice	2.79	2.13	0.07
			0.00			1" Ice	3.02	2.34	0.09
						2" Ice	3.52	2.80	0.14
						4" Ice	4.61	3.81	0.30
RRH2X60-PCS	B	From Leg	3.00	0.0000	120.00	No Ice	2.57	1.93	0.05
			0.00			1/2" Ice	2.79	2.13	0.07
			0.00			1" Ice	3.02	2.34	0.09
						2" Ice	3.52	2.80	0.14
						4" Ice	4.61	3.81	0.30
RRH2X60-PCS	C	From Leg	3.00	0.0000	120.00	No Ice	2.57	1.93	0.05
			0.00			1/2" Ice	2.79	2.13	0.07
			0.00			1" Ice	3.02	2.34	0.09
						2" Ice	3.52	2.80	0.14
						4" Ice	4.61	3.81	0.30
DB-T1-6Z-8AB-0Z	A	From Leg	3.00	0.0000	120.00	No Ice	5.60	2.33	0.04
			0.00			1/2" Ice	5.92	2.56	0.08
			0.00			1" Ice	6.24	2.79	0.12
						2" Ice	6.91	3.28	0.21
						4" Ice	8.37	4.37	0.45
DB-T1-6Z-8AB-0Z	B	From Leg	3.00	0.0000	120.00	No Ice	5.60	2.33	0.04
			0.00			1/2" Ice	5.92	2.56	0.08
			0.00			1" Ice	6.24	2.79	0.12
						2" Ice	6.91	3.28	0.21
						4" Ice	8.37	4.37	0.45
(2) 4' x 2" Pipe Mount	A	From Leg	3.00	0.0000	120.00	No Ice	0.79	0.79	0.03
			0.00			1/2" Ice	1.03	1.03	0.04
			0.00			1" Ice	1.28	1.28	0.04
						2" Ice	1.81	1.81	0.07
						4" Ice	3.11	3.11	0.17
(2) 4' x 2" Pipe Mount	B	From Leg	3.00	0.0000	120.00	No Ice	0.79	0.79	0.03
			0.00			1/2" Ice	1.03	1.03	0.04
			0.00			1" Ice	1.28	1.28	0.04
						2" Ice	1.81	1.81	0.07

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
						4" Ice	3.11	3.11	0.17
(2) 4' x 2" Pipe Mount	C	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.79 1.03 1.28 1.81 3.11	0.79 1.03 1.28 1.81 3.11	0.03 0.04 0.04 0.07 0.17
(2) 6' x 2" Horizontal Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.80 1.22 1.64 2.53 4.44	0.80 1.22 1.64 2.53 4.44	0.03 0.17 0.32 0.65 1.39
(2) 6' x 2" Horizontal Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.80 1.22 1.64 2.53 4.44	0.80 1.22 1.64 2.53 4.44	0.03 0.17 0.32 0.65 1.39
(2) 6' x 2" Horizontal Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.80 1.22 1.64 2.53 4.44	0.80 1.22 1.64 2.53 4.44	0.03 0.17 0.32 0.65 1.39
Side Arm Mount [SO 104-3]	C	None		0.0000	120.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.30 4.13 4.96 6.62 9.94	3.30 4.13 4.96 6.62 9.94	0.29 0.32 0.35 0.41 0.53
***									
FO150-3	A	From Leg	1.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.09 1.35 1.62 2.20 3.61	1.09 1.35 1.62 2.20 3.61	0.00 0.01 0.02 0.06 0.17
6' x 2" Mount Pipe	A	From Leg	0.50 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.43 1.92 2.29 3.06 4.70	1.43 1.92 2.29 3.06 4.70	0.02 0.03 0.05 0.09 0.23
Pipe Mount [PM 601-1]	A	From Leg	0.50 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.00 3.74 4.48 5.96 8.92	0.90 1.12 1.34 1.78 2.66	0.07 0.08 0.09 0.12 0.18
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Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft^2	Weight K

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
MPRD2449	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	0.0000		80.00	2.17	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.69 3.98 4.27 4.84 6.00	0.04 0.06 0.08 0.12 0.20

Tower Pressures - No Ice

G_H = 1.690

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg % %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 149.00-144.00	146.48	1.531	28	9.764	A B C	0.000 0.000 0.000	9.764 9.764 9.764	9.764	100.00 100.00 100.00	0.000 0.000 0.000	0.000 0.000 0.188
L2 144.00-139.00	141.49	1.516	28	10.124	A B C	0.000 0.000 0.000	10.124 10.124 10.124	10.124	100.00 100.00 100.00	0.000 0.000 0.000	0.000 0.000 0.188
L3 139.00-134.00	136.49	1.5	28	10.484	A B C	0.000 0.000 0.000	10.484 10.484 10.484	10.484	100.00 100.00 100.00	0.000 0.000 0.000	0.000 0.000 0.188
L4 134.00-129.00	131.49	1.484	27	10.845	A B C	0.000 0.000 0.000	10.845 10.845 10.845	10.845	100.00 100.00 100.00	0.000 0.000 0.000	0.000 0.000 0.188
L5 129.00-124.00	126.49	1.468	27	11.205	A B C	0.000 0.000 0.000	11.205 11.205 11.205	11.205	100.00 100.00 100.00	0.000 0.000 0.000	0.000 0.990 0.188
L6 124.00-119.00	121.49	1.451	27	11.565	A B C	0.000 0.000 0.000	11.565 11.565 11.565	11.565	100.00 100.00 100.00	0.000 0.000 0.000	0.000 0.990 0.386
L7 119.00-111.50	115.22	1.429	26	18.024	A B C	0.000 0.000 0.000	18.024 18.024 18.024	18.024	100.00 100.00 100.00	0.000 0.000 0.000	0.000 1.485 1.766
L8 111.50-110.25	110.87	1.414	26	3.044	A B C	0.000 0.000 0.000	3.044 3.044 3.044	3.044	100.00 100.00 100.00	0.000 0.000 0.000	0.042 0.248 0.294
L9 110.25-107.50	108.87	1.406	26	6.776	A B C	0.000 0.000 0.000	6.776 6.776 6.776	6.776	100.00 100.00 100.00	0.000 0.000 0.000	0.458 0.961 1.064
L10 107.50-107.25	107.37	1.401	26	0.621	A B C	0.000 0.000 0.000	0.621 0.621 0.621	0.621	100.00 100.00 100.00	0.000 0.000 0.000	0.042 0.091 0.101
L11 107.25-102.25	104.74	1.391	26	12.617	A B C	0.000 0.000 0.000	12.617 12.617 12.617	12.617	100.00 100.00 100.00	0.000 0.000 0.000	0.833 1.823 2.011
L12 102.25-97.25	99.74	1.372	25	12.977	A B C	0.000 0.000 0.000	12.977 12.977 12.977	12.977	100.00 100.00 100.00	0.000 0.000 0.000	0.833 1.823 2.011
L13 97.25-92.25	94.74	1.352	25	13.337	A B C	0.000 0.000 0.000	13.337 13.337 13.337	13.337	100.00 100.00 100.00	0.000 0.000 0.000	0.833 1.823 2.011
L14 92.25-90.50	91.37	1.338	25	4.753	A B	0.000 0.000	4.753 4.753	4.753	100.00 100.00	0.000 0.000	0.292 0.638

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
					C	0.000	4.753		100.00	0.000	0.704
L15	90.37	1.334	25	0.683	A	0.000	0.683	0.683	100.00	0.000	0.042
90.50-90.25					B	0.000	0.683		100.00	0.000	0.133
					C	0.000	0.683		100.00	0.000	0.184
L16	89.12	1.328	25	6.184	A	0.000	6.184	6.184	100.00	0.000	0.375
90.25-88.00					B	0.000	6.184		100.00	0.000	1.196
					C	0.000	6.184		100.00	0.000	1.655
L17	87.87	1.323	24	0.692	A	0.000	0.692	0.692	100.00	0.000	0.042
88.00-87.75					B	0.000	0.692		100.00	0.000	0.133
					C	0.000	0.692		100.00	0.000	0.184
L18	87.62	1.322	24	0.693	A	0.000	0.693	0.693	100.00	0.000	0.042
87.75-87.50					B	0.000	0.693		100.00	0.000	0.133
					C	0.000	0.693		100.00	0.000	0.184
L19	87.37	1.321	24	0.693	A	0.000	0.693	0.693	100.00	0.000	0.042
87.50-87.25					B	0.000	0.693		100.00	0.000	0.133
					C	0.000	0.693		100.00	0.000	0.184
L20	84.74	1.309	24	14.058	A	0.000	14.058	14.058	100.00	0.000	0.833
87.25-82.25					B	0.000	14.058		100.00	0.000	2.198
					C	0.000	14.058		100.00	0.000	3.219
L21	78.73	1.282	24	20.287	A	0.000	20.287	20.287	100.00	0.000	1.167
82.25-75.25					B	0.000	20.287		100.00	0.000	2.553
					C	0.000	20.287		100.00	0.000	3.982
L22	75.00	1.264	23	1.458	A	0.000	1.458	1.458	100.00	0.000	0.083
75.25-74.75					B	0.000	1.458		100.00	0.000	0.182
					C	0.000	1.458		100.00	0.000	0.284
L23	72.62	1.253	23	12.537	A	0.000	12.537	12.537	100.00	0.000	0.708
74.75-70.50					B	0.000	12.537		100.00	0.000	1.550
					C	0.000	12.537		100.00	0.000	2.418
L24	70.37	1.242	23	0.746	A	0.000	0.746	0.746	100.00	0.000	0.052
70.50-70.25					B	0.000	0.746		100.00	0.000	0.102
					C	0.000	0.746		100.00	0.000	0.163
L25	67.74	1.228	23	15.101	A	0.000	15.101	15.101	100.00	0.000	1.042
70.25-65.25					B	0.000	15.101		100.00	0.000	2.032
					C	0.000	15.101		100.00	0.000	3.261
L26	62.74	1.201	22	15.461	A	0.000	15.461	15.461	100.00	0.000	1.042
65.25-60.25					B	0.000	15.461		100.00	0.000	2.032
					C	0.000	15.461		100.00	0.000	3.261
L27	57.74	1.173	22	15.822	A	0.000	15.822	15.822	100.00	0.000	1.042
60.25-55.25					B	0.000	15.822		100.00	0.000	2.032
					C	0.000	15.822		100.00	0.000	3.261
L28	52.74	1.143	21	16.182	A	0.000	16.182	16.182	100.00	0.000	1.042
55.25-50.25					B	0.000	16.182		100.00	0.000	2.032
					C	0.000	16.182		100.00	0.000	3.261
L29	47.74	1.111	21	16.543	A	0.000	16.543	16.543	100.00	0.000	1.042
50.25-45.25					B	0.000	16.543		100.00	0.000	2.032
					C	0.000	16.543		100.00	0.000	3.261
L30	42.49	1.075	20	18.613	A	0.000	18.613	18.613	100.00	0.000	1.146
45.25-39.75					B	0.000	18.613		100.00	0.000	2.235
					C	0.000	18.613		100.00	0.000	3.587
L31	39.25	1.051	19	3.384	A	0.000	3.384	3.384	100.00	0.000	0.208
39.75-38.75					B	0.000	3.384		100.00	0.000	0.406
					C	0.000	3.384		100.00	0.000	0.652
L32	37.12	1.034	19	11.098	A	0.000	11.098	11.098	100.00	0.000	0.677
38.75-35.50					B	0.000	11.098		100.00	0.000	1.321
					C	0.000	11.098		100.00	0.000	2.120
L33	35.37	1.02	19	0.860	A	0.000	0.860	0.860	100.00	0.000	0.052
35.50-35.25					B	0.000	0.860		100.00	0.000	0.102
					C	0.000	0.860		100.00	0.000	0.163
L34	32.74	1	18	17.389	A	0.000	17.389	17.389	100.00	0.000	1.042
35.25-30.25					B	0.000	17.389		100.00	0.000	2.032

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
					C	0.000	17.389		100.00	0.000	3.261
L35 30.25-25.25	27.74	1	18	17.750	A	0.000	17.750	17.750	100.00	0.000	1.042
					B	0.000	17.750		100.00	0.000	2.032
					C	0.000	17.750		100.00	0.000	3.261
L36 25.25-20.25	22.74	1	18	18.110	A	0.000	18.110	18.110	100.00	0.000	1.042
					B	0.000	18.110		100.00	0.000	2.032
					C	0.000	18.110		100.00	0.000	3.261
L37 20.25-15.25	17.74	1	18	18.471	A	0.000	18.471	18.471	100.00	0.000	1.042
					B	0.000	18.471		100.00	0.000	2.032
					C	0.000	18.471		100.00	0.000	3.261
L38 15.25-10.25	12.74	1	18	18.831	A	0.000	18.831	18.831	100.00	0.000	1.042
					B	0.000	18.831		100.00	0.000	2.032
					C	0.000	18.831		100.00	0.000	3.261
L39 10.25-5.25	7.74	1	18	19.191	A	0.000	19.191	19.191	100.00	0.000	1.042
					B	0.000	19.191		100.00	0.000	2.032
					C	0.000	19.191		100.00	0.000	3.261
L40 5.25-0.25	2.74	1	18	19.552	A	0.000	19.552	19.552	100.00	0.000	1.042
					B	0.000	19.552		100.00	0.000	2.032
					C	0.000	19.552		100.00	0.000	3.261
L41 0.25-0.00	0.12	1	18	0.987	A	0.000	0.987	0.987	100.00	0.000	0.052
					B	0.000	0.987		100.00	0.000	0.102
					C	0.000	0.987		100.00	0.000	0.163

Tower Pressure - With Ice

G_H = 1.690

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 149.00-144.00	146.48	1.531	6	0.8969	10.511	A	0.000	10.511	10.511	100.00	0.000	0.000
						B	0.000	10.511		100.00	0.000	0.000
						C	0.000	10.511		100.00	0.000	1.084
L2 144.00-139.00	141.49	1.516	5	0.8932	10.868	A	0.000	10.868	10.868	100.00	0.000	0.000
						B	0.000	10.868		100.00	0.000	0.000
						C	0.000	10.868		100.00	0.000	1.081
L3 139.00-134.00	136.49	1.5	5	0.8893	11.225	A	0.000	11.225	11.225	100.00	0.000	0.000
						B	0.000	11.225		100.00	0.000	0.000
						C	0.000	11.225		100.00	0.000	1.077
L4 134.00-129.00	131.49	1.484	5	0.8853	11.582	A	0.000	11.582	11.582	100.00	0.000	0.000
						B	0.000	11.582		100.00	0.000	0.000
						C	0.000	11.582		100.00	0.000	1.073
L5 129.00-124.00	126.49	1.468	5	0.8812	11.939	A	0.000	11.939	11.939	100.00	0.000	0.000
						B	0.000	11.939		100.00	0.000	1.871
						C	0.000	11.939		100.00	0.000	1.069
L6 124.00-119.00	121.49	1.451	5	0.8770	12.296	A	0.000	12.296	12.296	100.00	0.000	0.000
						B	0.000	12.296		100.00	0.000	1.867
						C	0.000	12.296		100.00	0.000	1.438
L7 119.00-111.50	115.22	1.429	5	0.8714	19.113	A	0.000	19.113	19.113	100.00	0.000	0.000
						B	0.000	19.113		100.00	0.000	2.792
						C	0.000	19.113		100.00	0.000	4.381
L8 111.50-110.25	110.87	1.414	5	0.8674	3.225	A	0.000	3.225	3.225	100.00	0.000	0.090
						B	0.000	3.225		100.00	0.000	0.465
						C	0.000	3.225		100.00	0.000	0.730
L9	108.87	1.406	5	0.8655	7.172	A	0.000	7.172	7.172	100.00	0.000	0.987

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
110.25-107.50						B	0.000	7.172		100.00	0.000	1.918
						C	0.000	7.172		100.00	0.000	2.497
L10	107.37	1.401	5	0.8641	0.657	A	0.000	0.657	0.657	100.00	0.000	0.090
107.50-107.25						B	0.000	0.657		100.00	0.000	0.182
						C	0.000	0.657		100.00	0.000	0.235
L11	104.74	1.391	5	0.8615	13.334	A	0.000	13.334	13.334	100.00	0.000	1.791
107.25-102.25						B	0.000	13.334		100.00	0.000	3.642
						C	0.000	13.334		100.00	0.000	4.691
L12	99.74	1.372	5	0.8565	13.691	A	0.000	13.691	13.691	100.00	0.000	1.785
102.25-97.25						B	0.000	13.691		100.00	0.000	3.631
						C	0.000	13.691		100.00	0.000	4.675
L13 97.25-92.25	94.74	1.352	5	0.8512	14.047	A	0.000	14.047	14.047	100.00	0.000	1.779
						B	0.000	14.047		100.00	0.000	3.620
						C	0.000	14.047		100.00	0.000	4.659
L14 92.25-90.50	91.37	1.338	5	0.8475	5.000	A	0.000	5.000	5.000	100.00	0.000	0.621
						B	0.000	5.000		100.00	0.000	1.264
						C	0.000	5.000		100.00	0.000	1.627
L15 90.50-90.25	90.37	1.334	5	0.8464	0.718	A	0.000	0.718	0.718	100.00	0.000	0.089
						B	0.000	0.718		100.00	0.000	0.269
						C	0.000	0.718		100.00	0.000	0.410
L16 90.25-88.00	89.12	1.328	5	0.8450	6.501	A	0.000	6.501	6.501	100.00	0.000	0.797
						B	0.000	6.501		100.00	0.000	2.421
						C	0.000	6.501		100.00	0.000	3.683
L17 88.00-87.75	87.87	1.323	5	0.8435	0.727	A	0.000	0.727	0.727	100.00	0.000	0.089
						B	0.000	0.727		100.00	0.000	0.269
						C	0.000	0.727		100.00	0.000	0.409
L18 87.75-87.50	87.62	1.322	5	0.8432	0.728	A	0.000	0.728	0.728	100.00	0.000	0.089
						B	0.000	0.728		100.00	0.000	0.269
						C	0.000	0.728		100.00	0.000	0.409
L19 87.50-87.25	87.37	1.321	5	0.8430	0.729	A	0.000	0.729	0.729	100.00	0.000	0.088
						B	0.000	0.729		100.00	0.000	0.269
						C	0.000	0.729		100.00	0.000	0.409
L20 87.25-82.25	84.74	1.309	5	0.8399	14.758	A	0.000	14.758	14.758	100.00	0.000	1.766
						B	0.000	14.758		100.00	0.000	4.391
						C	0.000	14.758		100.00	0.000	7.185
L21 82.25-75.25	78.73	1.282	5	0.8325	21.258	A	0.000	21.258	21.258	100.00	0.000	2.462
						B	0.000	21.258		100.00	0.000	5.013
						C	0.000	21.258		100.00	0.000	8.903
L22 75.25-74.75	75.00	1.264	5	0.8277	1.527	A	0.000	1.527	1.527	100.00	0.000	0.176
						B	0.000	1.527		100.00	0.000	0.358
						C	0.000	1.527		100.00	0.000	0.636
L23 74.75-70.50	72.62	1.253	5	0.8245	13.121	A	0.000	13.121	13.121	100.00	0.000	1.487
						B	0.000	13.121		100.00	0.000	3.029
						C	0.000	13.121		100.00	0.000	5.376
L24 70.50-70.25	70.37	1.242	4	0.8214	0.780	A	0.000	0.780	0.780	100.00	0.000	0.098
						B	0.000	0.780		100.00	0.000	0.188
						C	0.000	0.780		100.00	0.000	0.336
L25 70.25-65.25	67.74	1.228	4	0.8176	15.782	A	0.000	15.782	15.782	100.00	0.000	1.950
						B	0.000	15.782		100.00	0.000	3.758
						C	0.000	15.782		100.00	0.000	6.713
L26 65.25-60.25	62.74	1.201	4	0.8101	16.137	A	0.000	16.137	16.137	100.00	0.000	1.942
						B	0.000	16.137		100.00	0.000	3.742
						C	0.000	16.137		100.00	0.000	6.681
L27 60.25-55.25	57.74	1.173	4	0.8021	16.490	A	0.000	16.490	16.490	100.00	0.000	1.933
						B	0.000	16.490		100.00	0.000	3.725
						C	0.000	16.490		100.00	0.000	6.647
L28 55.25-50.25	52.74	1.143	4	0.7934	16.843	A	0.000	16.843	16.843	100.00	0.000	1.923
						B	0.000	16.843		100.00	0.000	3.707
						C	0.000	16.843		100.00	0.000	6.611
L29 50.25-45.25	47.74	1.111	4	0.7840	17.196	A	0.000	17.196	17.196	100.00	0.000	1.913

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
						B	0.000	17.196		100.00	0.000	3.687
						C	0.000	17.196		100.00	0.000	6.571
L30 45.25-39.75	42.49	1.075	4	0.7731	19.322	A	0.000	19.322	19.322	100.00	0.000	2.091
						B	0.000	19.322		100.00	0.000	4.030
						C	0.000	19.322		100.00	0.000	7.177
L31 39.75-38.75	39.25	1.051	4	0.7658	3.513	A	0.000	3.513	3.513	100.00	0.000	0.380
						B	0.000	3.513		100.00	0.000	0.733
						C	0.000	3.513		100.00	0.000	1.305
L32 38.75-35.50	37.12	1.034	4	0.7607	11.510	A	0.000	11.510	11.510	100.00	0.000	1.226
						B	0.000	11.510		100.00	0.000	2.364
						C	0.000	11.510		100.00	0.000	4.207
L33 35.50-35.25	35.37	1.02	4	0.7563	0.892	A	0.000	0.892	0.892	100.00	0.000	0.094
						B	0.000	0.892		100.00	0.000	0.181
						C	0.000	0.892		100.00	0.000	0.323
L34 35.25-30.25	32.74	1	4	0.7500	18.014	A	0.000	18.014	18.014	100.00	0.000	1.875
						B	0.000	18.014		100.00	0.000	3.615
						C	0.000	18.014		100.00	0.000	6.427
L35 30.25-25.25	27.74	1	4	0.7500	18.375	A	0.000	18.375	18.375	100.00	0.000	1.875
						B	0.000	18.375		100.00	0.000	3.615
						C	0.000	18.375		100.00	0.000	6.427
L36 25.25-20.25	22.74	1	4	0.7500	18.735	A	0.000	18.735	18.735	100.00	0.000	1.875
						B	0.000	18.735		100.00	0.000	3.615
						C	0.000	18.735		100.00	0.000	6.427
L37 20.25-15.25	17.74	1	4	0.7500	19.096	A	0.000	19.096	19.096	100.00	0.000	1.875
						B	0.000	19.096		100.00	0.000	3.615
						C	0.000	19.096		100.00	0.000	6.427
L38 15.25-10.25	12.74	1	4	0.7500	19.456	A	0.000	19.456	19.456	100.00	0.000	1.875
						B	0.000	19.456		100.00	0.000	3.615
						C	0.000	19.456		100.00	0.000	6.427
L39 10.25-5.25	7.74	1	4	0.7500	19.816	A	0.000	19.816	19.816	100.00	0.000	1.875
						B	0.000	19.816		100.00	0.000	3.615
						C	0.000	19.816		100.00	0.000	6.427
L40 5.25-0.25	2.74	1	4	0.7500	20.177	A	0.000	20.177	20.177	100.00	0.000	1.875
						B	0.000	20.177		100.00	0.000	3.615
						C	0.000	20.177		100.00	0.000	6.427
L41 0.25-0.00	0.12	1	4	0.7500	1.018	A	0.000	1.018	1.018	100.00	0.000	0.094
						B	0.000	1.018		100.00	0.000	0.181
						C	0.000	1.018		100.00	0.000	0.321

Tower Pressure - Service

G_H = 1.690

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	146.48	1.531	10	9.764	A	0.000	9.764	9.764	100.00	0.000	0.000
149.00-144.00					B	0.000	9.764		100.00	0.000	0.000
					C	0.000	9.764		100.00	0.000	0.188
L2	141.49	1.516	10	10.124	A	0.000	10.124	10.124	100.00	0.000	0.000
144.00-139.00					B	0.000	10.124		100.00	0.000	0.000
					C	0.000	10.124		100.00	0.000	0.188
L3	136.49	1.5	10	10.484	A	0.000	10.484	10.484	100.00	0.000	0.000
139.00-134.00					B	0.000	10.484		100.00	0.000	0.000

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
					C	0.000	10.484		100.00	0.000	0.188
L4	131.49	1.484	9	10.845	A	0.000	10.845	10.845	100.00	0.000	0.000
134.00-129.00					B	0.000	10.845		100.00	0.000	0.000
					C	0.000	10.845		100.00	0.000	0.188
L5	126.49	1.468	9	11.205	A	0.000	11.205	11.205	100.00	0.000	0.000
129.00-124.00					B	0.000	11.205		100.00	0.000	0.990
					C	0.000	11.205		100.00	0.000	0.188
L6	121.49	1.451	9	11.565	A	0.000	11.565	11.565	100.00	0.000	0.000
124.00-119.00					B	0.000	11.565		100.00	0.000	0.990
					C	0.000	11.565		100.00	0.000	0.386
L7	115.22	1.429	9	18.024	A	0.000	18.024	18.024	100.00	0.000	0.000
119.00-111.50					B	0.000	18.024		100.00	0.000	1.485
					C	0.000	18.024		100.00	0.000	1.766
L8	110.87	1.414	9	3.044	A	0.000	3.044	3.044	100.00	0.000	0.042
111.50-110.25					B	0.000	3.044		100.00	0.000	0.248
					C	0.000	3.044		100.00	0.000	0.294
L9	108.87	1.406	9	6.776	A	0.000	6.776	6.776	100.00	0.000	0.458
110.25-107.50					B	0.000	6.776		100.00	0.000	0.961
					C	0.000	6.776		100.00	0.000	1.064
L10	107.37	1.401	9	0.621	A	0.000	0.621	0.621	100.00	0.000	0.042
107.50-107.25					B	0.000	0.621		100.00	0.000	0.091
					C	0.000	0.621		100.00	0.000	0.101
L11	104.74	1.391	9	12.617	A	0.000	12.617	12.617	100.00	0.000	0.833
107.25-102.25					B	0.000	12.617		100.00	0.000	1.823
					C	0.000	12.617		100.00	0.000	2.011
L12	99.74	1.372	9	12.977	A	0.000	12.977	12.977	100.00	0.000	0.833
102.25-97.25					B	0.000	12.977		100.00	0.000	1.823
					C	0.000	12.977		100.00	0.000	2.011
L13	94.74	1.352	9	13.337	A	0.000	13.337	13.337	100.00	0.000	0.833
97.25-92.25					B	0.000	13.337		100.00	0.000	1.823
					C	0.000	13.337		100.00	0.000	2.011
L14	91.37	1.338	9	4.753	A	0.000	4.753	4.753	100.00	0.000	0.292
92.25-90.50					B	0.000	4.753		100.00	0.000	0.638
					C	0.000	4.753		100.00	0.000	0.704
L15	90.37	1.334	9	0.683	A	0.000	0.683	0.683	100.00	0.000	0.042
90.50-90.25					B	0.000	0.683		100.00	0.000	0.133
					C	0.000	0.683		100.00	0.000	0.184
L16	89.12	1.328	9	6.184	A	0.000	6.184	6.184	100.00	0.000	0.375
90.25-88.00					B	0.000	6.184		100.00	0.000	1.196
					C	0.000	6.184		100.00	0.000	1.655
L17	87.87	1.323	8	0.692	A	0.000	0.692	0.692	100.00	0.000	0.042
88.00-87.75					B	0.000	0.692		100.00	0.000	0.133
					C	0.000	0.692		100.00	0.000	0.184
L18	87.62	1.322	8	0.693	A	0.000	0.693	0.693	100.00	0.000	0.042
87.75-87.50					B	0.000	0.693		100.00	0.000	0.133
					C	0.000	0.693		100.00	0.000	0.184
L19	87.37	1.321	8	0.693	A	0.000	0.693	0.693	100.00	0.000	0.042
87.50-87.25					B	0.000	0.693		100.00	0.000	0.133
					C	0.000	0.693		100.00	0.000	0.184
L20	84.74	1.309	8	14.058	A	0.000	14.058	14.058	100.00	0.000	0.833
87.25-82.25					B	0.000	14.058		100.00	0.000	2.198
					C	0.000	14.058		100.00	0.000	3.219
L21	78.73	1.282	8	20.287	A	0.000	20.287	20.287	100.00	0.000	1.167
82.25-75.25					B	0.000	20.287		100.00	0.000	2.553
					C	0.000	20.287		100.00	0.000	3.982
L22	75.00	1.264	8	1.458	A	0.000	1.458	1.458	100.00	0.000	0.083
75.25-74.75					B	0.000	1.458		100.00	0.000	0.182
					C	0.000	1.458		100.00	0.000	0.284
L23	72.62	1.253	8	12.537	A	0.000	12.537	12.537	100.00	0.000	0.708
74.75-70.50					B	0.000	12.537		100.00	0.000	1.550

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
					C	0.000	12.537		100.00	0.000	2.418
L24	70.37	1.242	8	0.746	A	0.000	0.746	0.746	100.00	0.000	0.052
70.50-70.25					B	0.000	0.746		100.00	0.000	0.102
					C	0.000	0.746		100.00	0.000	0.163
L25	67.74	1.228	8	15.101	A	0.000	15.101	15.101	100.00	0.000	1.042
70.25-65.25					B	0.000	15.101		100.00	0.000	2.032
					C	0.000	15.101		100.00	0.000	3.261
L26	62.74	1.201	8	15.461	A	0.000	15.461	15.461	100.00	0.000	1.042
65.25-60.25					B	0.000	15.461		100.00	0.000	2.032
					C	0.000	15.461		100.00	0.000	3.261
L27	57.74	1.173	8	15.822	A	0.000	15.822	15.822	100.00	0.000	1.042
60.25-55.25					B	0.000	15.822		100.00	0.000	2.032
					C	0.000	15.822		100.00	0.000	3.261
L28	52.74	1.143	7	16.182	A	0.000	16.182	16.182	100.00	0.000	1.042
55.25-50.25					B	0.000	16.182		100.00	0.000	2.032
					C	0.000	16.182		100.00	0.000	3.261
L29	47.74	1.111	7	16.543	A	0.000	16.543	16.543	100.00	0.000	1.042
50.25-45.25					B	0.000	16.543		100.00	0.000	2.032
					C	0.000	16.543		100.00	0.000	3.261
L30	42.49	1.075	7	18.613	A	0.000	18.613	18.613	100.00	0.000	1.146
45.25-39.75					B	0.000	18.613		100.00	0.000	2.235
					C	0.000	18.613		100.00	0.000	3.587
L31	39.25	1.051	7	3.384	A	0.000	3.384	3.384	100.00	0.000	0.208
39.75-38.75					B	0.000	3.384		100.00	0.000	0.406
					C	0.000	3.384		100.00	0.000	0.652
L32	37.12	1.034	7	11.098	A	0.000	11.098	11.098	100.00	0.000	0.677
38.75-35.50					B	0.000	11.098		100.00	0.000	1.321
					C	0.000	11.098		100.00	0.000	2.120
L33	35.37	1.02	7	0.860	A	0.000	0.860	0.860	100.00	0.000	0.052
35.50-35.25					B	0.000	0.860		100.00	0.000	0.102
					C	0.000	0.860		100.00	0.000	0.163
L34	32.74	1	6	17.389	A	0.000	17.389	17.389	100.00	0.000	1.042
35.25-30.25					B	0.000	17.389		100.00	0.000	2.032
					C	0.000	17.389		100.00	0.000	3.261
L35	27.74	1	6	17.750	A	0.000	17.750	17.750	100.00	0.000	1.042
30.25-25.25					B	0.000	17.750		100.00	0.000	2.032
					C	0.000	17.750		100.00	0.000	3.261
L36	22.74	1	6	18.110	A	0.000	18.110	18.110	100.00	0.000	1.042
25.25-20.25					B	0.000	18.110		100.00	0.000	2.032
					C	0.000	18.110		100.00	0.000	3.261
L37	17.74	1	6	18.471	A	0.000	18.471	18.471	100.00	0.000	1.042
20.25-15.25					B	0.000	18.471		100.00	0.000	2.032
					C	0.000	18.471		100.00	0.000	3.261
L38	12.74	1	6	18.831	A	0.000	18.831	18.831	100.00	0.000	1.042
15.25-10.25					B	0.000	18.831		100.00	0.000	2.032
					C	0.000	18.831		100.00	0.000	3.261
L39 10.25-5.25	7.74	1	6	19.191	A	0.000	19.191	19.191	100.00	0.000	1.042
					B	0.000	19.191		100.00	0.000	2.032
					C	0.000	19.191		100.00	0.000	3.261
L40 5.25-0.25	2.74	1	6	19.552	A	0.000	19.552	19.552	100.00	0.000	1.042
					B	0.000	19.552		100.00	0.000	2.032
					C	0.000	19.552		100.00	0.000	3.261
L41 0.25-0.00	0.12	1	6	0.987	A	0.000	0.987	0.987	100.00	0.000	0.052
					B	0.000	0.987		100.00	0.000	0.102
					C	0.000	0.987		100.00	0.000	0.163

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.03	0.24	A	1	0.65	1	1	1	9.764	0.31	62.53	C
149.00-144.00			B	1	0.65	1	1	1	9.764			
			C	1	0.65	1	1	1	9.764			
L2	0.03	0.24	A	1	0.65	1	1	1	10.124	0.32	64.13	C
144.00-139.00			B	1	0.65	1	1	1	10.124			
			C	1	0.65	1	1	1	10.124			
L3	0.05	0.25	A	1	0.65	1	1	1	10.484	0.33	65.67	C
139.00-134.00			B	1	0.65	1	1	1	10.484			
			C	1	0.65	1	1	1	10.484			
L4	0.05	0.26	A	1	0.65	1	1	1	10.845	0.34	67.15	C
134.00-129.00			B	1	0.65	1	1	1	10.845			
			C	1	0.65	1	1	1	10.845			
L5	0.10	0.27	A	1	0.65	1	1	1	11.205	0.39	77.65	C
129.00-124.00			B	1	0.65	1	1	1	11.205			
			C	1	0.65	1	1	1	11.205			
L6	0.12	0.28	A	1	0.65	1	1	1	11.565	0.40	80.68	C
124.00-119.00			B	1	0.65	1	1	1	11.565			
			C	1	0.65	1	1	1	11.565			
L7	0.30	0.44	A	1	0.65	1	1	1	18.024	0.67	89.16	C
119.00-111.50			B	1	0.65	1	1	1	18.024			
			C	1	0.65	1	1	1	18.024			
L8	0.05	0.34	A	1	0.65	1	1	1	3.044	0.11	90.57	C
111.50-110.25			B	1	0.65	1	1	1	3.044			
			C	1	0.65	1	1	1	3.044			
L9	0.11	0.19	A	1	0.65	1	1	1	6.776	0.30	110.11	C
110.25-107.50			B	1	0.65	1	1	1	6.776			
			C	1	0.65	1	1	1	6.776			
L10	0.01	0.03	A	1	0.65	1	1	1	0.621	0.03	111.62	C
107.50-107.25			B	1	0.65	1	1	1	0.621			
			C	1	0.65	1	1	1	0.621			
L11	0.20	0.66	A	1	0.65	1	1	1	12.617	0.56	111.90	C
107.25-102.25			B	1	0.65	1	1	1	12.617			
			C	1	0.65	1	1	1	12.617			
L12	0.20	0.67	A	1	0.65	1	1	1	12.977	0.56	112.36	C
102.25-97.25			B	1	0.65	1	1	1	12.977			
			C	1	0.65	1	1	1	12.977			
L13	0.20	0.68	A	1	0.65	1	1	1	13.337	0.56	112.70	C
97.25-92.25			B	1	0.65	1	1	1	13.337			
			C	1	0.65	1	1	1	13.337			
L14	0.07	0.24	A	1	0.65	1	1	1	4.753	0.20	112.86	C
92.25-90.50			B	1	0.65	1	1	1	4.753			
			C	1	0.65	1	1	1	4.753			
L15	0.01	0.03	A	1	0.65	1	1	1	0.683	0.03	133.74	C
90.50-90.25			B	1	0.65	1	1	1	0.683			
			C	1	0.65	1	1	1	0.683			
L16	0.09	0.31	A	1	0.65	1	1	1	6.184	0.30	133.69	C
90.25-88.00			B	1	0.65	1	1	1	6.184			
			C	1	0.65	1	1	1	6.184			
L17	0.01	0.05	A	1	0.65	1	1	1	0.692	0.03	133.64	C
88.00-87.75			B	1	0.65	1	1	1	0.692			
			C	1	0.65	1	1	1	0.692			
L18	0.01	0.05	A	1	0.65	1	1	1	0.693	0.03	133.63	C
87.75-87.50			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L19	0.01	0.04	A	1	0.65	1	1	1	0.693	0.03	133.62	C
87.50-87.25			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L20	0.20	0.80	A	1	0.65	1	1	1	14.058	0.63	125.96	C
87.25-82.25			B	1	0.65	1	1	1	14.058			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	0.65	1	1	1	14.058			
L21	0.28	1.15	A	1	0.65	1	1	1	20.287	0.84	119.58	C
82.25-75.25			B	1	0.65	1	1	1	20.287			
			C	1	0.65	1	1	1	20.287			
L22	0.02	0.92	A	1	0.65	1	1	1	1.458	0.06	118.38	C
75.25-74.75			B	1	0.65	1	1	1	1.458			
			C	1	0.65	1	1	1	1.458			
L23	0.17	0.80	A	1	0.65	1	1	1	12.537	0.50	118.17	C
74.75-70.50			B	1	0.65	1	1	1	12.537			
			C	1	0.65	1	1	1	12.537			
L24	0.01	0.05	A	1	0.65	1	1	1	0.746	0.03	124.40	C
70.50-70.25			B	1	0.65	1	1	1	0.746			
			C	1	0.65	1	1	1	0.746			
L25	0.20	1.09	A	1	0.65	1	1	1	15.101	0.62	123.99	C
70.25-65.25			B	1	0.65	1	1	1	15.101			
			C	1	0.65	1	1	1	15.101			
L26	0.20	1.11	A	1	0.65	1	1	1	15.461	0.62	123.07	C
65.25-60.25			B	1	0.65	1	1	1	15.461			
			C	1	0.65	1	1	1	15.461			
L27	0.20	1.12	A	1	0.65	1	1	1	15.822	0.61	121.90	C
60.25-55.25			B	1	0.65	1	1	1	15.822			
			C	1	0.65	1	1	1	15.822			
L28	0.20	1.13	A	1	0.65	1	1	1	16.182	0.60	120.46	C
55.25-50.25			B	1	0.65	1	1	1	16.182			
			C	1	0.65	1	1	1	16.182			
L29	0.20	1.15	A	1	0.65	1	1	1	16.543	0.59	118.71	C
50.25-45.25			B	1	0.65	1	1	1	16.543			
			C	1	0.65	1	1	1	16.543			
L30	0.22	1.29	A	1	0.65	1	1	1	18.613	0.64	116.47	C
45.25-39.75			B	1	0.65	1	1	1	18.613			
			C	1	0.65	1	1	1	18.613			
L31	0.04	1.69	A	1	0.65	1	1	1	3.384	0.11	113.86	C
39.75-38.75			B	1	0.65	1	1	1	3.384			
			C	1	0.65	1	1	1	3.384			
L32	0.13	0.89	A	1	0.65	1	1	1	11.098	0.37	112.71	C
38.75-35.50			B	1	0.65	1	1	1	11.098			
			C	1	0.65	1	1	1	11.098			
L33	0.01	0.07	A	1	0.65	1	1	1	0.860	0.03	111.69	C
35.50-35.25			B	1	0.65	1	1	1	0.860			
			C	1	0.65	1	1	1	0.860			
L34	0.20	1.38	A	1	0.65	1	1	1	17.389	0.55	110.26	C
35.25-30.25			B	1	0.65	1	1	1	17.389			
			C	1	0.65	1	1	1	17.389			
L35	0.20	1.40	A	1	0.65	1	1	1	17.750	0.56	111.73	C
30.25-25.25			B	1	0.65	1	1	1	17.750			
			C	1	0.65	1	1	1	17.750			
L36	0.20	1.42	A	1	0.65	1	1	1	18.110	0.57	113.19	C
25.25-20.25			B	1	0.65	1	1	1	18.110			
			C	1	0.65	1	1	1	18.110			
L37	0.20	1.44	A	1	0.65	1	1	1	18.471	0.57	114.66	C
20.25-15.25			B	1	0.65	1	1	1	18.471			
			C	1	0.65	1	1	1	18.471			
L38	0.20	1.46	A	1	0.65	1	1	1	18.831	0.58	116.12	C
15.25-10.25			B	1	0.65	1	1	1	18.831			
			C	1	0.65	1	1	1	18.831			
L39	0.20	1.47	A	1	0.65	1	1	1	19.191	0.59	117.58	C
10.25-5.25			B	1	0.65	1	1	1	19.191			
			C	1	0.65	1	1	1	19.191			
L40 5.25-0.25	0.20	1.49	A	1	0.65	1	1	1	19.552	0.60	119.05	C
			B	1	0.65	1	1	1	19.552			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
			C	1	0.65	1	1	1	19.552			
L41 0.25-0.00	0.01	0.08	A	1	0.65	1	1	1	0.987	0.03	119.82	C
			B	1	0.65	1	1	1	0.987			
			C	1	0.65	1	1	1	0.987			
Sum Weight:	5.14	28.66						OTM	1083.20 kip-ft	15.81		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.03	0.24	A	1	0.65	1	1	1	9.764	0.31	62.53	C
149.00-144.00			B	1	0.65	1	1	1	9.764			
			C	1	0.65	1	1	1	9.764			
L2	0.03	0.24	A	1	0.65	1	1	1	10.124	0.32	64.13	C
144.00-139.00			B	1	0.65	1	1	1	10.124			
			C	1	0.65	1	1	1	10.124			
L3	0.05	0.25	A	1	0.65	1	1	1	10.484	0.33	65.67	C
139.00-134.00			B	1	0.65	1	1	1	10.484			
			C	1	0.65	1	1	1	10.484			
L4	0.05	0.26	A	1	0.65	1	1	1	10.845	0.34	67.15	C
134.00-129.00			B	1	0.65	1	1	1	10.845			
			C	1	0.65	1	1	1	10.845			
L5	0.10	0.27	A	1	0.65	1	1	1	11.205	0.39	77.65	C
129.00-124.00			B	1	0.65	1	1	1	11.205			
			C	1	0.65	1	1	1	11.205			
L6	0.12	0.28	A	1	0.65	1	1	1	11.565	0.40	80.68	C
124.00-119.00			B	1	0.65	1	1	1	11.565			
			C	1	0.65	1	1	1	11.565			
L7	0.30	0.44	A	1	0.65	1	1	1	18.024	0.67	89.16	C
119.00-111.50			B	1	0.65	1	1	1	18.024			
			C	1	0.65	1	1	1	18.024			
L8	0.05	0.34	A	1	0.65	1	1	1	3.044	0.11	90.57	C
111.50-110.25			B	1	0.65	1	1	1	3.044			
			C	1	0.65	1	1	1	3.044			
L9	0.11	0.19	A	1	0.65	1	1	1	6.776	0.30	110.11	C
110.25-107.50			B	1	0.65	1	1	1	6.776			
			C	1	0.65	1	1	1	6.776			
L10	0.01	0.03	A	1	0.65	1	1	1	0.621	0.03	111.62	C
107.50-107.25			B	1	0.65	1	1	1	0.621			
			C	1	0.65	1	1	1	0.621			
L11	0.20	0.66	A	1	0.65	1	1	1	12.617	0.56	111.90	C
107.25-102.25			B	1	0.65	1	1	1	12.617			
			C	1	0.65	1	1	1	12.617			
L12	0.20	0.67	A	1	0.65	1	1	1	12.977	0.56	112.36	C
102.25-97.25			B	1	0.65	1	1	1	12.977			
			C	1	0.65	1	1	1	12.977			
L13	0.20	0.68	A	1	0.65	1	1	1	13.337	0.56	112.70	C
97.25-92.25			B	1	0.65	1	1	1	13.337			
			C	1	0.65	1	1	1	13.337			
L14	0.07	0.24	A	1	0.65	1	1	1	4.753	0.20	112.86	C
92.25-90.50			B	1	0.65	1	1	1	4.753			
			C	1	0.65	1	1	1	4.753			
L15	0.01	0.03	A	1	0.65	1	1	1	0.683	0.03	133.74	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
90.50-90.25			B	1	0.65	1	1	1	0.683			
			C	1	0.65	1	1	1	0.683			
L16	0.09	0.31	A	1	0.65	1	1	1	6.184	0.30	133.69	C
90.25-88.00			B	1	0.65	1	1	1	6.184			
			C	1	0.65	1	1	1	6.184			
L17	0.01	0.05	A	1	0.65	1	1	1	0.692	0.03	133.64	C
88.00-87.75			B	1	0.65	1	1	1	0.692			
			C	1	0.65	1	1	1	0.692			
L18	0.01	0.05	A	1	0.65	1	1	1	0.693	0.03	133.63	C
87.75-87.50			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L19	0.01	0.04	A	1	0.65	1	1	1	0.693	0.03	133.62	C
87.50-87.25			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L20	0.20	0.80	A	1	0.65	1	1	1	14.058	0.63	125.96	C
87.25-82.25			B	1	0.65	1	1	1	14.058			
			C	1	0.65	1	1	1	14.058			
L21	0.28	1.15	A	1	0.65	1	1	1	20.287	0.84	119.58	C
82.25-75.25			B	1	0.65	1	1	1	20.287			
			C	1	0.65	1	1	1	20.287			
L22	0.02	0.92	A	1	0.65	1	1	1	1.458	0.06	118.38	C
75.25-74.75			B	1	0.65	1	1	1	1.458			
			C	1	0.65	1	1	1	1.458			
L23	0.17	0.80	A	1	0.65	1	1	1	12.537	0.50	118.17	C
74.75-70.50			B	1	0.65	1	1	1	12.537			
			C	1	0.65	1	1	1	12.537			
L24	0.01	0.05	A	1	0.65	1	1	1	0.746	0.03	124.40	C
70.50-70.25			B	1	0.65	1	1	1	0.746			
			C	1	0.65	1	1	1	0.746			
L25	0.20	1.09	A	1	0.65	1	1	1	15.101	0.62	123.99	C
70.25-65.25			B	1	0.65	1	1	1	15.101			
			C	1	0.65	1	1	1	15.101			
L26	0.20	1.11	A	1	0.65	1	1	1	15.461	0.62	123.07	C
65.25-60.25			B	1	0.65	1	1	1	15.461			
			C	1	0.65	1	1	1	15.461			
L27	0.20	1.12	A	1	0.65	1	1	1	15.822	0.61	121.90	C
60.25-55.25			B	1	0.65	1	1	1	15.822			
			C	1	0.65	1	1	1	15.822			
L28	0.20	1.13	A	1	0.65	1	1	1	16.182	0.60	120.46	C
55.25-50.25			B	1	0.65	1	1	1	16.182			
			C	1	0.65	1	1	1	16.182			
L29	0.20	1.15	A	1	0.65	1	1	1	16.543	0.59	118.71	C
50.25-45.25			B	1	0.65	1	1	1	16.543			
			C	1	0.65	1	1	1	16.543			
L30	0.22	1.29	A	1	0.65	1	1	1	18.613	0.64	116.47	C
45.25-39.75			B	1	0.65	1	1	1	18.613			
			C	1	0.65	1	1	1	18.613			
L31	0.04	1.69	A	1	0.65	1	1	1	3.384	0.11	113.86	C
39.75-38.75			B	1	0.65	1	1	1	3.384			
			C	1	0.65	1	1	1	3.384			
L32	0.13	0.89	A	1	0.65	1	1	1	11.098	0.37	112.71	C
38.75-35.50			B	1	0.65	1	1	1	11.098			
			C	1	0.65	1	1	1	11.098			
L33	0.01	0.07	A	1	0.65	1	1	1	0.860	0.03	111.69	C
35.50-35.25			B	1	0.65	1	1	1	0.860			
			C	1	0.65	1	1	1	0.860			
L34	0.20	1.38	A	1	0.65	1	1	1	17.389	0.55	110.26	C
35.25-30.25			B	1	0.65	1	1	1	17.389			
			C	1	0.65	1	1	1	17.389			
L35	0.20	1.40	A	1	0.65	1	1	1	17.750	0.56	111.73	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
30.25-25.25			B	1	0.65	1	1	1	17.750			
			C	1	0.65	1	1	1	17.750			
L36	0.20	1.42	A	1	0.65	1	1	1	18.110	0.57	113.19	C
25.25-20.25			B	1	0.65	1	1	1	18.110			
			C	1	0.65	1	1	1	18.110			
L37	0.20	1.44	A	1	0.65	1	1	1	18.471	0.57	114.66	C
20.25-15.25			B	1	0.65	1	1	1	18.471			
			C	1	0.65	1	1	1	18.471			
L38	0.20	1.46	A	1	0.65	1	1	1	18.831	0.58	116.12	C
15.25-10.25			B	1	0.65	1	1	1	18.831			
			C	1	0.65	1	1	1	18.831			
L39	0.20	1.47	A	1	0.65	1	1	1	19.191	0.59	117.58	C
10.25-5.25			B	1	0.65	1	1	1	19.191			
			C	1	0.65	1	1	1	19.191			
L40 5.25-0.25	0.20	1.49	A	1	0.65	1	1	1	19.552	0.60	119.05	C
			B	1	0.65	1	1	1	19.552			
			C	1	0.65	1	1	1	19.552			
L41 0.25-0.00	0.01	0.08	A	1	0.65	1	1	1	0.987	0.03	119.82	C
			B	1	0.65	1	1	1	0.987			
			C	1	0.65	1	1	1	0.987			
Sum Weight:	5.14	28.66						OTM	1083.20 kip-ft	15.81		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.03	0.24	A	1	0.65	1	1	1	9.764	0.31	62.53	C
149.00-144.00			B	1	0.65	1	1	1	9.764			
			C	1	0.65	1	1	1	9.764			
L2	0.03	0.24	A	1	0.65	1	1	1	10.124	0.32	64.13	C
144.00-139.00			B	1	0.65	1	1	1	10.124			
			C	1	0.65	1	1	1	10.124			
L3	0.05	0.25	A	1	0.65	1	1	1	10.484	0.33	65.67	C
139.00-134.00			B	1	0.65	1	1	1	10.484			
			C	1	0.65	1	1	1	10.484			
L4	0.05	0.26	A	1	0.65	1	1	1	10.845	0.34	67.15	C
134.00-129.00			B	1	0.65	1	1	1	10.845			
			C	1	0.65	1	1	1	10.845			
L5	0.10	0.27	A	1	0.65	1	1	1	11.205	0.39	77.65	C
129.00-124.00			B	1	0.65	1	1	1	11.205			
			C	1	0.65	1	1	1	11.205			
L6	0.12	0.28	A	1	0.65	1	1	1	11.565	0.40	80.68	C
124.00-119.00			B	1	0.65	1	1	1	11.565			
			C	1	0.65	1	1	1	11.565			
L7	0.30	0.44	A	1	0.65	1	1	1	18.024	0.67	89.16	C
119.00-111.50			B	1	0.65	1	1	1	18.024			
			C	1	0.65	1	1	1	18.024			
L8	0.05	0.34	A	1	0.65	1	1	1	3.044	0.11	90.57	C
111.50-110.25			B	1	0.65	1	1	1	3.044			
			C	1	0.65	1	1	1	3.044			
L9	0.11	0.19	A	1	0.65	1	1	1	6.776	0.30	110.11	C
110.25-107.50			B	1	0.65	1	1	1	6.776			
			C	1	0.65	1	1	1	6.776			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L10	0.01	0.03	A	1	0.65	1	1	1	0.621	0.03	111.62	C
107.50-107.25			B	1	0.65	1	1	1	0.621			
			C	1	0.65	1	1	1	0.621			
L11	0.20	0.66	A	1	0.65	1	1	1	12.617	0.56	111.90	C
107.25-102.25			B	1	0.65	1	1	1	12.617			
			C	1	0.65	1	1	1	12.617			
L12	0.20	0.67	A	1	0.65	1	1	1	12.977	0.56	112.36	C
102.25-97.25			B	1	0.65	1	1	1	12.977			
			C	1	0.65	1	1	1	12.977			
L13	0.20	0.68	A	1	0.65	1	1	1	13.337	0.56	112.70	C
97.25-92.25			B	1	0.65	1	1	1	13.337			
			C	1	0.65	1	1	1	13.337			
L14	0.07	0.24	A	1	0.65	1	1	1	4.753	0.20	112.86	C
92.25-90.50			B	1	0.65	1	1	1	4.753			
			C	1	0.65	1	1	1	4.753			
L15	0.01	0.03	A	1	0.65	1	1	1	0.683	0.03	133.74	C
90.50-90.25			B	1	0.65	1	1	1	0.683			
			C	1	0.65	1	1	1	0.683			
L16	0.09	0.31	A	1	0.65	1	1	1	6.184	0.30	133.69	C
90.25-88.00			B	1	0.65	1	1	1	6.184			
			C	1	0.65	1	1	1	6.184			
L17	0.01	0.05	A	1	0.65	1	1	1	0.692	0.03	133.64	C
88.00-87.75			B	1	0.65	1	1	1	0.692			
			C	1	0.65	1	1	1	0.692			
L18	0.01	0.05	A	1	0.65	1	1	1	0.693	0.03	133.63	C
87.75-87.50			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L19	0.01	0.04	A	1	0.65	1	1	1	0.693	0.03	133.62	C
87.50-87.25			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L20	0.20	0.80	A	1	0.65	1	1	1	14.058	0.63	125.96	C
87.25-82.25			B	1	0.65	1	1	1	14.058			
			C	1	0.65	1	1	1	14.058			
L21	0.28	1.15	A	1	0.65	1	1	1	20.287	0.84	119.58	C
82.25-75.25			B	1	0.65	1	1	1	20.287			
			C	1	0.65	1	1	1	20.287			
L22	0.02	0.92	A	1	0.65	1	1	1	1.458	0.06	118.38	C
75.25-74.75			B	1	0.65	1	1	1	1.458			
			C	1	0.65	1	1	1	1.458			
L23	0.17	0.80	A	1	0.65	1	1	1	12.537	0.50	118.17	C
74.75-70.50			B	1	0.65	1	1	1	12.537			
			C	1	0.65	1	1	1	12.537			
L24	0.01	0.05	A	1	0.65	1	1	1	0.746	0.03	124.40	C
70.50-70.25			B	1	0.65	1	1	1	0.746			
			C	1	0.65	1	1	1	0.746			
L25	0.20	1.09	A	1	0.65	1	1	1	15.101	0.62	123.99	C
70.25-65.25			B	1	0.65	1	1	1	15.101			
			C	1	0.65	1	1	1	15.101			
L26	0.20	1.11	A	1	0.65	1	1	1	15.461	0.62	123.07	C
65.25-60.25			B	1	0.65	1	1	1	15.461			
			C	1	0.65	1	1	1	15.461			
L27	0.20	1.12	A	1	0.65	1	1	1	15.822	0.61	121.90	C
60.25-55.25			B	1	0.65	1	1	1	15.822			
			C	1	0.65	1	1	1	15.822			
L28	0.20	1.13	A	1	0.65	1	1	1	16.182	0.60	120.46	C
55.25-50.25			B	1	0.65	1	1	1	16.182			
			C	1	0.65	1	1	1	16.182			
L29	0.20	1.15	A	1	0.65	1	1	1	16.543	0.59	118.71	C
50.25-45.25			B	1	0.65	1	1	1	16.543			
			C	1	0.65	1	1	1	16.543			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L30	0.22	1.29	A	1	0.65	1	1	1	18.613	0.64	116.47	C
45.25-39.75			B	1	0.65	1	1	1	18.613			
			C	1	0.65	1	1	1	18.613			
L31	0.04	1.69	A	1	0.65	1	1	1	3.384	0.11	113.86	C
39.75-38.75			B	1	0.65	1	1	1	3.384			
			C	1	0.65	1	1	1	3.384			
L32	0.13	0.89	A	1	0.65	1	1	1	11.098	0.37	112.71	C
38.75-35.50			B	1	0.65	1	1	1	11.098			
			C	1	0.65	1	1	1	11.098			
L33	0.01	0.07	A	1	0.65	1	1	1	0.860	0.03	111.69	C
35.50-35.25			B	1	0.65	1	1	1	0.860			
			C	1	0.65	1	1	1	0.860			
L34	0.20	1.38	A	1	0.65	1	1	1	17.389	0.55	110.26	C
35.25-30.25			B	1	0.65	1	1	1	17.389			
			C	1	0.65	1	1	1	17.389			
L35	0.20	1.40	A	1	0.65	1	1	1	17.750	0.56	111.73	C
30.25-25.25			B	1	0.65	1	1	1	17.750			
			C	1	0.65	1	1	1	17.750			
L36	0.20	1.42	A	1	0.65	1	1	1	18.110	0.57	113.19	C
25.25-20.25			B	1	0.65	1	1	1	18.110			
			C	1	0.65	1	1	1	18.110			
L37	0.20	1.44	A	1	0.65	1	1	1	18.471	0.57	114.66	C
20.25-15.25			B	1	0.65	1	1	1	18.471			
			C	1	0.65	1	1	1	18.471			
L38	0.20	1.46	A	1	0.65	1	1	1	18.831	0.58	116.12	C
15.25-10.25			B	1	0.65	1	1	1	18.831			
			C	1	0.65	1	1	1	18.831			
L39	0.20	1.47	A	1	0.65	1	1	1	19.191	0.59	117.58	C
10.25-5.25			B	1	0.65	1	1	1	19.191			
			C	1	0.65	1	1	1	19.191			
L40 5.25-0.25	0.20	1.49	A	1	0.65	1	1	1	19.552	0.60	119.05	C
			B	1	0.65	1	1	1	19.552			
			C	1	0.65	1	1	1	19.552			
L41 0.25-0.00	0.01	0.08	A	1	0.65	1	1	1	0.987	0.03	119.82	C
			B	1	0.65	1	1	1	0.987			
			C	1	0.65	1	1	1	0.987			
Sum Weight:	5.14	28.66						OTM	1083.20 kip-ft	15.81		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.03	0.37	A	1	0.65	1	1	1	10.511	0.07	14.83	C
149.00-144.00			B	1	0.65	1	1	1	10.511			
			C	1	0.65	1	1	1	10.511			
L2	0.03	0.38	A	1	0.65	1	1	1	10.868	0.08	15.10	C
144.00-139.00			B	1	0.65	1	1	1	10.868			
			C	1	0.65	1	1	1	10.868			
L3	0.06	0.40	A	1	0.65	1	1	1	11.225	0.08	15.37	C
139.00-134.00			B	1	0.65	1	1	1	11.225			
			C	1	0.65	1	1	1	11.225			
L4	0.06	0.41	A	1	0.65	1	1	1	11.582	0.08	15.62	C
134.00-129.00			B	1	0.65	1	1	1	11.582			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	0.65	1	1	1	11.582			
L5	0.20	0.42	A	1	0.65	1	1	1	11.939	0.10	19.22	C
129.00-124.00			B	1	0.65	1	1	1	11.939			
			C	1	0.65	1	1	1	11.939			
L6	0.24	0.43	A	1	0.65	1	1	1	12.296	0.10	20.06	C
124.00-119.00			B	1	0.65	1	1	1	12.296			
			C	1	0.65	1	1	1	12.296			
L7	0.63	0.67	A	1	0.65	1	1	1	19.113	0.17	22.84	C
119.00-111.50			B	1	0.65	1	1	1	19.113			
			C	1	0.65	1	1	1	19.113			
L8	0.10	0.38	A	1	0.65	1	1	1	3.225	0.03	23.40	C
111.50-110.25			B	1	0.65	1	1	1	3.225			
			C	1	0.65	1	1	1	3.225			
L9	0.23	0.28	A	1	0.65	1	1	1	7.172	0.09	31.48	C
110.25-107.50			B	1	0.65	1	1	1	7.172			
			C	1	0.65	1	1	1	7.172			
L10	0.02	0.04	A	1	0.65	1	1	1	0.657	0.01	32.02	C
107.50-107.25			B	1	0.65	1	1	1	0.657			
			C	1	0.65	1	1	1	0.657			
L11	0.42	0.82	A	1	0.65	1	1	1	13.334	0.16	31.97	C
107.25-102.25			B	1	0.65	1	1	1	13.334			
			C	1	0.65	1	1	1	13.334			
L12	0.42	0.84	A	1	0.65	1	1	1	13.691	0.16	31.86	C
102.25-97.25			B	1	0.65	1	1	1	13.691			
			C	1	0.65	1	1	1	13.691			
L13	0.41	0.85	A	1	0.65	1	1	1	14.047	0.16	31.73	C
97.25-92.25			B	1	0.65	1	1	1	14.047			
			C	1	0.65	1	1	1	14.047			
L14	0.14	0.30	A	1	0.65	1	1	1	5.000	0.06	31.62	C
92.25-90.50			B	1	0.65	1	1	1	5.000			
			C	1	0.65	1	1	1	5.000			
L15	0.02	0.04	A	1	0.65	1	1	1	0.718	0.01	40.26	C
90.50-90.25			B	1	0.65	1	1	1	0.718			
			C	1	0.65	1	1	1	0.718			
L16	0.19	0.39	A	1	0.65	1	1	1	6.501	0.09	40.18	C
90.25-88.00			B	1	0.65	1	1	1	6.501			
			C	1	0.65	1	1	1	6.501			
L17	0.02	0.06	A	1	0.65	1	1	1	0.727	0.01	40.09	C
88.00-87.75			B	1	0.65	1	1	1	0.727			
			C	1	0.65	1	1	1	0.727			
L18	0.02	0.06	A	1	0.65	1	1	1	0.728	0.01	40.07	C
87.75-87.50			B	1	0.65	1	1	1	0.728			
			C	1	0.65	1	1	1	0.728			
L19	0.02	0.05	A	1	0.65	1	1	1	0.729	0.01	40.05	C
87.50-87.25			B	1	0.65	1	1	1	0.729			
			C	1	0.65	1	1	1	0.729			
L20	0.41	0.98	A	1	0.65	1	1	1	14.758	0.18	36.73	C
87.25-82.25			B	1	0.65	1	1	1	14.758			
			C	1	0.65	1	1	1	14.758			
L21	0.57	1.40	A	1	0.65	1	1	1	21.258	0.24	33.82	C
82.25-75.25			B	1	0.65	1	1	1	21.258			
			C	1	0.65	1	1	1	21.258			
L22	0.04	0.94	A	1	0.65	1	1	1	1.527	0.02	33.45	C
75.25-74.75			B	1	0.65	1	1	1	1.527			
			C	1	0.65	1	1	1	1.527			
L23	0.35	0.95	A	1	0.65	1	1	1	13.121	0.14	33.21	C
74.75-70.50			B	1	0.65	1	1	1	13.121			
			C	1	0.65	1	1	1	13.121			
L24	0.02	0.06	A	1	0.65	1	1	1	0.780	0.01	34.30	C
70.50-70.25			B	1	0.65	1	1	1	0.780			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	0.65	1	1	1	0.780			
L25	0.40	1.28	A	1	0.65	1	1	1	15.782	0.17	34.07	C
70.25-65.25			B	1	0.65	1	1	1	15.782			
			C	1	0.65	1	1	1	15.782			
L26	0.40	1.30	A	1	0.65	1	1	1	16.137	0.17	33.59	C
65.25-60.25			B	1	0.65	1	1	1	16.137			
			C	1	0.65	1	1	1	16.137			
L27	0.40	1.31	A	1	0.65	1	1	1	16.490	0.17	33.05	C
60.25-55.25			B	1	0.65	1	1	1	16.490			
			C	1	0.65	1	1	1	16.490			
L28	0.40	1.33	A	1	0.65	1	1	1	16.843	0.16	32.43	C
55.25-50.25			B	1	0.65	1	1	1	16.843			
			C	1	0.65	1	1	1	16.843			
L29	0.39	1.34	A	1	0.65	1	1	1	17.196	0.16	31.74	C
50.25-45.25			B	1	0.65	1	1	1	17.196			
			C	1	0.65	1	1	1	17.196			
L30	0.43	1.51	A	1	0.65	1	1	1	19.322	0.17	30.91	C
45.25-39.75			B	1	0.65	1	1	1	19.322			
			C	1	0.65	1	1	1	19.322			
L31	0.08	1.73	A	1	0.65	1	1	1	3.513	0.03	30.22	C
39.75-38.75			B	1	0.65	1	1	1	3.513			
			C	1	0.65	1	1	1	3.513			
L32	0.25	1.02	A	1	0.65	1	1	1	11.510	0.10	29.74	C
38.75-35.50			B	1	0.65	1	1	1	11.510			
			C	1	0.65	1	1	1	11.510			
L33	0.02	0.08	A	1	0.65	1	1	1	0.892	0.01	29.39	C
35.50-35.25			B	1	0.65	1	1	1	0.892			
			C	1	0.65	1	1	1	0.892			
L34	0.38	1.58	A	1	0.65	1	1	1	18.014	0.14	28.90	C
35.25-30.25			B	1	0.65	1	1	1	18.014			
			C	1	0.65	1	1	1	18.014			
L35	0.38	1.60	A	1	0.65	1	1	1	18.375	0.15	29.19	C
30.25-25.25			B	1	0.65	1	1	1	18.375			
			C	1	0.65	1	1	1	18.375			
L36	0.38	1.62	A	1	0.65	1	1	1	18.735	0.15	29.48	C
25.25-20.25			B	1	0.65	1	1	1	18.735			
			C	1	0.65	1	1	1	18.735			
L37	0.38	1.65	A	1	0.65	1	1	1	19.096	0.15	29.76	C
20.25-15.25			B	1	0.65	1	1	1	19.096			
			C	1	0.65	1	1	1	19.096			
L38	0.38	1.67	A	1	0.65	1	1	1	19.456	0.15	30.05	C
15.25-10.25			B	1	0.65	1	1	1	19.456			
			C	1	0.65	1	1	1	19.456			
L39	0.38	1.69	A	1	0.65	1	1	1	19.816	0.15	30.34	C
10.25-5.25			B	1	0.65	1	1	1	19.816			
			C	1	0.65	1	1	1	19.816			
L40 5.25-0.25	0.38	1.71	A	1	0.65	1	1	1	20.177	0.15	30.62	C
			B	1	0.65	1	1	1	20.177			
			C	1	0.65	1	1	1	20.177			
L41 0.25-0.00	0.02	0.09	A	1	0.65	1	1	1	1.018	0.01	30.77	C
			B	1	0.65	1	1	1	1.018			
			C	1	0.65	1	1	1	1.018			
Sum Weight:	10.15	34.04						OTM	288.82 kip-ft	4.22		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.03	0.37	A	1	0.65	1	1	1	10.511	0.07	14.83	C
149.00-144.00			B	1	0.65	1	1	1	10.511			
			C	1	0.65	1	1	1	10.511			
L2	0.03	0.38	A	1	0.65	1	1	1	10.868	0.08	15.10	C
144.00-139.00			B	1	0.65	1	1	1	10.868			
			C	1	0.65	1	1	1	10.868			
L3	0.06	0.40	A	1	0.65	1	1	1	11.225	0.08	15.37	C
139.00-134.00			B	1	0.65	1	1	1	11.225			
			C	1	0.65	1	1	1	11.225			
L4	0.06	0.41	A	1	0.65	1	1	1	11.582	0.08	15.62	C
134.00-129.00			B	1	0.65	1	1	1	11.582			
			C	1	0.65	1	1	1	11.582			
L5	0.20	0.42	A	1	0.65	1	1	1	11.939	0.10	19.22	C
129.00-124.00			B	1	0.65	1	1	1	11.939			
			C	1	0.65	1	1	1	11.939			
L6	0.24	0.43	A	1	0.65	1	1	1	12.296	0.10	20.06	C
124.00-119.00			B	1	0.65	1	1	1	12.296			
			C	1	0.65	1	1	1	12.296			
L7	0.63	0.67	A	1	0.65	1	1	1	19.113	0.17	22.84	C
119.00-111.50			B	1	0.65	1	1	1	19.113			
			C	1	0.65	1	1	1	19.113			
L8	0.10	0.38	A	1	0.65	1	1	1	3.225	0.03	23.40	C
111.50-110.25			B	1	0.65	1	1	1	3.225			
			C	1	0.65	1	1	1	3.225			
L9	0.23	0.28	A	1	0.65	1	1	1	7.172	0.09	31.48	C
110.25-107.50			B	1	0.65	1	1	1	7.172			
			C	1	0.65	1	1	1	7.172			
L10	0.02	0.04	A	1	0.65	1	1	1	0.657	0.01	32.02	C
107.50-107.25			B	1	0.65	1	1	1	0.657			
			C	1	0.65	1	1	1	0.657			
L11	0.42	0.82	A	1	0.65	1	1	1	13.334	0.16	31.97	C
107.25-102.25			B	1	0.65	1	1	1	13.334			
			C	1	0.65	1	1	1	13.334			
L12	0.42	0.84	A	1	0.65	1	1	1	13.691	0.16	31.86	C
102.25-97.25			B	1	0.65	1	1	1	13.691			
			C	1	0.65	1	1	1	13.691			
L13	0.41	0.85	A	1	0.65	1	1	1	14.047	0.16	31.73	C
97.25-92.25			B	1	0.65	1	1	1	14.047			
			C	1	0.65	1	1	1	14.047			
L14	0.14	0.30	A	1	0.65	1	1	1	5.000	0.06	31.62	C
92.25-90.50			B	1	0.65	1	1	1	5.000			
			C	1	0.65	1	1	1	5.000			
L15	0.02	0.04	A	1	0.65	1	1	1	0.718	0.01	40.26	C
90.50-90.25			B	1	0.65	1	1	1	0.718			
			C	1	0.65	1	1	1	0.718			
L16	0.19	0.39	A	1	0.65	1	1	1	6.501	0.09	40.18	C
90.25-88.00			B	1	0.65	1	1	1	6.501			
			C	1	0.65	1	1	1	6.501			
L17	0.02	0.06	A	1	0.65	1	1	1	0.727	0.01	40.09	C
88.00-87.75			B	1	0.65	1	1	1	0.727			
			C	1	0.65	1	1	1	0.727			
L18	0.02	0.06	A	1	0.65	1	1	1	0.728	0.01	40.07	C
87.75-87.50			B	1	0.65	1	1	1	0.728			
			C	1	0.65	1	1	1	0.728			
L19	0.02	0.05	A	1	0.65	1	1	1	0.729	0.01	40.05	C
87.50-87.25			B	1	0.65	1	1	1	0.729			
			C	1	0.65	1	1	1	0.729			
L20	0.41	0.98	A	1	0.65	1	1	1	14.758	0.18	36.73	C
87.25-82.25			B	1	0.65	1	1	1	14.758			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	0.65	1	1	1	14.758			
L21	0.57	1.40	A	1	0.65	1	1	1	21.258	0.24	33.82	C
82.25-75.25			B	1	0.65	1	1	1	21.258			
			C	1	0.65	1	1	1	21.258			
L22	0.04	0.94	A	1	0.65	1	1	1	1.527	0.02	33.45	C
75.25-74.75			B	1	0.65	1	1	1	1.527			
			C	1	0.65	1	1	1	1.527			
L23	0.35	0.95	A	1	0.65	1	1	1	13.121	0.14	33.21	C
74.75-70.50			B	1	0.65	1	1	1	13.121			
			C	1	0.65	1	1	1	13.121			
L24	0.02	0.06	A	1	0.65	1	1	1	0.780	0.01	34.30	C
70.50-70.25			B	1	0.65	1	1	1	0.780			
			C	1	0.65	1	1	1	0.780			
L25	0.40	1.28	A	1	0.65	1	1	1	15.782	0.17	34.07	C
70.25-65.25			B	1	0.65	1	1	1	15.782			
			C	1	0.65	1	1	1	15.782			
L26	0.40	1.30	A	1	0.65	1	1	1	16.137	0.17	33.59	C
65.25-60.25			B	1	0.65	1	1	1	16.137			
			C	1	0.65	1	1	1	16.137			
L27	0.40	1.31	A	1	0.65	1	1	1	16.490	0.17	33.05	C
60.25-55.25			B	1	0.65	1	1	1	16.490			
			C	1	0.65	1	1	1	16.490			
L28	0.40	1.33	A	1	0.65	1	1	1	16.843	0.16	32.43	C
55.25-50.25			B	1	0.65	1	1	1	16.843			
			C	1	0.65	1	1	1	16.843			
L29	0.39	1.34	A	1	0.65	1	1	1	17.196	0.16	31.74	C
50.25-45.25			B	1	0.65	1	1	1	17.196			
			C	1	0.65	1	1	1	17.196			
L30	0.43	1.51	A	1	0.65	1	1	1	19.322	0.17	30.91	C
45.25-39.75			B	1	0.65	1	1	1	19.322			
			C	1	0.65	1	1	1	19.322			
L31	0.08	1.73	A	1	0.65	1	1	1	3.513	0.03	30.22	C
39.75-38.75			B	1	0.65	1	1	1	3.513			
			C	1	0.65	1	1	1	3.513			
L32	0.25	1.02	A	1	0.65	1	1	1	11.510	0.10	29.74	C
38.75-35.50			B	1	0.65	1	1	1	11.510			
			C	1	0.65	1	1	1	11.510			
L33	0.02	0.08	A	1	0.65	1	1	1	0.892	0.01	29.39	C
35.50-35.25			B	1	0.65	1	1	1	0.892			
			C	1	0.65	1	1	1	0.892			
L34	0.38	1.58	A	1	0.65	1	1	1	18.014	0.14	28.90	C
35.25-30.25			B	1	0.65	1	1	1	18.014			
			C	1	0.65	1	1	1	18.014			
L35	0.38	1.60	A	1	0.65	1	1	1	18.375	0.15	29.19	C
30.25-25.25			B	1	0.65	1	1	1	18.375			
			C	1	0.65	1	1	1	18.375			
L36	0.38	1.62	A	1	0.65	1	1	1	18.735	0.15	29.48	C
25.25-20.25			B	1	0.65	1	1	1	18.735			
			C	1	0.65	1	1	1	18.735			
L37	0.38	1.65	A	1	0.65	1	1	1	19.096	0.15	29.76	C
20.25-15.25			B	1	0.65	1	1	1	19.096			
			C	1	0.65	1	1	1	19.096			
L38	0.38	1.67	A	1	0.65	1	1	1	19.456	0.15	30.05	C
15.25-10.25			B	1	0.65	1	1	1	19.456			
			C	1	0.65	1	1	1	19.456			
L39	0.38	1.69	A	1	0.65	1	1	1	19.816	0.15	30.34	C
10.25-5.25			B	1	0.65	1	1	1	19.816			
			C	1	0.65	1	1	1	19.816			
L40 5.25-0.25	0.38	1.71	A	1	0.65	1	1	1	20.177	0.15	30.62	C
			B	1	0.65	1	1	1	20.177			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
			C	1	0.65	1	1	1	20.177			
L41 0.25-0.00	0.02	0.09	A	1	0.65	1	1	1	1.018	0.01	30.77	C
			B	1	0.65	1	1	1	1.018			
			C	1	0.65	1	1	1	1.018			
Sum Weight:	10.15	34.04						OTM	288.82 kip-ft	4.22		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.03	0.37	A	1	0.65	1	1	1	10.511	0.07	14.83	C
149.00-144.00			B	1	0.65	1	1	1	10.511			
			C	1	0.65	1	1	1	10.511			
L2	0.03	0.38	A	1	0.65	1	1	1	10.868	0.08	15.10	C
144.00-139.00			B	1	0.65	1	1	1	10.868			
			C	1	0.65	1	1	1	10.868			
L3	0.06	0.40	A	1	0.65	1	1	1	11.225	0.08	15.37	C
139.00-134.00			B	1	0.65	1	1	1	11.225			
			C	1	0.65	1	1	1	11.225			
L4	0.06	0.41	A	1	0.65	1	1	1	11.582	0.08	15.62	C
134.00-129.00			B	1	0.65	1	1	1	11.582			
			C	1	0.65	1	1	1	11.582			
L5	0.20	0.42	A	1	0.65	1	1	1	11.939	0.10	19.22	C
129.00-124.00			B	1	0.65	1	1	1	11.939			
			C	1	0.65	1	1	1	11.939			
L6	0.24	0.43	A	1	0.65	1	1	1	12.296	0.10	20.06	C
124.00-119.00			B	1	0.65	1	1	1	12.296			
			C	1	0.65	1	1	1	12.296			
L7	0.63	0.67	A	1	0.65	1	1	1	19.113	0.17	22.84	C
119.00-111.50			B	1	0.65	1	1	1	19.113			
			C	1	0.65	1	1	1	19.113			
L8	0.10	0.38	A	1	0.65	1	1	1	3.225	0.03	23.40	C
111.50-110.25			B	1	0.65	1	1	1	3.225			
			C	1	0.65	1	1	1	3.225			
L9	0.23	0.28	A	1	0.65	1	1	1	7.172	0.09	31.48	C
110.25-107.50			B	1	0.65	1	1	1	7.172			
			C	1	0.65	1	1	1	7.172			
L10	0.02	0.04	A	1	0.65	1	1	1	0.657	0.01	32.02	C
107.50-107.25			B	1	0.65	1	1	1	0.657			
			C	1	0.65	1	1	1	0.657			
L11	0.42	0.82	A	1	0.65	1	1	1	13.334	0.16	31.97	C
107.25-102.25			B	1	0.65	1	1	1	13.334			
			C	1	0.65	1	1	1	13.334			
L12	0.42	0.84	A	1	0.65	1	1	1	13.691	0.16	31.86	C
102.25-97.25			B	1	0.65	1	1	1	13.691			
			C	1	0.65	1	1	1	13.691			
L13	0.41	0.85	A	1	0.65	1	1	1	14.047	0.16	31.73	C
97.25-92.25			B	1	0.65	1	1	1	14.047			
			C	1	0.65	1	1	1	14.047			
L14	0.14	0.30	A	1	0.65	1	1	1	5.000	0.06	31.62	C
92.25-90.50			B	1	0.65	1	1	1	5.000			
			C	1	0.65	1	1	1	5.000			
L15	0.02	0.04	A	1	0.65	1	1	1	0.718	0.01	40.26	C

Section Elevation	Add Weight	Self Weight	Face	e	C_F	R_R	D_F	D_R	A_E	F	w	Ctrl. Face
ft	K	K							ft^2	K	plf	
90.50-90.25			B	1	0.65	1	1	1	0.718			
			C	1	0.65	1	1	1	0.718			
L16	0.19	0.39	A	1	0.65	1	1	1	6.501	0.09	40.18	C
90.25-88.00			B	1	0.65	1	1	1	6.501			
			C	1	0.65	1	1	1	6.501			
L17	0.02	0.06	A	1	0.65	1	1	1	0.727	0.01	40.09	C
88.00-87.75			B	1	0.65	1	1	1	0.727			
			C	1	0.65	1	1	1	0.727			
L18	0.02	0.06	A	1	0.65	1	1	1	0.728	0.01	40.07	C
87.75-87.50			B	1	0.65	1	1	1	0.728			
			C	1	0.65	1	1	1	0.728			
L19	0.02	0.05	A	1	0.65	1	1	1	0.729	0.01	40.05	C
87.50-87.25			B	1	0.65	1	1	1	0.729			
			C	1	0.65	1	1	1	0.729			
L20	0.41	0.98	A	1	0.65	1	1	1	14.758	0.18	36.73	C
87.25-82.25			B	1	0.65	1	1	1	14.758			
			C	1	0.65	1	1	1	14.758			
L21	0.57	1.40	A	1	0.65	1	1	1	21.258	0.24	33.82	C
82.25-75.25			B	1	0.65	1	1	1	21.258			
			C	1	0.65	1	1	1	21.258			
L22	0.04	0.94	A	1	0.65	1	1	1	1.527	0.02	33.45	C
75.25-74.75			B	1	0.65	1	1	1	1.527			
			C	1	0.65	1	1	1	1.527			
L23	0.35	0.95	A	1	0.65	1	1	1	13.121	0.14	33.21	C
74.75-70.50			B	1	0.65	1	1	1	13.121			
			C	1	0.65	1	1	1	13.121			
L24	0.02	0.06	A	1	0.65	1	1	1	0.780	0.01	34.30	C
70.50-70.25			B	1	0.65	1	1	1	0.780			
			C	1	0.65	1	1	1	0.780			
L25	0.40	1.28	A	1	0.65	1	1	1	15.782	0.17	34.07	C
70.25-65.25			B	1	0.65	1	1	1	15.782			
			C	1	0.65	1	1	1	15.782			
L26	0.40	1.30	A	1	0.65	1	1	1	16.137	0.17	33.59	C
65.25-60.25			B	1	0.65	1	1	1	16.137			
			C	1	0.65	1	1	1	16.137			
L27	0.40	1.31	A	1	0.65	1	1	1	16.490	0.17	33.05	C
60.25-55.25			B	1	0.65	1	1	1	16.490			
			C	1	0.65	1	1	1	16.490			
L28	0.40	1.33	A	1	0.65	1	1	1	16.843	0.16	32.43	C
55.25-50.25			B	1	0.65	1	1	1	16.843			
			C	1	0.65	1	1	1	16.843			
L29	0.39	1.34	A	1	0.65	1	1	1	17.196	0.16	31.74	C
50.25-45.25			B	1	0.65	1	1	1	17.196			
			C	1	0.65	1	1	1	17.196			
L30	0.43	1.51	A	1	0.65	1	1	1	19.322	0.17	30.91	C
45.25-39.75			B	1	0.65	1	1	1	19.322			
			C	1	0.65	1	1	1	19.322			
L31	0.08	1.73	A	1	0.65	1	1	1	3.513	0.03	30.22	C
39.75-38.75			B	1	0.65	1	1	1	3.513			
			C	1	0.65	1	1	1	3.513			
L32	0.25	1.02	A	1	0.65	1	1	1	11.510	0.10	29.74	C
38.75-35.50			B	1	0.65	1	1	1	11.510			
			C	1	0.65	1	1	1	11.510			
L33	0.02	0.08	A	1	0.65	1	1	1	0.892	0.01	29.39	C
35.50-35.25			B	1	0.65	1	1	1	0.892			
			C	1	0.65	1	1	1	0.892			
L34	0.38	1.58	A	1	0.65	1	1	1	18.014	0.14	28.90	C
35.25-30.25			B	1	0.65	1	1	1	18.014			
			C	1	0.65	1	1	1	18.014			
L35	0.38	1.60	A	1	0.65	1	1	1	18.375	0.15	29.19	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
30.25-25.25			B	1	0.65	1	1	1	18.375			
			C	1	0.65	1	1	1	18.375			
L36	0.38	1.62	A	1	0.65	1	1	1	18.735	0.15	29.48	C
25.25-20.25			B	1	0.65	1	1	1	18.735			
			C	1	0.65	1	1	1	18.735			
L37	0.38	1.65	A	1	0.65	1	1	1	19.096	0.15	29.76	C
20.25-15.25			B	1	0.65	1	1	1	19.096			
			C	1	0.65	1	1	1	19.096			
L38	0.38	1.67	A	1	0.65	1	1	1	19.456	0.15	30.05	C
15.25-10.25			B	1	0.65	1	1	1	19.456			
			C	1	0.65	1	1	1	19.456			
L39	0.38	1.69	A	1	0.65	1	1	1	19.816	0.15	30.34	C
10.25-5.25			B	1	0.65	1	1	1	19.816			
			C	1	0.65	1	1	1	19.816			
L40 5.25-0.25	0.38	1.71	A	1	0.65	1	1	1	20.177	0.15	30.62	C
			B	1	0.65	1	1	1	20.177			
			C	1	0.65	1	1	1	20.177			
L41 0.25-0.00	0.02	0.09	A	1	0.65	1	1	1	1.018	0.01	30.77	C
			B	1	0.65	1	1	1	1.018			
			C	1	0.65	1	1	1	1.018			
Sum Weight:	10.15	34.04						OTM	288.82 kip-ft	4.22		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.03	0.24	A	1	0.65	1	1	1	9.764	0.11	21.64	C
149.00-144.00			B	1	0.65	1	1	1	9.764			
			C	1	0.65	1	1	1	9.764			
L2	0.03	0.24	A	1	0.65	1	1	1	10.124	0.11	22.19	C
144.00-139.00			B	1	0.65	1	1	1	10.124			
			C	1	0.65	1	1	1	10.124			
L3	0.05	0.25	A	1	0.65	1	1	1	10.484	0.11	22.72	C
139.00-134.00			B	1	0.65	1	1	1	10.484			
			C	1	0.65	1	1	1	10.484			
L4	0.05	0.26	A	1	0.65	1	1	1	10.845	0.12	23.24	C
134.00-129.00			B	1	0.65	1	1	1	10.845			
			C	1	0.65	1	1	1	10.845			
L5	0.10	0.27	A	1	0.65	1	1	1	11.205	0.13	26.87	C
129.00-124.00			B	1	0.65	1	1	1	11.205			
			C	1	0.65	1	1	1	11.205			
L6	0.12	0.28	A	1	0.65	1	1	1	11.565	0.14	27.92	C
124.00-119.00			B	1	0.65	1	1	1	11.565			
			C	1	0.65	1	1	1	11.565			
L7	0.30	0.44	A	1	0.65	1	1	1	18.024	0.23	30.85	C
119.00-111.50			B	1	0.65	1	1	1	18.024			
			C	1	0.65	1	1	1	18.024			
L8	0.05	0.34	A	1	0.65	1	1	1	3.044	0.04	31.34	C
111.50-110.25			B	1	0.65	1	1	1	3.044			
			C	1	0.65	1	1	1	3.044			
L9	0.11	0.19	A	1	0.65	1	1	1	6.776	0.10	38.10	C
110.25-107.50			B	1	0.65	1	1	1	6.776			
			C	1	0.65	1	1	1	6.776			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L10	0.01	0.03	A	1	0.65	1	1	1	0.621	0.01	38.62	C
107.50-107.25			B	1	0.65	1	1	1	0.621			
			C	1	0.65	1	1	1	0.621			
L11	0.20	0.66	A	1	0.65	1	1	1	12.617	0.19	38.72	C
107.25-102.25			B	1	0.65	1	1	1	12.617			
			C	1	0.65	1	1	1	12.617			
L12	0.20	0.67	A	1	0.65	1	1	1	12.977	0.19	38.88	C
102.25-97.25			B	1	0.65	1	1	1	12.977			
			C	1	0.65	1	1	1	12.977			
L13	0.20	0.68	A	1	0.65	1	1	1	13.337	0.19	39.00	C
97.25-92.25			B	1	0.65	1	1	1	13.337			
			C	1	0.65	1	1	1	13.337			
L14	0.07	0.24	A	1	0.65	1	1	1	4.753	0.07	39.05	C
92.25-90.50			B	1	0.65	1	1	1	4.753			
			C	1	0.65	1	1	1	4.753			
L15	0.01	0.03	A	1	0.65	1	1	1	0.683	0.01	46.28	C
90.50-90.25			B	1	0.65	1	1	1	0.683			
			C	1	0.65	1	1	1	0.683			
L16	0.09	0.31	A	1	0.65	1	1	1	6.184	0.10	46.26	C
90.25-88.00			B	1	0.65	1	1	1	6.184			
			C	1	0.65	1	1	1	6.184			
L17	0.01	0.05	A	1	0.65	1	1	1	0.692	0.01	46.24	C
88.00-87.75			B	1	0.65	1	1	1	0.692			
			C	1	0.65	1	1	1	0.692			
L18	0.01	0.05	A	1	0.65	1	1	1	0.693	0.01	46.24	C
87.75-87.50			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L19	0.01	0.04	A	1	0.65	1	1	1	0.693	0.01	46.23	C
87.50-87.25			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L20	0.20	0.80	A	1	0.65	1	1	1	14.058	0.22	43.58	C
87.25-82.25			B	1	0.65	1	1	1	14.058			
			C	1	0.65	1	1	1	14.058			
L21	0.28	1.15	A	1	0.65	1	1	1	20.287	0.29	41.38	C
82.25-75.25			B	1	0.65	1	1	1	20.287			
			C	1	0.65	1	1	1	20.287			
L22	0.02	0.92	A	1	0.65	1	1	1	1.458	0.02	40.96	C
75.25-74.75			B	1	0.65	1	1	1	1.458			
			C	1	0.65	1	1	1	1.458			
L23	0.17	0.80	A	1	0.65	1	1	1	12.537	0.17	40.89	C
74.75-70.50			B	1	0.65	1	1	1	12.537			
			C	1	0.65	1	1	1	12.537			
L24	0.01	0.05	A	1	0.65	1	1	1	0.746	0.01	43.04	C
70.50-70.25			B	1	0.65	1	1	1	0.746			
			C	1	0.65	1	1	1	0.746			
L25	0.20	1.09	A	1	0.65	1	1	1	15.101	0.21	42.90	C
70.25-65.25			B	1	0.65	1	1	1	15.101			
			C	1	0.65	1	1	1	15.101			
L26	0.20	1.11	A	1	0.65	1	1	1	15.461	0.21	42.58	C
65.25-60.25			B	1	0.65	1	1	1	15.461			
			C	1	0.65	1	1	1	15.461			
L27	0.20	1.12	A	1	0.65	1	1	1	15.822	0.21	42.18	C
60.25-55.25			B	1	0.65	1	1	1	15.822			
			C	1	0.65	1	1	1	15.822			
L28	0.20	1.13	A	1	0.65	1	1	1	16.182	0.21	41.68	C
55.25-50.25			B	1	0.65	1	1	1	16.182			
			C	1	0.65	1	1	1	16.182			
L29	0.20	1.15	A	1	0.65	1	1	1	16.543	0.21	41.08	C
50.25-45.25			B	1	0.65	1	1	1	16.543			
			C	1	0.65	1	1	1	16.543			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L30	0.22	1.29	A	1	0.65	1	1	1	18.613	0.22	40.30	C
45.25-39.75			B	1	0.65	1	1	1	18.613			
			C	1	0.65	1	1	1	18.613			
L31	0.04	1.69	A	1	0.65	1	1	1	3.384	0.04	39.40	C
39.75-38.75			B	1	0.65	1	1	1	3.384			
			C	1	0.65	1	1	1	3.384			
L32	0.13	0.89	A	1	0.65	1	1	1	11.098	0.13	39.00	C
38.75-35.50			B	1	0.65	1	1	1	11.098			
			C	1	0.65	1	1	1	11.098			
L33	0.01	0.07	A	1	0.65	1	1	1	0.860	0.01	38.65	C
35.50-35.25			B	1	0.65	1	1	1	0.860			
			C	1	0.65	1	1	1	0.860			
L34	0.20	1.38	A	1	0.65	1	1	1	17.389	0.19	38.15	C
35.25-30.25			B	1	0.65	1	1	1	17.389			
			C	1	0.65	1	1	1	17.389			
L35	0.20	1.40	A	1	0.65	1	1	1	17.750	0.19	38.66	C
30.25-25.25			B	1	0.65	1	1	1	17.750			
			C	1	0.65	1	1	1	17.750			
L36	0.20	1.42	A	1	0.65	1	1	1	18.110	0.20	39.17	C
25.25-20.25			B	1	0.65	1	1	1	18.110			
			C	1	0.65	1	1	1	18.110			
L37	0.20	1.44	A	1	0.65	1	1	1	18.471	0.20	39.67	C
20.25-15.25			B	1	0.65	1	1	1	18.471			
			C	1	0.65	1	1	1	18.471			
L38	0.20	1.46	A	1	0.65	1	1	1	18.831	0.20	40.18	C
15.25-10.25			B	1	0.65	1	1	1	18.831			
			C	1	0.65	1	1	1	18.831			
L39	0.20	1.47	A	1	0.65	1	1	1	19.191	0.20	40.69	C
10.25-5.25			B	1	0.65	1	1	1	19.191			
			C	1	0.65	1	1	1	19.191			
L40 5.25-0.25	0.20	1.49	A	1	0.65	1	1	1	19.552	0.21	41.19	C
			B	1	0.65	1	1	1	19.552			
			C	1	0.65	1	1	1	19.552			
L41 0.25-0.00	0.01	0.08	A	1	0.65	1	1	1	0.987	0.01	41.46	C
			B	1	0.65	1	1	1	0.987			
			C	1	0.65	1	1	1	0.987			
Sum Weight:	5.14	28.66						OTM	374.81 kip-ft	5.47		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.03	0.24	A	1	0.65	1	1	1	9.764	0.11	21.64	C
149.00-144.00			B	1	0.65	1	1	1	9.764			
			C	1	0.65	1	1	1	9.764			
L2	0.03	0.24	A	1	0.65	1	1	1	10.124	0.11	22.19	C
144.00-139.00			B	1	0.65	1	1	1	10.124			
			C	1	0.65	1	1	1	10.124			
L3	0.05	0.25	A	1	0.65	1	1	1	10.484	0.11	22.72	C
139.00-134.00			B	1	0.65	1	1	1	10.484			
			C	1	0.65	1	1	1	10.484			
L4	0.05	0.26	A	1	0.65	1	1	1	10.845	0.12	23.24	C
134.00-129.00			B	1	0.65	1	1	1	10.845			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
			C	1	0.65	1	1	1	10.845			
L5	0.10	0.27	A	1	0.65	1	1	1	11.205	0.13	26.87	C
129.00-124.00			B	1	0.65	1	1	1	11.205			
			C	1	0.65	1	1	1	11.205			
L6	0.12	0.28	A	1	0.65	1	1	1	11.565	0.14	27.92	C
124.00-119.00			B	1	0.65	1	1	1	11.565			
			C	1	0.65	1	1	1	11.565			
L7	0.30	0.44	A	1	0.65	1	1	1	18.024	0.23	30.85	C
119.00-111.50			B	1	0.65	1	1	1	18.024			
			C	1	0.65	1	1	1	18.024			
L8	0.05	0.34	A	1	0.65	1	1	1	3.044	0.04	31.34	C
111.50-110.25			B	1	0.65	1	1	1	3.044			
			C	1	0.65	1	1	1	3.044			
L9	0.11	0.19	A	1	0.65	1	1	1	6.776	0.10	38.10	C
110.25-107.50			B	1	0.65	1	1	1	6.776			
			C	1	0.65	1	1	1	6.776			
L10	0.01	0.03	A	1	0.65	1	1	1	0.621	0.01	38.62	C
107.50-107.25			B	1	0.65	1	1	1	0.621			
			C	1	0.65	1	1	1	0.621			
L11	0.20	0.66	A	1	0.65	1	1	1	12.617	0.19	38.72	C
107.25-102.25			B	1	0.65	1	1	1	12.617			
			C	1	0.65	1	1	1	12.617			
L12	0.20	0.67	A	1	0.65	1	1	1	12.977	0.19	38.88	C
102.25-97.25			B	1	0.65	1	1	1	12.977			
			C	1	0.65	1	1	1	12.977			
L13	0.20	0.68	A	1	0.65	1	1	1	13.337	0.19	39.00	C
97.25-92.25			B	1	0.65	1	1	1	13.337			
			C	1	0.65	1	1	1	13.337			
L14	0.07	0.24	A	1	0.65	1	1	1	4.753	0.07	39.05	C
92.25-90.50			B	1	0.65	1	1	1	4.753			
			C	1	0.65	1	1	1	4.753			
L15	0.01	0.03	A	1	0.65	1	1	1	0.683	0.01	46.28	C
90.50-90.25			B	1	0.65	1	1	1	0.683			
			C	1	0.65	1	1	1	0.683			
L16	0.09	0.31	A	1	0.65	1	1	1	6.184	0.10	46.26	C
90.25-88.00			B	1	0.65	1	1	1	6.184			
			C	1	0.65	1	1	1	6.184			
L17	0.01	0.05	A	1	0.65	1	1	1	0.692	0.01	46.24	C
88.00-87.75			B	1	0.65	1	1	1	0.692			
			C	1	0.65	1	1	1	0.692			
L18	0.01	0.05	A	1	0.65	1	1	1	0.693	0.01	46.24	C
87.75-87.50			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L19	0.01	0.04	A	1	0.65	1	1	1	0.693	0.01	46.23	C
87.50-87.25			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L20	0.20	0.80	A	1	0.65	1	1	1	14.058	0.22	43.58	C
87.25-82.25			B	1	0.65	1	1	1	14.058			
			C	1	0.65	1	1	1	14.058			
L21	0.28	1.15	A	1	0.65	1	1	1	20.287	0.29	41.38	C
82.25-75.25			B	1	0.65	1	1	1	20.287			
			C	1	0.65	1	1	1	20.287			
L22	0.02	0.92	A	1	0.65	1	1	1	1.458	0.02	40.96	C
75.25-74.75			B	1	0.65	1	1	1	1.458			
			C	1	0.65	1	1	1	1.458			
L23	0.17	0.80	A	1	0.65	1	1	1	12.537	0.17	40.89	C
74.75-70.50			B	1	0.65	1	1	1	12.537			
			C	1	0.65	1	1	1	12.537			
L24	0.01	0.05	A	1	0.65	1	1	1	0.746	0.01	43.04	C
70.50-70.25			B	1	0.65	1	1	1	0.746			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
			C	1	0.65	1	1	1	0.746			
L25	0.20	1.09	A	1	0.65	1	1	1	15.101	0.21	42.90	C
70.25-65.25			B	1	0.65	1	1	1	15.101			
			C	1	0.65	1	1	1	15.101			
L26	0.20	1.11	A	1	0.65	1	1	1	15.461	0.21	42.58	C
65.25-60.25			B	1	0.65	1	1	1	15.461			
			C	1	0.65	1	1	1	15.461			
L27	0.20	1.12	A	1	0.65	1	1	1	15.822	0.21	42.18	C
60.25-55.25			B	1	0.65	1	1	1	15.822			
			C	1	0.65	1	1	1	15.822			
L28	0.20	1.13	A	1	0.65	1	1	1	16.182	0.21	41.68	C
55.25-50.25			B	1	0.65	1	1	1	16.182			
			C	1	0.65	1	1	1	16.182			
L29	0.20	1.15	A	1	0.65	1	1	1	16.543	0.21	41.08	C
50.25-45.25			B	1	0.65	1	1	1	16.543			
			C	1	0.65	1	1	1	16.543			
L30	0.22	1.29	A	1	0.65	1	1	1	18.613	0.22	40.30	C
45.25-39.75			B	1	0.65	1	1	1	18.613			
			C	1	0.65	1	1	1	18.613			
L31	0.04	1.69	A	1	0.65	1	1	1	3.384	0.04	39.40	C
39.75-38.75			B	1	0.65	1	1	1	3.384			
			C	1	0.65	1	1	1	3.384			
L32	0.13	0.89	A	1	0.65	1	1	1	11.098	0.13	39.00	C
38.75-35.50			B	1	0.65	1	1	1	11.098			
			C	1	0.65	1	1	1	11.098			
L33	0.01	0.07	A	1	0.65	1	1	1	0.860	0.01	38.65	C
35.50-35.25			B	1	0.65	1	1	1	0.860			
			C	1	0.65	1	1	1	0.860			
L34	0.20	1.38	A	1	0.65	1	1	1	17.389	0.19	38.15	C
35.25-30.25			B	1	0.65	1	1	1	17.389			
			C	1	0.65	1	1	1	17.389			
L35	0.20	1.40	A	1	0.65	1	1	1	17.750	0.19	38.66	C
30.25-25.25			B	1	0.65	1	1	1	17.750			
			C	1	0.65	1	1	1	17.750			
L36	0.20	1.42	A	1	0.65	1	1	1	18.110	0.20	39.17	C
25.25-20.25			B	1	0.65	1	1	1	18.110			
			C	1	0.65	1	1	1	18.110			
L37	0.20	1.44	A	1	0.65	1	1	1	18.471	0.20	39.67	C
20.25-15.25			B	1	0.65	1	1	1	18.471			
			C	1	0.65	1	1	1	18.471			
L38	0.20	1.46	A	1	0.65	1	1	1	18.831	0.20	40.18	C
15.25-10.25			B	1	0.65	1	1	1	18.831			
			C	1	0.65	1	1	1	18.831			
L39	0.20	1.47	A	1	0.65	1	1	1	19.191	0.20	40.69	C
10.25-5.25			B	1	0.65	1	1	1	19.191			
			C	1	0.65	1	1	1	19.191			
L40 5.25-0.25	0.20	1.49	A	1	0.65	1	1	1	19.552	0.21	41.19	C
			B	1	0.65	1	1	1	19.552			
			C	1	0.65	1	1	1	19.552			
L41 0.25-0.00	0.01	0.08	A	1	0.65	1	1	1	0.987	0.01	41.46	C
			B	1	0.65	1	1	1	0.987			
			C	1	0.65	1	1	1	0.987			
Sum Weight:	5.14	28.66						OTM	374.81 kip-ft	5.47		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.03	0.24	A	1	0.65	1	1	1	9.764	0.11	21.64	C
149.00-144.00			B	1	0.65	1	1	1	9.764			
			C	1	0.65	1	1	1	9.764			
L2	0.03	0.24	A	1	0.65	1	1	1	10.124	0.11	22.19	C
144.00-139.00			B	1	0.65	1	1	1	10.124			
			C	1	0.65	1	1	1	10.124			
L3	0.05	0.25	A	1	0.65	1	1	1	10.484	0.11	22.72	C
139.00-134.00			B	1	0.65	1	1	1	10.484			
			C	1	0.65	1	1	1	10.484			
L4	0.05	0.26	A	1	0.65	1	1	1	10.845	0.12	23.24	C
134.00-129.00			B	1	0.65	1	1	1	10.845			
			C	1	0.65	1	1	1	10.845			
L5	0.10	0.27	A	1	0.65	1	1	1	11.205	0.13	26.87	C
129.00-124.00			B	1	0.65	1	1	1	11.205			
			C	1	0.65	1	1	1	11.205			
L6	0.12	0.28	A	1	0.65	1	1	1	11.565	0.14	27.92	C
124.00-119.00			B	1	0.65	1	1	1	11.565			
			C	1	0.65	1	1	1	11.565			
L7	0.30	0.44	A	1	0.65	1	1	1	18.024	0.23	30.85	C
119.00-111.50			B	1	0.65	1	1	1	18.024			
			C	1	0.65	1	1	1	18.024			
L8	0.05	0.34	A	1	0.65	1	1	1	3.044	0.04	31.34	C
111.50-110.25			B	1	0.65	1	1	1	3.044			
			C	1	0.65	1	1	1	3.044			
L9	0.11	0.19	A	1	0.65	1	1	1	6.776	0.10	38.10	C
110.25-107.50			B	1	0.65	1	1	1	6.776			
			C	1	0.65	1	1	1	6.776			
L10	0.01	0.03	A	1	0.65	1	1	1	0.621	0.01	38.62	C
107.50-107.25			B	1	0.65	1	1	1	0.621			
			C	1	0.65	1	1	1	0.621			
L11	0.20	0.66	A	1	0.65	1	1	1	12.617	0.19	38.72	C
107.25-102.25			B	1	0.65	1	1	1	12.617			
			C	1	0.65	1	1	1	12.617			
L12	0.20	0.67	A	1	0.65	1	1	1	12.977	0.19	38.88	C
102.25-97.25			B	1	0.65	1	1	1	12.977			
			C	1	0.65	1	1	1	12.977			
L13	0.20	0.68	A	1	0.65	1	1	1	13.337	0.19	39.00	C
97.25-92.25			B	1	0.65	1	1	1	13.337			
			C	1	0.65	1	1	1	13.337			
L14	0.07	0.24	A	1	0.65	1	1	1	4.753	0.07	39.05	C
92.25-90.50			B	1	0.65	1	1	1	4.753			
			C	1	0.65	1	1	1	4.753			
L15	0.01	0.03	A	1	0.65	1	1	1	0.683	0.01	46.28	C
90.50-90.25			B	1	0.65	1	1	1	0.683			
			C	1	0.65	1	1	1	0.683			
L16	0.09	0.31	A	1	0.65	1	1	1	6.184	0.10	46.26	C
90.25-88.00			B	1	0.65	1	1	1	6.184			
			C	1	0.65	1	1	1	6.184			
L17	0.01	0.05	A	1	0.65	1	1	1	0.692	0.01	46.24	C
88.00-87.75			B	1	0.65	1	1	1	0.692			
			C	1	0.65	1	1	1	0.692			
L18	0.01	0.05	A	1	0.65	1	1	1	0.693	0.01	46.24	C
87.75-87.50			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L19	0.01	0.04	A	1	0.65	1	1	1	0.693	0.01	46.23	C
87.50-87.25			B	1	0.65	1	1	1	0.693			
			C	1	0.65	1	1	1	0.693			
L20	0.20	0.80	A	1	0.65	1	1	1	14.058	0.22	43.58	C
87.25-82.25			B	1	0.65	1	1	1	14.058			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
			C	1	0.65	1	1	1	14.058			
L21	0.28	1.15	A	1	0.65	1	1	1	20.287	0.29	41.38	C
82.25-75.25			B	1	0.65	1	1	1	20.287			
			C	1	0.65	1	1	1	20.287			
L22	0.02	0.92	A	1	0.65	1	1	1	1.458	0.02	40.96	C
75.25-74.75			B	1	0.65	1	1	1	1.458			
			C	1	0.65	1	1	1	1.458			
L23	0.17	0.80	A	1	0.65	1	1	1	12.537	0.17	40.89	C
74.75-70.50			B	1	0.65	1	1	1	12.537			
			C	1	0.65	1	1	1	12.537			
L24	0.01	0.05	A	1	0.65	1	1	1	0.746	0.01	43.04	C
70.50-70.25			B	1	0.65	1	1	1	0.746			
			C	1	0.65	1	1	1	0.746			
L25	0.20	1.09	A	1	0.65	1	1	1	15.101	0.21	42.90	C
70.25-65.25			B	1	0.65	1	1	1	15.101			
			C	1	0.65	1	1	1	15.101			
L26	0.20	1.11	A	1	0.65	1	1	1	15.461	0.21	42.58	C
65.25-60.25			B	1	0.65	1	1	1	15.461			
			C	1	0.65	1	1	1	15.461			
L27	0.20	1.12	A	1	0.65	1	1	1	15.822	0.21	42.18	C
60.25-55.25			B	1	0.65	1	1	1	15.822			
			C	1	0.65	1	1	1	15.822			
L28	0.20	1.13	A	1	0.65	1	1	1	16.182	0.21	41.68	C
55.25-50.25			B	1	0.65	1	1	1	16.182			
			C	1	0.65	1	1	1	16.182			
L29	0.20	1.15	A	1	0.65	1	1	1	16.543	0.21	41.08	C
50.25-45.25			B	1	0.65	1	1	1	16.543			
			C	1	0.65	1	1	1	16.543			
L30	0.22	1.29	A	1	0.65	1	1	1	18.613	0.22	40.30	C
45.25-39.75			B	1	0.65	1	1	1	18.613			
			C	1	0.65	1	1	1	18.613			
L31	0.04	1.69	A	1	0.65	1	1	1	3.384	0.04	39.40	C
39.75-38.75			B	1	0.65	1	1	1	3.384			
			C	1	0.65	1	1	1	3.384			
L32	0.13	0.89	A	1	0.65	1	1	1	11.098	0.13	39.00	C
38.75-35.50			B	1	0.65	1	1	1	11.098			
			C	1	0.65	1	1	1	11.098			
L33	0.01	0.07	A	1	0.65	1	1	1	0.860	0.01	38.65	C
35.50-35.25			B	1	0.65	1	1	1	0.860			
			C	1	0.65	1	1	1	0.860			
L34	0.20	1.38	A	1	0.65	1	1	1	17.389	0.19	38.15	C
35.25-30.25			B	1	0.65	1	1	1	17.389			
			C	1	0.65	1	1	1	17.389			
L35	0.20	1.40	A	1	0.65	1	1	1	17.750	0.19	38.66	C
30.25-25.25			B	1	0.65	1	1	1	17.750			
			C	1	0.65	1	1	1	17.750			
L36	0.20	1.42	A	1	0.65	1	1	1	18.110	0.20	39.17	C
25.25-20.25			B	1	0.65	1	1	1	18.110			
			C	1	0.65	1	1	1	18.110			
L37	0.20	1.44	A	1	0.65	1	1	1	18.471	0.20	39.67	C
20.25-15.25			B	1	0.65	1	1	1	18.471			
			C	1	0.65	1	1	1	18.471			
L38	0.20	1.46	A	1	0.65	1	1	1	18.831	0.20	40.18	C
15.25-10.25			B	1	0.65	1	1	1	18.831			
			C	1	0.65	1	1	1	18.831			
L39	0.20	1.47	A	1	0.65	1	1	1	19.191	0.20	40.69	C
10.25-5.25			B	1	0.65	1	1	1	19.191			
			C	1	0.65	1	1	1	19.191			
L40 5.25-0.25	0.20	1.49	A	1	0.65	1	1	1	19.552	0.21	41.19	C
			B	1	0.65	1	1	1	19.552			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
			C	1	0.65	1	1	1	19.552			
L41 0.25-0.00	0.01	0.08	A	1	0.65	1	1	1	0.987	0.01	41.46	C
			B	1	0.65	1	1	1	0.987			
			C	1	0.65	1	1	1	0.987			
Sum Weight:	5.14	28.66						OTM	374.81 kip-ft	5.47		

Discrete Appurtenance Pressures - No Ice $G_H = 1.690$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
FO150-3	240.0000	0.00	-2.56	1.48	150.00	1.541	29	1.09	1.09
SBNH-1D6565C w/ Mount Pipe	0.0000	0.10	0.00	-2.96	150.00	1.541	29	11.68	9.84
SBNH-1D6565C w/ Mount Pipe	120.0000	0.10	2.56	1.48	150.00	1.541	29	11.68	9.84
AM-X-CD-16-65-00T-RET w/ Mount Pipe	240.0000	0.07	-2.56	1.48	150.00	1.541	29	8.50	6.30
7770.00 w/ Mount Pipe	0.0000	0.06	0.00	-2.96	150.00	1.541	29	6.12	4.25
7770.00 w/ Mount Pipe	120.0000	0.06	2.56	1.48	150.00	1.541	29	6.12	4.25
7770.00 w/ Mount Pipe	240.0000	0.06	-2.56	1.48	150.00	1.541	29	6.12	4.25
LGP21401	0.0000	0.02	0.00	-2.96	150.00	1.541	29	2.58	0.73
LGP21401	120.0000	0.02	2.56	1.48	150.00	1.541	29	2.58	0.73
LGP21401	240.0000	0.02	-2.56	1.48	150.00	1.541	29	2.58	0.73
RRUS-11	0.0000	0.06	0.00	-2.96	150.00	1.541	29	2.94	1.25
RRUS-11	120.0000	0.06	2.56	1.48	150.00	1.541	29	2.94	1.25
RRUS-11	240.0000	0.06	-2.56	1.48	150.00	1.541	29	2.94	1.25
RRUS-11	0.0000	0.06	0.00	-2.96	150.00	1.541	29	2.94	1.25
RRUS-11	120.0000	0.06	2.56	1.48	150.00	1.541	29	2.94	1.25
RRUS-11	240.0000	0.06	-2.56	1.48	150.00	1.541	29	2.94	1.25
DC6-48-60-18-8F	0.0000	0.03	0.00	-2.96	150.00	1.541	29	2.57	4.32
Side Arm Mount [SO 103-3]	0.0000	0.22	0.00	0.00	149.00	1.538	28	9.50	9.50
4' x 2" Pipe Mount	0.0000	0.03	0.00	-1.97	147.00	1.532	28	0.79	0.79
4' x 2" Pipe Mount	120.0000	0.03	1.71	0.99	147.00	1.532	28	0.79	0.79
4' x 2" Pipe Mount	240.0000	0.03	-1.71	0.99	147.00	1.532	28	0.79	0.79
Side Arm Mount [SO 102-3]	0.0000	0.08	0.00	0.00	147.00	1.532	28	3.00	3.00
7770.00 w/ Mount Pipe	0.0000	0.06	0.00	-3.03	140.00	1.511	28	6.12	4.25
7770.00 w/ Mount Pipe	120.0000	0.06	2.62	1.52	140.00	1.511	28	6.12	4.25
7770.00 w/ Mount Pipe	240.0000	0.06	-2.62	1.52	140.00	1.511	28	6.12	4.25
TMA DD 1900 with 850 BYPASS	0.0000	0.04	0.00	-3.03	140.00	1.511	28	0.73	0.35
TMA DD 1900 with 850 BYPASS	120.0000	0.04	2.62	1.52	140.00	1.511	28	0.73	0.35
TMA DD 1900 with 850 BYPASS	240.0000	0.04	-2.62	1.52	140.00	1.511	28	0.73	0.35
4' x 2" Pipe Mount	0.0000	0.03	0.00	-3.03	139.00	1.508	28	0.79	0.79
4' x 2" Pipe Mount	120.0000	0.03	2.62	1.52	139.00	1.508	28	0.79	0.79
4' x 2" Pipe Mount	240.0000	0.03	-2.62	1.52	139.00	1.508	28	0.79	0.79
Side Arm Mount [SO 104-3]	0.0000	0.29	0.00	0.00	139.00	1.508	28	3.30	3.30
APXV18-209014-C w/ Mount Pipe	0.0000	0.04	0.00	-3.10	132.00	1.486	27	3.72	3.31
APXV18-209014-C w/	120.0000	0.04	2.69	1.55	132.00	1.486	27	3.72	3.31

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
Mount Pipe									
APXV18-209014-C w/ Mount Pipe	240.0000	0.04	-2.69	1.55	132.00	1.486	27	3.72	3.31
LGP 13901	0.0000	0.01	0.00	-3.10	132.00	1.486	27	0.59	0.28
LGP 13901	120.0000	0.01	2.69	1.55	132.00	1.486	27	0.59	0.28
LGP 13901	240.0000	0.01	-2.69	1.55	132.00	1.486	27	0.59	0.28
LNX-6515DS-VTM w/ Mount Pipe	0.0000	0.08	0.00	-3.10	132.00	1.486	27	11.68	9.84
LNX-6515DS-VTM w/ Mount Pipe	120.0000	0.08	2.69	1.55	132.00	1.486	27	11.68	9.84
LNX-6515DS-VTM w/ Mount Pipe	240.0000	0.08	-2.69	1.55	132.00	1.486	27	11.68	9.84
782 11066	0.0000	0.00	0.00	-3.10	132.00	1.486	27	0.17	0.10
782 11066	120.0000	0.00	2.69	1.55	132.00	1.486	27	0.17	0.10
782 11066	240.0000	0.00	-2.69	1.55	132.00	1.486	27	0.17	0.10
Side Arm Mount [SO 104-3]	0.0000	0.29	0.00	0.00	129.00	1.476	27	3.30	3.30
BXA-80080/6CF w/ Mount Pipe	0.0000	0.05	0.00	-4.17	120.00	1.446	27	8.08	5.49
BXA-80080/6CF w/ Mount Pipe	120.0000	0.05	3.61	2.08	120.00	1.446	27	8.08	5.49
BXA-80080/6CF w/ Mount Pipe	240.0000	0.05	-3.61	2.08	120.00	1.446	27	8.08	5.49
HBXX-6517DS-A2M w/ Mount Pipe	0.0000	0.07	0.00	-4.17	120.00	1.446	27	8.98	6.96
HBXX-6517DS-A2M w/ Mount Pipe	120.0000	0.07	3.61	2.08	120.00	1.446	27	8.98	6.96
HBXX-6517DS-A2M w/ Mount Pipe	240.0000	0.07	-3.61	2.08	120.00	1.446	27	8.98	6.96
SBNHH-1D65B w/ Mount Pipe	0.0000	0.07	0.00	-4.17	120.00	1.446	27	8.86	7.30
SBNHH-1D65B w/ Mount Pipe	120.0000	0.07	3.61	2.08	120.00	1.446	27	8.86	7.30
SBNHH-1D65B w/ Mount Pipe	240.0000	0.07	-3.61	2.08	120.00	1.446	27	8.86	7.30
RRH2X60-AWS	0.0000	0.06	0.00	-4.17	120.00	1.446	27	3.96	1.82
RRH2X60-AWS	120.0000	0.06	3.61	2.08	120.00	1.446	27	3.96	1.82
RRH2X60-AWS	240.0000	0.06	-3.61	2.08	120.00	1.446	27	3.96	1.82
RRH2X60-PCS	0.0000	0.05	0.00	-4.17	120.00	1.446	27	2.57	1.93
RRH2X60-PCS	120.0000	0.05	3.61	2.08	120.00	1.446	27	2.57	1.93
RRH2X60-PCS	240.0000	0.05	-3.61	2.08	120.00	1.446	27	2.57	1.93
DB-T1-6Z-8AB-0Z	0.0000	0.04	0.00	-4.17	120.00	1.446	27	5.60	2.33
DB-T1-6Z-8AB-0Z	120.0000	0.04	3.61	2.08	120.00	1.446	27	5.60	2.33
4' x 2" Pipe Mount	0.0000	0.06	0.00	-4.17	120.00	1.446	27	1.57	1.57
4' x 2" Pipe Mount	120.0000	0.06	3.61	2.08	120.00	1.446	27	1.57	1.57
4' x 2" Pipe Mount	240.0000	0.06	-3.61	2.08	120.00	1.446	27	1.57	1.57
6' x 2" Horizontal Mount Pipe	0.0000	0.06	0.00	-4.17	120.00	1.446	27	1.60	1.60
6' x 2" Horizontal Mount Pipe	120.0000	0.06	3.61	2.08	120.00	1.446	27	1.60	1.60
6' x 2" Horizontal Mount Pipe	240.0000	0.06	-3.61	2.08	120.00	1.446	27	1.60	1.60
Side Arm Mount [SO 104-3]	0.0000	0.29	0.00	0.00	120.00	1.446	27	3.30	3.30
FO150-3	0.0000	0.00	0.00	-2.44	80.00	1.288	24	1.09	1.09
6' x 2" Mount Pipe	0.0000	0.02	0.00	-1.94	80.00	1.288	24	1.43	1.43
Pipe Mount [PM 601-1]	0.0000	0.07	0.00	-1.94	80.00	1.288	24	3.00	0.90
	Sum Weight:	4.37							

Discrete Appurtenance Pressures - With Ice $G_H = 1.690$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
FO150-3	240.0000	0.02	-2.56	1.48	150.00	1.541	6	1.57	1.57	0.8987
SBNH-1D6565C w/ Mount Pipe	0.0000	0.27	0.00	-2.96	150.00	1.541	6	12.99	12.60	0.8987
SBNH-1D6565C w/ Mount Pipe	120.0000	0.27	2.56	1.48	150.00	1.541	6	12.99	12.60	0.8987
AM-X-CD-16-65-00T-RET w/ Mount Pipe	240.0000	0.20	-2.56	1.48	150.00	1.541	6	9.64	8.19	0.8987
7770.00 w/ Mount Pipe	0.0000	0.15	0.00	-2.96	150.00	1.541	6	7.03	5.57	0.8987
7770.00 w/ Mount Pipe	120.0000	0.15	2.56	1.48	150.00	1.541	6	7.03	5.57	0.8987
7770.00 w/ Mount Pipe	240.0000	0.15	-2.56	1.48	150.00	1.541	6	7.03	5.57	0.8987
LGP21401	0.0000	0.06	0.00	-2.96	150.00	1.541	6	3.16	1.15	0.8987
LGP21401	120.0000	0.06	2.56	1.48	150.00	1.541	6	3.16	1.15	0.8987
LGP21401	240.0000	0.06	-2.56	1.48	150.00	1.541	6	3.16	1.15	0.8987
RRUS-11	0.0000	0.09	0.00	-2.96	150.00	1.541	6	3.36	1.55	0.8987
RRUS-11	120.0000	0.09	2.56	1.48	150.00	1.541	6	3.36	1.55	0.8987
RRUS-11	240.0000	0.09	-2.56	1.48	150.00	1.541	6	3.36	1.55	0.8987
RRUS-11	0.0000	0.09	0.00	-2.96	150.00	1.541	6	3.36	1.55	0.8987
RRUS-11	120.0000	0.09	2.56	1.48	150.00	1.541	6	3.36	1.55	0.8987
RRUS-11	240.0000	0.09	-2.56	1.48	150.00	1.541	6	3.36	1.55	0.8987
DC6-48-60-18-8F	0.0000	0.09	0.00	-2.96	150.00	1.541	6	2.99	4.83	0.8987
Side Arm Mount [SO 103-3]	0.0000	0.39	0.00	0.00	149.00	1.538	6	13.63	13.63	0.8987
4' x 2" Pipe Mount	0.0000	0.04	0.00	-1.97	147.00	1.532	6	1.23	1.23	0.8973
4' x 2" Pipe Mount	120.0000	0.04	1.71	0.99	147.00	1.532	6	1.23	1.23	0.8973
4' x 2" Pipe Mount	240.0000	0.04	-1.71	0.99	147.00	1.532	6	1.23	1.23	0.8973
Side Arm Mount [SO 102-3]	0.0000	0.13	0.00	0.00	147.00	1.532	6	3.86	3.86	0.8973
7770.00 w/ Mount Pipe	0.0000	0.14	0.00	-3.03	140.00	1.511	5	7.02	5.56	0.8913
7770.00 w/ Mount Pipe	120.0000	0.14	2.62	1.52	140.00	1.511	5	7.02	5.56	0.8913
7770.00 w/ Mount Pipe	240.0000	0.14	-2.62	1.52	140.00	1.511	5	7.02	5.56	0.8913
TMA DD 1900 with 850 BYPASS	0.0000	0.06	0.00	-3.03	140.00	1.511	5	1.15	0.60	0.8913
TMA DD 1900 with 850 BYPASS	120.0000	0.06	2.62	1.52	140.00	1.511	5	1.15	0.60	0.8913
TMA DD 1900 with 850 BYPASS	240.0000	0.06	-2.62	1.52	140.00	1.511	5	1.15	0.60	0.8913
4' x 2" Pipe Mount	0.0000	0.04	0.00	-3.03	139.00	1.508	5	1.23	1.23	0.8913
4' x 2" Pipe Mount	120.0000	0.04	2.62	1.52	139.00	1.508	5	1.23	1.23	0.8913
4' x 2" Pipe Mount	240.0000	0.04	-2.62	1.52	139.00	1.508	5	1.23	1.23	0.8913
Side Arm Mount [SO 104-3]	0.0000	0.34	0.00	0.00	139.00	1.508	5	4.78	4.78	0.8913
APXV18-209014-C w/ Mount Pipe	0.0000	0.10	0.00	-3.10	132.00	1.486	5	4.46	4.53	0.8833
APXV18-209014-C w/ Mount Pipe	120.0000	0.10	2.69	1.55	132.00	1.486	5	4.46	4.53	0.8833
APXV18-209014-C w/ Mount Pipe	240.0000	0.10	-2.69	1.55	132.00	1.486	5	4.46	4.53	0.8833
LGP 13901	0.0000	0.02	0.00	-3.10	132.00	1.486	5	0.78	0.43	0.8833
LGP 13901	120.0000	0.02	2.69	1.55	132.00	1.486	5	0.78	0.43	0.8833
LGP 13901	240.0000	0.02	-2.69	1.55	132.00	1.486	5	0.78	0.43	0.8833
LNX-6515DS-VTM w/ Mount Pipe	0.0000	0.25	0.00	-3.10	132.00	1.486	5	12.96	12.55	0.8833
LNX-6515DS-VTM w/ Mount Pipe	120.0000	0.25	2.69	1.55	132.00	1.486	5	12.96	12.55	0.8833
LNX-6515DS-VTM w/ Mount Pipe	240.0000	0.25	-2.69	1.55	132.00	1.486	5	12.96	12.55	0.8833

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
782 11066	0.0000	0.01	0.00	-3.10	132.00	1.486	5	0.28	0.19	0.8833
782 11066	120.0000	0.01	2.69	1.55	132.00	1.486	5	0.28	0.19	0.8833
782 11066	240.0000	0.01	-2.69	1.55	132.00	1.486	5	0.28	0.19	0.8833
Side Arm Mount [SO 104-3]	0.0000	0.34	0.00	0.00	129.00	1.476	5	4.77	4.77	0.8833
BXA-80080/6CF w/ Mount Pipe	0.0000	0.16	0.00	-4.17	120.00	1.446	5	9.19	7.32	0.8757
BXA-80080/6CF w/ Mount Pipe	120.0000	0.16	3.61	2.08	120.00	1.446	5	9.19	7.32	0.8757
BXA-80080/6CF w/ Mount Pipe	240.0000	0.16	-3.61	2.08	120.00	1.446	5	9.19	7.32	0.8757
HBXX-6517DS-A2M w/ Mount Pipe	0.0000	0.20	0.00	-4.17	120.00	1.446	5	10.13	8.90	0.8757
HBXX-6517DS-A2M w/ Mount Pipe	120.0000	0.20	3.61	2.08	120.00	1.446	5	10.13	8.90	0.8757
HBXX-6517DS-A2M w/ Mount Pipe	240.0000	0.20	-3.61	2.08	120.00	1.446	5	10.13	8.90	0.8757
SBNHH-1D65B w/ Mount Pipe	0.0000	0.20	0.00	-4.17	120.00	1.446	5	10.16	9.44	0.8757
SBNHH-1D65B w/ Mount Pipe	120.0000	0.20	3.61	2.08	120.00	1.446	5	10.16	9.44	0.8757
SBNHH-1D65B w/ Mount Pipe	240.0000	0.20	-3.61	2.08	120.00	1.446	5	10.16	9.44	0.8757
RRH2X60-AWS	0.0000	0.10	0.00	-4.17	120.00	1.446	5	4.52	2.29	0.8757
RRH2X60-AWS	120.0000	0.10	3.61	2.08	120.00	1.446	5	4.52	2.29	0.8757
RRH2X60-AWS	240.0000	0.10	-3.61	2.08	120.00	1.446	5	4.52	2.29	0.8757
RRH2X60-PCS	0.0000	0.08	0.00	-4.17	120.00	1.446	5	2.97	2.29	0.8757
RRH2X60-PCS	120.0000	0.08	3.61	2.08	120.00	1.446	5	2.97	2.29	0.8757
RRH2X60-PCS	240.0000	0.08	-3.61	2.08	120.00	1.446	5	2.97	2.29	0.8757
DB-T1-6Z-8AB-0Z	0.0000	0.11	0.00	-4.17	120.00	1.446	5	6.16	2.73	0.8757
DB-T1-6Z-8AB-0Z	120.0000	0.11	3.61	2.08	120.00	1.446	5	6.16	2.73	0.8757
4' x 2" Pipe Mount	0.0000	0.08	0.00	-4.17	120.00	1.446	5	2.44	2.44	0.8757
4' x 2" Pipe Mount	120.0000	0.08	3.61	2.08	120.00	1.446	5	2.44	2.44	0.8757
4' x 2" Pipe Mount	240.0000	0.08	-3.61	2.08	120.00	1.446	5	2.44	2.44	0.8757
6' x 2" Horizontal Mount Pipe	0.0000	0.57	0.00	-4.17	120.00	1.446	5	3.08	3.08	0.8757
6' x 2" Horizontal Mount Pipe	120.0000	0.57	3.61	2.08	120.00	1.446	5	3.08	3.08	0.8757
6' x 2" Horizontal Mount Pipe	240.0000	0.57	-3.61	2.08	120.00	1.446	5	3.08	3.08	0.8757
Side Arm Mount [SO 104-3]	0.0000	0.34	0.00	0.00	120.00	1.446	5	4.75	4.75	0.8757
FO150-3	0.0000	0.02	0.00	-2.44	80.00	1.288	5	1.53	1.53	0.8341
6' x 2" Mount Pipe	0.0000	0.04	0.00	-1.94	80.00	1.288	5	2.17	2.17	0.8341
Pipe Mount [PM 601-1]	0.0000	0.09	0.00	-1.94	80.00	1.288	5	4.23	1.27	0.8341
	Sum Weight:	10.10								

Discrete Appurtenance Pressures - Service $G_H = 1.690$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
FO150-3	240.0000	0.00	-2.56	1.48	150.00	1.541	10	1.09	1.09
SBNH-1D6565C w/ Mount Pipe	0.0000	0.10	0.00	-2.96	150.00	1.541	10	11.68	9.84
SBNH-1D6565C w/ Mount Pipe	120.0000	0.10	2.56	1.48	150.00	1.541	10	11.68	9.84

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
AM-X-CD-16-65-00T-RET w/ Mount Pipe	240.0000	0.07	-2.56	1.48	150.00	1.541	10	8.50	6.30
7770.00 w/ Mount Pipe	0.0000	0.06	0.00	-2.96	150.00	1.541	10	6.12	4.25
7770.00 w/ Mount Pipe	120.0000	0.06	2.56	1.48	150.00	1.541	10	6.12	4.25
7770.00 w/ Mount Pipe	240.0000	0.06	-2.56	1.48	150.00	1.541	10	6.12	4.25
LGP21401	0.0000	0.02	0.00	-2.96	150.00	1.541	10	2.58	0.73
LGP21401	120.0000	0.02	2.56	1.48	150.00	1.541	10	2.58	0.73
LGP21401	240.0000	0.02	-2.56	1.48	150.00	1.541	10	2.58	0.73
RRUS-11	0.0000	0.06	0.00	-2.96	150.00	1.541	10	2.94	1.25
RRUS-11	120.0000	0.06	2.56	1.48	150.00	1.541	10	2.94	1.25
RRUS-11	240.0000	0.06	-2.56	1.48	150.00	1.541	10	2.94	1.25
RRUS-11	0.0000	0.06	0.00	-2.96	150.00	1.541	10	2.94	1.25
RRUS-11	120.0000	0.06	2.56	1.48	150.00	1.541	10	2.94	1.25
RRUS-11	240.0000	0.06	-2.56	1.48	150.00	1.541	10	2.94	1.25
DC6-48-60-18-8F	0.0000	0.03	0.00	-2.96	150.00	1.541	10	2.57	4.32
Side Arm Mount [SO 103-3]	0.0000	0.22	0.00	0.00	149.00	1.538	10	9.50	9.50
4' x 2" Pipe Mount	0.0000	0.03	0.00	-1.97	147.00	1.532	10	0.79	0.79
4' x 2" Pipe Mount	120.0000	0.03	1.71	0.99	147.00	1.532	10	0.79	0.79
4' x 2" Pipe Mount	240.0000	0.03	-1.71	0.99	147.00	1.532	10	0.79	0.79
Side Arm Mount [SO 102-3]	0.0000	0.08	0.00	0.00	147.00	1.532	10	3.00	3.00
7770.00 w/ Mount Pipe	0.0000	0.06	0.00	-3.03	140.00	1.511	10	6.12	4.25
7770.00 w/ Mount Pipe	120.0000	0.06	2.62	1.52	140.00	1.511	10	6.12	4.25
7770.00 w/ Mount Pipe	240.0000	0.06	-2.62	1.52	140.00	1.511	10	6.12	4.25
TMA DD 1900 with 850 BYPASS	0.0000	0.04	0.00	-3.03	140.00	1.511	10	0.73	0.35
TMA DD 1900 with 850 BYPASS	120.0000	0.04	2.62	1.52	140.00	1.511	10	0.73	0.35
TMA DD 1900 with 850 BYPASS	240.0000	0.04	-2.62	1.52	140.00	1.511	10	0.73	0.35
4' x 2" Pipe Mount	0.0000	0.03	0.00	-3.03	139.00	1.508	10	0.79	0.79
4' x 2" Pipe Mount	120.0000	0.03	2.62	1.52	139.00	1.508	10	0.79	0.79
4' x 2" Pipe Mount	240.0000	0.03	-2.62	1.52	139.00	1.508	10	0.79	0.79
Side Arm Mount [SO 104-3]	0.0000	0.29	0.00	0.00	139.00	1.508	10	3.30	3.30
APXV18-209014-C w/ Mount Pipe	0.0000	0.04	0.00	-3.10	132.00	1.486	10	3.72	3.31
APXV18-209014-C w/ Mount Pipe	120.0000	0.04	2.69	1.55	132.00	1.486	10	3.72	3.31
APXV18-209014-C w/ Mount Pipe	240.0000	0.04	-2.69	1.55	132.00	1.486	10	3.72	3.31
LGP 13901	0.0000	0.01	0.00	-3.10	132.00	1.486	10	0.59	0.28
LGP 13901	120.0000	0.01	2.69	1.55	132.00	1.486	10	0.59	0.28
LGP 13901	240.0000	0.01	-2.69	1.55	132.00	1.486	10	0.59	0.28
LNX-6515DS-VTM w/ Mount Pipe	0.0000	0.08	0.00	-3.10	132.00	1.486	10	11.68	9.84
LNX-6515DS-VTM w/ Mount Pipe	120.0000	0.08	2.69	1.55	132.00	1.486	10	11.68	9.84
LNX-6515DS-VTM w/ Mount Pipe	240.0000	0.08	-2.69	1.55	132.00	1.486	10	11.68	9.84
782 11066	0.0000	0.00	0.00	-3.10	132.00	1.486	10	0.17	0.10
782 11066	120.0000	0.00	2.69	1.55	132.00	1.486	10	0.17	0.10
782 11066	240.0000	0.00	-2.69	1.55	132.00	1.486	10	0.17	0.10
Side Arm Mount [SO 104-3]	0.0000	0.29	0.00	0.00	129.00	1.476	9	3.30	3.30
BXA-80080/6CF w/ Mount Pipe	0.0000	0.05	0.00	-4.17	120.00	1.446	9	8.08	5.49
BXA-80080/6CF w/ Mount Pipe	120.0000	0.05	3.61	2.08	120.00	1.446	9	8.08	5.49
BXA-80080/6CF w/	240.0000	0.05	-3.61	2.08	120.00	1.446	9	8.08	5.49

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
Mount Pipe									
HBXX-6517DS-A2M w/ Mount Pipe	0.0000	0.07	0.00	-4.17	120.00	1.446	9	8.98	6.96
HBXX-6517DS-A2M w/ Mount Pipe	120.0000	0.07	3.61	2.08	120.00	1.446	9	8.98	6.96
HBXX-6517DS-A2M w/ Mount Pipe	240.0000	0.07	-3.61	2.08	120.00	1.446	9	8.98	6.96
SBNHH-1D65B w/ Mount Pipe	0.0000	0.07	0.00	-4.17	120.00	1.446	9	8.86	7.30
SBNHH-1D65B w/ Mount Pipe	120.0000	0.07	3.61	2.08	120.00	1.446	9	8.86	7.30
SBNHH-1D65B w/ Mount Pipe	240.0000	0.07	-3.61	2.08	120.00	1.446	9	8.86	7.30
RRH2X60-AWS	0.0000	0.06	0.00	-4.17	120.00	1.446	9	3.96	1.82
RRH2X60-AWS	120.0000	0.06	3.61	2.08	120.00	1.446	9	3.96	1.82
RRH2X60-AWS	240.0000	0.06	-3.61	2.08	120.00	1.446	9	3.96	1.82
RRH2X60-PCS	0.0000	0.05	0.00	-4.17	120.00	1.446	9	2.57	1.93
RRH2X60-PCS	120.0000	0.05	3.61	2.08	120.00	1.446	9	2.57	1.93
RRH2X60-PCS	240.0000	0.05	-3.61	2.08	120.00	1.446	9	2.57	1.93
DB-T1-6Z-8AB-0Z	0.0000	0.04	0.00	-4.17	120.00	1.446	9	5.60	2.33
DB-T1-6Z-8AB-0Z	120.0000	0.04	3.61	2.08	120.00	1.446	9	5.60	2.33
4' x 2" Pipe Mount	0.0000	0.06	0.00	-4.17	120.00	1.446	9	1.57	1.57
4' x 2" Pipe Mount	120.0000	0.06	3.61	2.08	120.00	1.446	9	1.57	1.57
4' x 2" Pipe Mount	240.0000	0.06	-3.61	2.08	120.00	1.446	9	1.57	1.57
6' x 2" Horizontal Mount Pipe	0.0000	0.06	0.00	-4.17	120.00	1.446	9	1.60	1.60
6' x 2" Horizontal Mount Pipe	120.0000	0.06	3.61	2.08	120.00	1.446	9	1.60	1.60
6' x 2" Horizontal Mount Pipe	240.0000	0.06	-3.61	2.08	120.00	1.446	9	1.60	1.60
Side Arm Mount [SO 104-3]	0.0000	0.29	0.00	0.00	120.00	1.446	9	3.30	3.30
FO150-3	0.0000	0.00	0.00	-2.44	80.00	1.288	8	1.09	1.09
6' x 2" Mount Pipe	0.0000	0.02	0.00	-1.94	80.00	1.288	8	1.43	1.43
Pipe Mount [PM 601-1]	0.0000	0.07	0.00	-1.94	80.00	1.288	8	3.00	0.90
	Sum Weight:	4.37							

Dish Pressures - No Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
80.00	MPRD2449	0.0000	0.04	0.00	-2.44	1.288	3.69	24
		Sum Weight:	0.04					

Dish Pressures - With Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf	t_z in
80.00	MPRD2449	0.0000	0.07	0.00	-2.44	1.288	4.17	5	0.8341
		Sum Weight:	0.07						

Dish Pressures - Service

Elevation ft	Dish Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
80.00	MPRD2449	0.0000	0.04	0.00	-2.44	1.288	3.69	8
		Sum Weight:	0.04					

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	28.66					
Bracing Weight	0.00					
Total Member Self-Weight	28.66			0.65	0.05	
Total Weight	38.21			0.65	0.05	
Wind 0 deg - No Ice		-0.06	-28.07	-2703.52	6.62	0.48
Wind 30 deg - No Ice		13.94	-24.27	-2337.01	-1344.64	-0.15
Wind 60 deg - No Ice		24.19	-13.96	-1343.59	-2334.09	-0.72
Wind 90 deg - No Ice		27.96	0.08	8.80	-2699.03	-1.10
Wind 120 deg - No Ice		24.27	14.10	1359.28	-2342.47	-1.20
Wind 150 deg - No Ice		14.06	24.36	2347.75	-1357.64	-0.98
Wind 180 deg - No Ice		0.06	28.10	2706.86	-6.52	-0.48
Wind 210 deg - No Ice		-13.96	24.31	2341.18	1346.36	0.15
Wind 240 deg - No Ice		-24.21	14.00	1347.90	2336.00	0.72
Wind 270 deg - No Ice		-27.96	-0.04	-4.34	2699.13	1.10
Wind 300 deg - No Ice		-24.25	-14.06	-1354.97	2340.76	1.20
Wind 330 deg - No Ice		-14.04	-24.33	-2343.58	1356.11	0.98
Member Ice	5.37					
Total Weight Ice	54.36			3.92	0.64	
Wind 0 deg - Ice		-0.01	-7.23	-682.07	1.56	0.04
Wind 30 deg - Ice		3.60	-6.26	-589.50	-341.20	-0.06
Wind 60 deg - Ice		6.24	-3.60	-337.80	-592.03	-0.14
Wind 90 deg - Ice		7.21	0.01	5.19	-684.26	-0.18
Wind 120 deg - Ice		6.25	3.63	347.90	-593.35	-0.18
Wind 150 deg - Ice		3.62	6.27	598.89	-343.15	-0.13
Wind 180 deg - Ice		0.01	7.24	690.36	-0.28	-0.04
Wind 210 deg - Ice		-3.60	6.26	597.97	342.84	0.06
Wind 240 deg - Ice		-6.24	3.61	346.31	593.72	0.14
Wind 270 deg - Ice		-7.21	-0.00	3.35	685.55	0.18
Wind 300 deg - Ice		-6.25	-3.62	-339.40	594.24	0.18
Wind 330 deg - Ice		-3.61	-6.26	-590.42	344.08	0.13
Total Weight	38.21			0.65	0.05	
Wind 0 deg - Service		-0.02	-9.71	-936.18	2.06	0.17
Wind 30 deg - Service		4.82	-8.40	-809.36	-465.50	-0.05
Wind 60 deg - Service		8.37	-4.83	-465.62	-807.88	-0.25
Wind 90 deg - Service		9.68	0.03	2.34	-934.15	-0.38
Wind 120 deg - Service		8.40	4.88	469.63	-810.78	-0.42
Wind 150 deg - Service		4.87	8.43	811.67	-470.00	-0.34
Wind 180 deg - Service		0.02	9.72	935.93	-2.49	-0.17
Wind 210 deg - Service		-4.83	8.41	809.39	465.64	0.05
Wind 240 deg - Service		-8.38	4.84	465.70	808.07	0.25
Wind 270 deg - Service		-9.68	-0.01	-2.21	933.72	0.38
Wind 300 deg - Service		-8.39	-4.86	-469.55	809.72	0.42
Wind 330 deg - Service		-4.86	-8.42	-811.63	469.01	0.34

Load Combinations

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	149 - 144	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-3.06	-0.12	0.34
			Max. Mx	5	-1.25	-23.85	0.12
			Max. My	2	-1.26	-0.09	23.35
			Max. Vy	5	4.38	-23.85	0.12
			Max. Vx	8	4.29	-0.01	-23.09
			Max. Torque	6			0.85
L2	144 - 139	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	14	-3.48	-0.12	0.34
			Max. Mx	5	-1.50	-46.58	0.16
			Max. My	2	-1.51	-0.13	45.62
			Max. Vy	5	4.72	-46.58	0.16
			Max. Vx	8	4.62	0.03	-45.36
			Max. Torque	6			0.85
L3	139 - 134	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-5.01	-0.11	0.34
			Max. Mx	5	-2.39	-77.46	0.20
			Max. My	2	-2.40	-0.17	76.03
			Max. Vy	5	6.19	-77.46	0.20
			Max. Vx	8	6.09	0.06	-75.77
			Max. Torque	6			0.84
L4	134 - 129	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-5.48	-0.11	0.33
			Max. Mx	5	-2.69	-109.27	0.24
			Max. My	2	-2.70	-0.20	107.37
			Max. Vy	5	6.54	-109.27	0.24
			Max. Vx	8	6.45	0.09	-107.12
			Max. Torque	6			0.84
L5	129 - 124	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-7.57	-0.22	0.26
			Max. Mx	5	-3.59	-160.50	0.26
			Max. My	2	-3.60	-0.27	158.11
			Max. Vy	5	9.21	-160.50	0.26
			Max. Vx	8	9.11	0.10	-157.88
			Max. Torque	6			0.84
L6	124 - 119	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-12.99	-0.69	0.40
			Max. Mx	5	-5.32	-212.52	0.29
			Max. My	2	-5.32	-0.38	209.63
			Max. Vy	5	14.41	-212.52	0.29
			Max. Vx	8	14.39	-0.07	-209.27
			Max. Torque	6			1.22
L7	119 - 111.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-13.64	-0.66	0.28
			Max. Mx	5	-5.70	-267.17	0.05
			Max. My	2	-5.70	-0.16	264.19
			Max. Vy	5	14.75	-267.17	0.05
			Max. Vx	8	14.73	-0.28	-263.89
			Max. Torque	6			1.22
L8	111.5 - 110.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-14.90	-0.61	0.11
			Max. Mx	5	-6.46	-342.10	-0.27
			Max. My	2	-6.47	0.14	338.99
			Max. Vy	5	15.23	-342.10	-0.27
			Max. Vx	8	15.21	-0.56	-338.76
			Max. Torque	6			1.21
L9	110.25 - 107.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-15.41	-0.59	0.01
			Max. Mx	5	-6.78	-384.38	-0.44
			Max. My	2	-6.78	0.30	381.21
			Max. Vy	5	15.53	-384.38	-0.44
			Max. Vx	8	15.51	-0.72	-381.02
			Max. Torque	6			1.21
L10	107.5 - 107.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-15.47	-0.58	0.01
			Max. Mx	5	-6.83	-388.27	-0.46
			Max. My	2	-6.83	0.31	385.09
			Max. Vy	5	15.56	-388.27	-0.46
			Max. Vx	8	15.54	-0.73	-384.90

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	6			1.20
L11	107.25 - 102.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-16.71	-0.53	
			Max. Mx	5	-7.69	-467.52	-0.78
			Max. My	2	-7.69	0.61	464.22
			Max. Vy	5	16.15	-467.52	-0.78
			Max. Vx	8	16.13	-1.01	-464.11
			Max. Torque	6			1.20
L12	102.25 - 97.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-17.96	-0.49	-0.35
			Max. Mx	5	-8.56	-549.71	-1.10
			Max. My	2	-8.57	0.91	546.28
			Max. Vy	5	16.74	-549.71	-1.10
			Max. Vx	8	16.72	-1.29	-546.25
			Max. Torque	6			1.19
L13	97.25 - 92.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-19.22	-0.43	-0.53
			Max. Mx	5	-9.46	-634.81	-1.43
			Max. My	8	-9.46	-1.57	-631.30
			Max. Vy	5	17.32	-634.81	-1.43
			Max. Vx	8	17.30	-1.57	-631.30
			Max. Torque	6			1.18
L14	92.25 - 90.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-19.67	-0.42	-0.59
			Max. Mx	5	-9.77	-665.28	-1.54
			Max. My	8	-9.77	-1.67	-661.76
			Max. Vy	5	17.52	-665.28	-1.54
			Max. Vx	8	17.50	-1.67	-661.76
			Max. Torque	6			1.17
L15	90.5 - 90.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-19.73	-0.41	-0.60
			Max. Mx	5	-9.83	-669.67	-1.56
			Max. My	8	-9.83	-1.68	-666.14
			Max. Vy	5	17.55	-669.67	-1.56
			Max. Vx	8	17.53	-1.68	-666.14
			Max. Torque	6			1.17
L16	90.25 - 88	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-20.31	-0.39	-0.69
			Max. Mx	5	-10.23	-709.49	-1.70
			Max. My	8	-10.23	-1.81	-705.95
			Max. Vy	5	17.86	-709.49	-1.70
			Max. Vx	8	17.84	-1.81	-705.95
			Max. Torque	6			1.16
L17	88 - 87.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-20.39	-0.39	-0.70
			Max. Mx	5	-10.30	-713.96	-1.72
			Max. My	8	-10.30	-1.82	-710.41
			Max. Vy	5	17.89	-713.96	-1.72
			Max. Vx	8	17.87	-1.82	-710.41
			Max. Torque	6			1.15
L18	87.75 - 87.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-20.47	-0.39	-0.71
			Max. Mx	5	-10.36	-718.44	-1.74
			Max. My	8	-10.36	-1.84	-714.88
			Max. Vy	5	17.93	-718.44	-1.74
			Max. Vx	8	17.91	-1.84	-714.88
			Max. Torque	6			1.15
L19	87.5 - 87.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-20.54	-0.38	-0.72
			Max. Mx	5	-10.41	-722.92	-1.75

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	8	-10.41	-1.85	-719.37
			Max. Vy	5	17.96	-722.92	-1.75
			Max. Vx	8	17.94	-1.85	-719.37
			Max. Torque	6			1.15
L20	87.25 - 82.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-21.92	-0.33	-0.91
			Max. Mx	5	-11.42	-814.30	-2.08
			Max. My	8	-11.42	-2.13	-810.71
			Max. Vy	5	18.60	-814.30	-2.08
			Max. Vx	8	18.58	-2.13	-810.71
			Max. Torque	6			1.15
L21	82.25 - 75.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-22.85	-0.30	-0.52
			Max. Mx	5	-12.06	-861.22	-2.00
			Max. My	2	-12.06	1.95	857.65
			Max. Vy	5	19.11	-861.22	-2.00
			Max. Vx	8	19.24	-2.27	-857.38
			Max. Torque	6			1.55
L22	75.25 - 74.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-25.27	-0.25	-0.71
			Max. Mx	5	-13.94	-958.37	-2.43
			Max. My	2	-13.93	2.25	955.31
			Max. Vy	5	19.76	-958.37	-2.43
			Max. Vx	8	19.89	-2.55	-955.25
			Max. Torque	6			1.53
L23	74.75 - 70.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-26.57	-0.20	-0.88
			Max. Mx	5	-14.93	-1043.39	-2.79
			Max. My	8	-14.92	-2.79	-1040.89
			Max. Vy	5	20.26	-1043.39	-2.79
			Max. Vx	8	20.40	-2.79	-1040.89
			Max. Torque	6			1.53
L24	70.5 - 70.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-26.66	-0.20	-0.89
			Max. Mx	5	-15.00	-1048.46	-2.82
			Max. My	8	-14.99	-2.80	-1045.99
			Max. Vy	5	20.29	-1048.46	-2.82
			Max. Vx	8	20.43	-2.80	-1045.99
			Max. Torque	6			1.51
L25	70.25 - 65.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-28.34	-0.14	-1.09
			Max. Mx	5	-16.32	-1151.46	-3.25
			Max. My	8	-16.31	-3.08	-1149.72
			Max. Vy	5	20.92	-1151.46	-3.25
			Max. Vx	8	21.05	-3.08	-1149.72
			Max. Torque	6			1.51
L26	65.25 - 60.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-30.04	-0.09	-1.29
			Max. Mx	5	-17.66	-1257.56	-3.68
			Max. My	8	-17.65	-3.36	-1256.55
			Max. Vy	5	21.53	-1257.56	-3.68
			Max. Vx	8	21.67	-3.36	-1256.55
			Max. Torque	6			1.49
L27	60.25 - 55.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-31.75	-0.03	-1.50
			Max. Mx	5	-19.02	-1366.69	-4.12
			Max. My	8	-19.01	-3.64	-1366.41
			Max. Vy	5	22.13	-1366.69	-4.12
			Max. Vx	8	22.27	-3.64	-1366.41
			Max. Torque	6			1.47
L28	55.25 - 50.25	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	14	-33.47	0.03	-1.70
			Max. Mx	5	-20.39	-1478.78	-4.55
			Max. My	8	-20.39	-3.92	-1479.23
			Max. Vy	5	22.72	-1478.78	-4.55
			Max. Vx	8	22.85	-3.92	-1479.23
			Max. Torque	6			1.45
L29	50.25 - 45.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-35.21	0.08	-1.91
			Max. Mx	5	-21.79	-1593.74	-4.99
			Max. My	8	-21.78	-4.19	-1594.92
			Max. Vy	5	23.28	-1593.74	-4.99
			Max. Vx	8	23.42	-4.19	-1594.92
			Max. Torque	6			1.43
L30	45.25 - 39.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-35.30	0.09	-1.92
			Max. Mx	5	-21.86	-1599.56	-5.01
			Max. My	8	-21.86	-4.21	-1600.78
			Max. Vy	5	23.31	-1599.56	-5.01
			Max. Vx	8	23.44	-4.21	-1600.78
			Max. Torque	6			1.41
L31	39.75 - 38.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-39.16	0.16	-2.19
			Max. Mx	5	-25.06	-1747.58	-5.56
			Max. My	8	-25.05	-4.55	-1749.72
			Max. Vy	5	24.06	-1747.58	-5.56
			Max. Vx	8	24.20	-4.55	-1749.72
			Max. Torque	6			1.38
L32	38.75 - 35.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-40.43	0.20	-2.32
			Max. Mx	5	-26.11	-1826.31	-5.84
			Max. My	8	-26.11	-4.73	-1828.93
			Max. Vy	5	24.41	-1826.31	-5.84
			Max. Vx	8	24.54	-4.73	-1828.93
			Max. Torque	6			1.38
L33	35.5 - 35.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-40.53	0.20	-2.33
			Max. Mx	5	-26.20	-1832.41	-5.87
			Max. My	8	-26.20	-4.75	-1835.07
			Max. Vy	5	24.43	-1832.41	-5.87
			Max. Vx	8	24.56	-4.75	-1835.07
			Max. Torque	6			1.37
L34	35.25 - 30.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-42.49	0.26	-2.55
			Max. Mx	5	-27.83	-1955.79	-6.30
			Max. My	8	-27.83	-5.02	-1959.18
			Max. Vy	5	24.94	-1955.79	-6.30
			Max. Vx	8	25.07	-5.02	-1959.18
			Max. Torque	6			1.36
L35	30.25 - 25.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-44.48	0.32	-2.76
			Max. Mx	5	-29.50	-2081.69	-6.74
			Max. My	8	-29.49	-5.30	-2085.83
			Max. Vy	11	-25.45	2081.63	3.79
			Max. Vx	8	25.58	-5.30	-2085.83
			Max. Torque	6			1.35
L36	25.25 - 20.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-46.49	0.38	-2.98
			Max. Mx	5	-31.18	-2210.13	-7.19
			Max. My	8	-31.17	-5.57	-2215.00
			Max. Vy	11	-25.95	2210.10	3.92
			Max. Vx	8	26.08	-5.57	-2215.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	6			1.33
L37	20.25 - 15.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-48.52	0.44	-3.21
			Max. Mx	5	-32.88	-2341.08	-7.63
			Max. My	8	-32.88	-5.84	-2346.69
			Max. Vy	11	-26.45	2341.08	4.06
			Max. Vx	8	26.59	-5.84	-2346.69
			Max. Torque	6			1.31
L38	15.25 - 10.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-50.57	0.51	-3.43
			Max. Mx	11	-34.60	2474.57	4.19
			Max. My	8	-34.60	-6.11	-2480.89
			Max. Vy	11	-26.96	2474.57	4.19
			Max. Vx	8	27.09	-6.11	-2480.89
			Max. Torque	6			1.28
L39	10.25 - 5.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-52.65	0.57	-3.67
			Max. Mx	11	-36.35	2610.56	4.31
			Max. My	8	-36.35	-6.38	-2617.59
			Max. Vy	11	-27.45	2610.56	4.31
			Max. Vx	8	27.59	-6.38	-2617.59
			Max. Torque	6			1.26
L40	5.25 - 0.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-54.74	0.64	-3.91
			Max. Mx	11	-38.11	2749.03	4.44
			Max. My	8	-38.11	-6.65	-2756.78
			Max. Vy	11	-27.95	2749.03	4.44
			Max. Vx	8	28.08	-6.65	-2756.78
			Max. Torque	6			1.24
L41	0.25 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-54.85	0.64	-3.92
			Max. Mx	11	-38.21	2756.02	4.45
			Max. My	8	-38.21	-6.66	-2763.80
			Max. Vy	5	27.96	-2755.93	-8.97
			Max. Vx	8	28.10	-6.66	-2763.80
			Max. Torque	6			1.22

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	14	54.85	0.00	0.00
	Max. H_x	11	38.21	27.96	0.04
	Max. H_z	2	38.21	0.06	28.07
	Max. M_x	2	2760.42	0.06	28.07
	Max. M_z	5	2755.93	-27.96	-0.08
	Max. Torsion	6	1.22	-24.27	-14.10
	Min. Vert	33	38.21	-0.02	-9.72
	Min. H_x	5	38.21	-27.96	-0.08
	Min. H_z	8	38.21	-0.06	-28.10
	Min. M_x	8	-2763.80	-0.06	-28.10
	Min. M_z	11	-2756.02	27.96	0.04
	Min. Torsion	12	-1.21	24.25	14.06

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	38.21	1.18	0.00	0.65	-0.10	0.00
Dead+Wind 0 deg - No Ice	38.21	-0.06	-28.07	-2760.42	6.76	0.49
Dead+Wind 30 deg - No Ice	38.21	13.94	-24.27	-2386.20	-1372.99	-0.15
Dead+Wind 60 deg - No Ice	38.21	24.19	-13.96	-1371.88	-2383.30	-0.72
Dead+Wind 90 deg - No Ice	38.21	27.96	0.08	8.97	-2755.93	-1.11
Dead+Wind 120 deg - No Ice	38.21	24.27	14.10	1387.87	-2391.83	-1.22
Dead+Wind 150 deg - No Ice	38.21	14.06	24.36	2397.13	-1386.25	-1.00
Dead+Wind 180 deg - No Ice	38.21	0.06	28.10	2763.80	-6.66	-0.49
Dead+Wind 210 deg - No Ice	38.21	-13.96	24.31	2390.43	1374.73	0.15
Dead+Wind 240 deg - No Ice	38.21	-24.21	14.00	1376.26	2385.23	0.73
Dead+Wind 270 deg - No Ice	38.21	-27.96	-0.04	-4.45	2756.02	1.11
Dead+Wind 300 deg - No Ice	38.21	-24.25	-14.06	-1383.49	2390.09	1.21
Dead+Wind 330 deg - No Ice	38.21	-14.04	-24.33	-2392.90	1384.69	1.00
Dead+Ice+Temp	54.85	0.00	0.00	3.92	0.64	0.00
Dead+Wind 0 deg+Ice+Temp	54.85	-0.01	-7.23	-707.81	1.59	0.05
Dead+Wind 30 deg+Ice+Temp	54.85	3.60	-6.26	-611.75	-354.11	-0.06
Dead+Wind 60 deg+Ice+Temp	54.85	6.24	-3.60	-350.57	-614.42	-0.14
Dead+Wind 90 deg+Ice+Temp	54.85	7.21	0.01	5.35	-710.13	-0.19
Dead+Wind 120 deg+Ice+Temp	54.85	6.25	3.63	360.98	-615.78	-0.19
Dead+Wind 150 deg+Ice+Temp	54.85	3.62	6.27	621.43	-356.13	-0.14
Dead+Wind 180 deg+Ice+Temp	54.85	0.01	7.24	716.35	-0.31	-0.05
Dead+Wind 210 deg+Ice+Temp	54.85	-3.60	6.26	620.48	355.76	0.05
Dead+Wind 240 deg+Ice+Temp	54.85	-6.24	3.61	359.33	616.11	0.14
Dead+Wind 270 deg+Ice+Temp	54.85	-7.21	-0.00	3.45	711.41	0.19
Dead+Wind 300 deg+Ice+Temp	54.85	-6.25	-3.62	-352.22	616.65	0.19
Dead+Wind 330 deg+Ice+Temp	54.85	-3.61	-6.26	-612.70	357.04	0.14
Dead+Wind 0 deg - Service	38.21	-0.02	-9.71	-955.29	2.37	0.17
Dead+Wind 30 deg - Service	38.21	4.82	-8.40	-825.73	-475.33	-0.05
Dead+Wind 60 deg - Service	38.21	8.37	-4.83	-474.55	-825.13	-0.25
Dead+Wind 90 deg - Service	38.21	9.68	0.03	3.53	-954.14	-0.39
Dead+Wind 120 deg - Service	38.21	8.40	4.88	480.94	-828.08	-0.42
Dead+Wind 150 deg - Service	38.21	4.87	8.43	830.37	-479.92	-0.35
Dead+Wind 180 deg - Service	38.21	0.02	9.72	957.32	-2.28	-0.17
Dead+Wind 210 deg - Service	38.21	-4.83	8.41	828.05	475.99	0.05
Dead+Wind 240 deg - Service	38.21	-8.38	4.84	476.92	825.85	0.25
Dead+Wind 270 deg - Service	38.21	-9.68	-0.01	-1.11	954.23	0.39
Dead+Wind 300 deg - Service	38.21	-8.39	-4.86	-478.57	827.54	0.42
Dead+Wind 330 deg - Service	38.21	-4.86	-8.42	-828.05	479.44	0.35

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	**0.00**	-38.21	0.00	-1.18	38.21	0.00	**3.092**%
2	-0.06	-38.21	-28.07	0.06	38.21	28.07	0.000%
3	13.94	-38.21	-24.27	-13.94	38.21	24.27	0.000%
4	24.19	-38.21	-13.96	-24.19	38.21	13.96	0.000%
5	27.96	-38.21	0.08	-27.96	38.21	-0.08	0.000%
6	24.27	-38.21	14.10	-24.27	38.21	-14.10	0.000%
7	14.06	-38.21	24.36	-14.06	38.21	-24.36	0.000%
8	0.06	-38.21	28.10	-0.06	38.21	-28.10	0.000%
9	-13.96	-38.21	24.31	13.96	38.21	-24.31	0.000%
10	-24.21	-38.21	14.00	24.21	38.21	-14.00	0.000%

	Sum of Applied Forces			*Sum of Reactions*			
Load Comb.	*PX K*	*PY K*	*PZ K*	*PX K*	*PY K*	*PZ K*	*% Error*
11	-27.96	-38.21	-0.04	27.96	38.21	0.04	0.000%
12	-24.25	-38.21	-14.06	24.25	38.21	14.06	0.000%
13	-14.04	-38.21	-24.33	14.04	38.21	24.33	0.000%
14	0.00	-54.85	0.00	0.00	54.85	0.00	0.000%
15	-0.01	-54.85	-7.23	0.01	54.85	7.23	0.000%
16	3.60	-54.85	-6.26	-3.60	54.85	6.26	0.000%
17	6.24	-54.85	-3.60	-6.24	54.85	3.60	0.000%
18	7.21	-54.85	0.01	-7.21	54.85	-0.01	0.000%
19	6.25	-54.85	3.63	-6.25	54.85	-3.63	0.000%
20	3.62	-54.85	6.27	-3.62	54.85	-6.27	0.000%
21	0.01	-54.85	7.24	-0.01	54.85	-7.24	0.000%
22	-3.60	-54.85	6.26	3.60	54.85	-6.26	0.000%
23	-6.24	-54.85	3.61	6.24	54.85	-3.61	0.000%
24	-7.21	-54.85	-0.00	7.21	54.85	0.00	0.000%
25	-6.25	-54.85	-3.62	6.25	54.85	3.62	0.000%
26	-3.61	-54.85	-6.26	3.61	54.85	6.26	0.000%
27	-0.02	-38.21	-9.71	0.02	38.21	9.71	0.000%
28	4.82	-38.21	-8.40	-4.82	38.21	8.40	0.000%
29	8.37	-38.21	-4.83	-8.37	38.21	4.83	0.000%
30	9.68	-38.21	0.03	-9.68	38.21	-0.03	0.000%
31	8.40	-38.21	4.88	-8.40	38.21	-4.88	0.000%
32	4.87	-38.21	8.43	-4.87	38.21	-8.43	0.000%
33	0.02	-38.21	9.72	-0.02	38.21	-9.72	0.000%
34	-4.83	-38.21	8.41	4.83	38.21	-8.41	0.000%
35	-8.38	-38.21	4.84	8.38	38.21	-4.84	0.000%
36	-9.68	-38.21	-0.01	9.68	38.21	0.01	0.000%
37	-8.39	-38.21	-4.86	8.39	38.21	4.86	0.000%
38	-4.86	-38.21	-8.42	4.86	38.21	8.42	0.000%

Non-Linear Convergence Results

Load Combination	*Converged?*	*Number of Cycles*	*Displacement Tolerance*	*Force Tolerance*
1	Yes	5	0.00000001	0.00018486
2	Yes	5	0.00000001	0.00002881
3	Yes	6	0.00000001	0.00002379
4	Yes	6	0.00000001	0.00002438
5	Yes	5	0.00000001	0.00005604
6	Yes	6	0.00000001	0.00002325
7	Yes	6	0.00000001	0.00002495
8	Yes	5	0.00000001	0.00004076
9	Yes	6	0.00000001	0.00002392
10	Yes	6	0.00000001	0.00002340
11	Yes	5	0.00000001	0.00006856
12	Yes	6	0.00000001	0.00002508
13	Yes	6	0.00000001	0.00002332
14	Yes	4	0.00000001	0.00000001
15	Yes	5	0.00000001	0.00073560
16	Yes	5	0.00000001	0.00082345
17	Yes	5	0.00000001	0.00082513
18	Yes	5	0.00000001	0.00074023
19	Yes	5	0.00000001	0.00083193
20	Yes	5	0.00000001	0.00083446
21	Yes	5	0.00000001	0.00074219
22	Yes	5	0.00000001	0.00083062
23	Yes	5	0.00000001	0.00082949

24	Yes	5	0.00000001	0.00073951
25	Yes	5	0.00000001	0.00082737
26	Yes	5	0.00000001	0.00082432
27	Yes	4	0.00000001	0.00033792
28	Yes	5	0.00000001	0.00007544
29	Yes	5	0.00000001	0.00007942
30	Yes	4	0.00000001	0.00050495
31	Yes	5	0.00000001	0.00007187
32	Yes	5	0.00000001	0.00008301
33	Yes	4	0.00000001	0.00036012
34	Yes	5	0.00000001	0.00007626
35	Yes	5	0.00000001	0.00007285
36	Yes	4	0.00000001	0.00053256
37	Yes	5	0.00000001	0.00008388
38	Yes	5	0.00000001	0.00007221

Maximum Tower Deflections - Service Wind

Section No.	*Elevation*	*Horz. Deflection*	*Gov. Load Comb.*	*Tilt*	*Twist*
	ft	*in*		*°*	*°*
L1	149 - 144	23.948	31	1.4339	0.0052
L2	144 - 139	22.449	31	1.4271	0.0046
L3	139 - 134	20.963	31	1.4109	0.0041
L4	134 - 129	19.498	31	1.3850	0.0036
L5	129 - 124	18.066	31	1.3499	0.0032
L6	124 - 119	16.677	32	1.3028	0.0028
L7	119 - 111.5	15.344	32	1.2454	0.0025
L8	115.25 - 110.25	14.387	32	1.1937	0.0021
L9	110.25 - 107.5	13.159	32	1.1464	0.0019
L10	107.5 - 107.25	12.511	32	1.1020	0.0017
L11	107.25 - 102.25	12.454	32	1.0999	0.0017
L12	102.25 - 97.25	11.326	32	1.0541	0.0015
L13	97.25 - 92.25	10.250	32	1.0026	0.0013
L14	92.25 - 90.5	9.228	32	0.9475	0.0012
L15	90.5 - 90.25	8.885	32	0.9274	0.0012
L16	90.25 - 88	8.836	32	0.9245	0.0011
L17	88 - 87.75	8.407	32	0.8977	0.0011
L18	87.75 - 87.5	8.360	32	0.8954	0.0011
L19	87.5 - 87.25	8.313	32	0.8930	0.0011
L20	87.25 - 82.25	8.267	32	0.8904	0.0011
L21	82.25 - 75.25	7.363	32	0.8343	0.0010
L22	79.75 - 74.75	6.934	32	0.8054	0.0009
L23	74.75 - 70.5	6.105	32	0.7745	0.0008
L24	70.5 - 70.25	5.437	32	0.7264	0.0008
L25	70.25 - 65.25	5.399	32	0.7240	0.0007
L26	65.25 - 60.25	4.668	32	0.6737	0.0007
L27	60.25 - 55.25	3.989	32	0.6214	0.0006
L28	55.25 - 50.25	3.367	32	0.5682	0.0005
L29	50.25 - 45.25	2.800	32	0.5132	0.0004
L30	45.25 - 39.75	2.292	32	0.4565	0.0004
L31	45 - 38.75	2.269	32	0.4536	0.0004
L32	38.75 - 35.5	1.697	32	0.4149	0.0003
L33	35.5 - 35.25	1.426	32	0.3813	0.0003
L34	35.25 - 30.25	1.406	32	0.3787	0.0003
L35	30.25 - 25.25	1.037	32	0.3259	0.0002
L36	25.25 - 20.25	0.724	32	0.2731	0.0002
L37	20.25 - 15.25	0.466	32	0.2192	0.0001
L38	15.25 - 10.25	0.265	32	0.1654	0.0001
L39	10.25 - 5.25	0.120	32	0.1117	0.0001

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L40	5.25 - 0.25	0.031	32	0.0571	0.0000
L41	0.25 - 0	0.000	1	0.0000	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
149.00	FO150-3	31	23.948	1.4339	0.0052	24363
147.00	4' x 2" Pipe Mount	31	23.348	1.4318	0.0049	24363
139.00	7770.00 w/ Mount Pipe	31	20.963	1.4109	0.0041	13525
129.00	APXV18-209014-C w/ Mount Pipe	31	18.066	1.3499	0.0032	6958
120.00	BXA-80080/6CF w/ Mount Pipe	32	15.606	1.2587	0.0025	4643
80.00	MPRD2449	32	6.977	0.8078	0.0009	6566

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	149 - 144	69.067	6	4.1372	0.0151
L2	144 - 139	64.748	6	4.1177	0.0135
L3	139 - 134	60.465	6	4.0711	0.0120
L4	134 - 129	56.244	6	3.9962	0.0107
L5	129 - 124	52.116	6	3.8949	0.0094
L6	124 - 119	48.113	7	3.7590	0.0083
L7	119 - 111.5	44.270	7	3.5937	0.0072
L8	115.25 - 110.25	41.510	7	3.4447	0.0062
L9	110.25 - 107.5	37.968	7	3.3085	0.0055
L10	107.5 - 107.25	36.102	7	3.1805	0.0049
L11	107.25 - 102.25	35.936	7	3.1744	0.0049
L12	102.25 - 97.25	32.684	7	3.0423	0.0044
L13	97.25 - 92.25	29.578	7	2.8939	0.0039
L14	92.25 - 90.5	26.633	7	2.7349	0.0035
L15	90.5 - 90.25	25.642	7	2.6770	0.0034
L16	90.25 - 88	25.502	7	2.6685	0.0033
L17	88 - 87.75	24.263	7	2.5913	0.0032
L18	87.75 - 87.5	24.128	7	2.5845	0.0031
L19	87.5 - 87.25	23.993	7	2.5777	0.0031
L20	87.25 - 82.25	23.858	7	2.5700	0.0031
L21	82.25 - 75.25	21.252	7	2.4083	0.0028
L22	79.75 - 74.75	20.014	7	2.3251	0.0026
L23	74.75 - 70.5	17.623	7	2.2356	0.0024
L24	70.5 - 70.25	15.695	7	2.0970	0.0022
L25	70.25 - 65.25	15.585	7	2.0900	0.0022
L26	65.25 - 60.25	13.473	7	1.9448	0.0019
L27	60.25 - 55.25	11.516	7	1.7938	0.0017
L28	55.25 - 50.25	9.718	7	1.6403	0.0014
L29	50.25 - 45.25	8.084	7	1.4816	0.0012
L30	45.25 - 39.75	6.618	7	1.3179	0.0010
L31	45 - 38.75	6.549	7	1.3097	0.0010
L32	38.75 - 35.5	4.900	7	1.1978	0.0009

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L33	35.5 - 35.25	4.118	7	1.1008	0.0008
L34	35.25 - 30.25	4.060	7	1.0933	0.0008
L35	30.25 - 25.25	2.995	7	0.9409	0.0007
L36	25.25 - 20.25	2.090	7	0.7883	0.0005
L37	20.25 - 15.25	1.346	7	0.6328	0.0004
L38	15.25 - 10.25	0.764	7	0.4774	0.0003
L39	10.25 - 5.25	0.346	7	0.3224	0.0002
L40	5.25 - 0.25	0.091	7	0.1648	0.0001
L41	0.25 - 0	0.000	7	0.0078	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
149.00	FO150-3	6	69.067	4.1372	0.0151	8591
147.00	4' x 2" Pipe Mount	6	67.337	4.1313	0.0145	8591
139.00	7770.00 w/ Mount Pipe	6	60.465	4.0711	0.0120	4744
129.00	APXV18-209014-C w/ Mount Pipe	6	52.116	3.8949	0.0094	2435
120.00	BXA-80080/6CF w/ Mount Pipe	7	45.024	3.6321	0.0074	1624
80.00	MPRD2449	7	20.136	2.3319	0.0027	2284

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L1	149 - 144 (1)	TP23.8649x23x0.1875	5.00	0.00	0.0	39.000	14.0910	-1.25	549.55	0.002
L2	144 - 139 (2)	TP24.7299x23.8649x0.1875	5.00	0.00	0.0	39.000	14.6058	-1.50	569.63	0.003
L3	139 - 134 (3)	TP25.5948x24.7299x0.1875	5.00	0.00	0.0	39.000	15.1205	-2.39	589.70	0.004
L4	134 - 129 (4)	TP26.4597x25.5948x0.1875	5.00	0.00	0.0	39.000	15.6353	-2.69	609.77	0.004
L5	129 - 124 (5)	TP27.3247x26.4597x0.1875	5.00	0.00	0.0	39.000	16.1500	-3.59	629.85	0.006
L6	124 - 119 (6)	TP28.1896x27.3247x0.1875	5.00	0.00	0.0	39.000	16.6647	-5.32	649.92	0.008
L7	119 - 111.5 (7)	TP29.487x28.1896x0.1875	7.50	0.00	0.0	38.694	17.0508	-5.70	659.77	0.009
L8	111.5 - 110.25 (8)	TP29.3283x28.4633x0.2188	5.00	0.00	0.0	39.000	20.2111	-6.46	788.23	0.008
L9	110.25 - 107.5 (9)	TP29.804x29.3283x0.2188	2.75	0.00	0.0	39.000	20.5414	-6.78	801.12	0.008
L10	107.5 - 107.25 (10)	TP29.8472x29.804x0.4375	0.25	0.00	0.0	39.000	40.8391	-6.83	1592.72	0.004
L11	107.25 - 102.25 (11)	TP30.7122x29.8472x0.4313	5.00	0.00	0.0	39.000	41.4482	-7.69	1616.48	0.005
L12	102.25 - 97.25 (12)	TP31.5772x30.7122x0.4188	5.00	0.00	0.0	39.000	41.4130	-8.56	1615.11	0.005
L13	97.25 - 92.25 (13)	TP32.4421x31.5772x0.4188	5.00	0.00	0.0	39.000	42.5627	-9.45	1659.94	0.006
L14	92.25 - 90.5 (14)	TP32.7449x32.4421x0.4125	1.75	0.00	0.0	39.000	42.3320	-9.77	1650.95	0.006
L15	90.5 - 90.25 (15)	TP32.7881x32.7449x0.4125	0.25	0.00	0.0	39.000	42.3886	-9.82	1653.15	0.006

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L16	90.25 - 88 (16)	TP33.1773x32.7881x0.4125	2.25	0.00	0.0	39.000	42.8982	-10.23	1673.03	0.006
L17	88 - 87.75 (17)	TP33.2206x33.1773x0.5313	0.25	0.00	0.0	39.000	55.1204	-10.29	2149.69	0.005
L18	87.75 - 87.5 (18)	TP33.2638x33.2206x0.5313	0.25	0.00	0.0	39.000	55.1933	-10.35	2152.54	0.005
L19	87.5 - 87.25 (19)	TP33.3071x33.2638x0.4688	0.25	0.00	0.0	39.000	48.8573	-10.40	1905.43	0.005
L20	87.25 - 82.25 (20)	TP34.1721x33.3071x0.4563	5.00	0.00	0.0	39.000	48.8251	-11.42	1904.18	0.006
L21	82.25 - 75.25 (21)	TP35.383x34.1721x0.4563	7.00	0.00	0.0	39.000	49.4514	-12.05	1928.61	0.006
L22	75.25 - 74.75 (22)	TP35.0319x34.167x0.5188	5.00	0.00	0.0	39.000	56.8263	-13.93	2216.23	0.006
L23	74.75 - 70.5 (23)	TP35.767x35.0319x0.5125	4.25	0.00	0.0	39.000	57.3477	-14.92	2236.56	0.007
L24	70.5 - 70.25 (24)	TP35.8103x35.767x0.6063	0.25	0.00	0.0	39.000	67.7409	-14.99	2641.90	0.006
L25	70.25 - 65.25 (25)	TP36.6752x35.8103x0.5938	5.00	0.00	0.0	39.000	67.9977	-16.31	2651.91	0.006
L26	65.25 - 60.25 (26)	TP37.54x36.6752x0.5813	5.00	0.00	0.0	39.000	68.1848	-17.65	2659.21	0.007
L27	60.25 - 55.25 (27)	TP38.4049x37.54x0.5813	5.00	0.00	0.0	39.000	69.7804	-19.01	2721.43	0.007
L28	55.25 - 50.25 (28)	TP39.2698x38.4049x0.5688	5.00	0.00	0.0	39.000	69.8636	-20.39	2724.68	0.007
L29	50.25 - 45.25 (29)	TP40.1346x39.2698x0.5563	5.00	0.00	0.0	39.000	69.8771	-21.78	2725.21	0.008
L30	45.25 - 39.75 (30)	TP41.086x40.1346x0.5563	5.50	0.00	0.0	39.000	69.9535	-21.86	2728.19	0.008
L31	39.75 - 38.75 (31)	TP40.6966x39.6154x0.65	6.25	0.00	0.0	39.000	82.6201	-25.05	3222.18	0.008
L32	38.75 - 35.5 (32)	TP41.2588x40.6966x0.65	3.25	0.00	0.0	39.000	83.7800	-26.11	3267.42	0.008
L33	35.5 - 35.25 (33)	TP41.3021x41.2588x0.65	0.25	0.00	0.0	39.000	83.8692	-26.19	3270.90	0.008
L34	35.25 - 30.25 (34)	TP42.167x41.3021x0.6375	5.00	0.00	0.0	39.000	84.0318	-27.83	3277.24	0.008
L35	30.25 - 25.25 (35)	TP43.032x42.167x0.6375	5.00	0.00	0.0	39.000	85.7820	-29.49	3345.50	0.009
L36	25.25 - 20.25 (36)	TP43.8969x43.032x0.625	5.00	0.00	0.0	39.000	85.8407	-31.17	3347.79	0.009
L37	20.25 - 15.25 (37)	TP44.7619x43.8969x0.625	5.00	0.00	0.0	39.000	87.5565	-32.88	3414.71	0.010
L38	15.25 - 10.25 (38)	TP45.6268x44.7619x0.625	5.00	0.00	0.0	39.000	89.2724	-34.60	3481.62	0.010
L39	10.25 - 5.25 (39)	TP46.4918x45.6268x0.6125	5.00	0.00	0.0	39.000	89.1928	-36.35	3478.52	0.010
L40	5.25 - 0.25 (40)	TP47.3568x46.4918x0.6125	5.00	0.00	0.0	39.000	90.8743	-38.11	3544.10	0.011
L41	0.25 - 0 (41)	TP47.4x47.3568x0.6125	0.25	0.00	0.0	39.000	90.9584	-38.21	3547.38	0.011

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	149 - 144 (1)	TP23.8649x23x0.1875	23.85	3.477	39.000	0.089	0.00	0.000	39.000	0.000
L2	144 - 139 (2)	TP24.7299x23.8649x0.1875	46.59	6.319	39.000	0.162	0.00	0.000	39.000	0.000
L3	139 - 134 (3)	TP25.5948x24.7299x0.1875	77.46	9.800	39.000	0.251	0.00	0.000	39.000	0.000
L4	134 - 129 (4)	TP26.4597x25.5948x0.1875	109.27	12.927	39.000	0.331	0.00	0.000	39.000	0.000
L5	129 - 124 (5)	TP27.3247x26.4597x0.1875	160.51	17.793	39.000	0.456	0.00	0.000	39.000	0.000
L6	124 - 119 (6)	TP28.1896x27.3247x0.1875	212.52	22.121	39.000	0.567	0.00	0.000	39.000	0.000
L7	119 - 111.5 (7)	TP29.487x28.1896x0.1875	267.17	26.561	38.694	0.686	0.00	0.000	38.694	0.000
L8	111.5 - 110.25 (8)	TP29.3283x28.4633x0.2188	342.10	28.267	39.000	0.725	0.00	0.000	39.000	0.000

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L9	110.25 - 107.5 (9)	TP29.804x29.3283x0.2188	384.38	30.744	39.000	0.788	0.00	0.000	39.000	0.000
L10	107.5 - 107.25 (10)	TP29.8472x29.804x0.4375	388.27	15.830	39.000	0.406	0.00	0.000	39.000	0.000
L11	107.25 - 102.25 (11)	TP30.7122x29.8472x0.4313	467.52	18.230	39.000	0.467	0.00	0.000	39.000	0.000
L12	102.25 - 97.25 (12)	TP31.5772x30.7122x0.4188	549.82	20.836	39.000	0.534	0.00	0.000	39.000	0.000
L13	97.25 - 92.25 (13)	TP32.4421x31.5772x0.4188	635.16	22.779	39.000	0.584	0.00	0.000	39.000	0.000
L14	92.25 - 90.5 (14)	TP32.7449x32.4421x0.4125	665.72	23.769	39.000	0.609	0.00	0.000	39.000	0.000
L15	90.5 - 90.25 (15)	TP32.7881x32.7449x0.4125	670.12	23.861	39.000	0.612	0.00	0.000	39.000	0.000
L16	90.25 - 88 (16)	TP33.1773x32.7881x0.4125	710.05	24.682	39.000	0.633	0.00	0.000	39.000	0.000
L17	88 - 87.75 (17)	TP33.2206x33.1773x0.5313	714.53	19.445	39.000	0.499	0.00	0.000	39.000	0.000
L18	87.75 - 87.5 (18)	TP33.2638x33.2206x0.5313	719.02	19.515	39.000	0.500	0.00	0.000	39.000	0.000
L19	87.5 - 87.25 (19)	TP33.3071x33.2638x0.4688	723.52	22.070	39.000	0.566	0.00	0.000	39.000	0.000
L20	87.25 - 82.25 (20)	TP34.1721x33.3071x0.4563	815.15	24.216	39.000	0.621	0.00	0.000	39.000	0.000
L21	82.25 - 75.25 (21)	TP35.383x34.1721x0.4563	862.08	24.962	39.000	0.640	0.00	0.000	39.000	0.000
L22	75.25 - 74.75 (22)	TP35.0319x34.167x0.5188	959.76	23.967	39.000	0.615	0.00	0.000	39.000	0.000
L23	74.75 - 70.5 (23)	TP35.767x35.0319x0.5125	1045.23	25.308	39.000	0.649	0.00	0.000	39.000	0.000
L24	70.5 - 70.25 (24)	TP35.8103x35.767x0.6063	1050.33	21.617	39.000	0.554	0.00	0.000	39.000	0.000
L25	70.25 - 65.25 (25)	TP36.6752x35.8103x0.5938	1153.86	23.066	39.000	0.591	0.00	0.000	39.000	0.000
L26	65.25 - 60.25 (26)	TP37.54x36.6752x0.5813	1260.49	24.514	39.000	0.629	0.00	0.000	39.000	0.000
L27	60.25 - 55.25 (27)	TP38.4049x37.54x0.5813	1370.16	25.433	39.000	0.652	0.00	0.000	39.000	0.000
L28	55.25 - 50.25 (28)	TP39.2698x38.4049x0.5688	1482.98	26.854	39.000	0.689	0.00	0.000	39.000	0.000
L29	50.25 - 45.25 (29)	TP40.1346x39.2698x0.5563	1598.83	28.286	39.000	0.725	0.00	0.000	39.000	0.000
L30	45.25 - 39.75 (30)	TP41.086x40.1346x0.5563	1604.70	28.328	39.000	0.726	0.00	0.000	39.000	0.000
L31	39.75 - 38.75 (31)	TP40.6966x39.6154x0.65	1753.83	25.992	39.000	0.666	0.00	0.000	39.000	0.000
L32	38.75 - 35.5 (32)	TP41.2588x40.6966x0.65	1833.14	26.414	39.000	0.677	0.00	0.000	39.000	0.000
L33	35.5 - 35.25 (33)	TP41.3021x41.2588x0.65	1839.29	26.446	39.000	0.678	0.00	0.000	39.000	0.000
L34	35.25 - 30.25 (34)	TP42.167x41.3021x0.6375	1963.56	27.566	39.000	0.707	0.00	0.000	39.000	0.000
L35	30.25 - 25.25 (35)	TP43.032x42.167x0.6375	2090.36	28.152	39.000	0.722	0.00	0.000	39.000	0.000
L36	25.25 - 20.25 (36)	TP43.8969x43.032x0.625	2219.68	29.250	39.000	0.750	0.00	0.000	39.000	0.000
L37	20.25 - 15.25 (37)	TP44.7619x43.8969x0.625	2351.53	29.777	39.000	0.764	0.00	0.000	39.000	0.000
L38	15.25 - 10.25 (38)	TP45.6268x44.7619x0.625	2485.88	30.271	39.000	0.776	0.00	0.000	39.000	0.000
L39	10.25 - 5.25 (39)	TP46.4918x45.6268x0.6125	2622.73	31.338	39.000	0.804	0.00	0.000	39.000	0.000

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L40	5.25 - 0.25 (40)	TP47.3568x46.4918x0.6125	2762.07	31.785	39.000	0.815	0.00	0.000	39.000	0.000
L41	0.25 - 0 (41)	TP47.4x47.3568x0.6125	2769.10	31.807	39.000	0.816	0.00	0.000	39.000	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
L1	149 - 144 (1)	TP23.8649x23x0.1875	4.38	0.311	26.000	0.024	0.80	0.057	26.000	0.002
L2	144 - 139 (2)	TP24.7299x23.8649x0.1875	4.72	0.323	26.000	0.025	0.80	0.053	26.000	0.002
L3	139 - 134 (3)	TP25.5948x24.7299x0.1875	6.19	0.409	26.000	0.031	0.80	0.049	26.000	0.002
L4	134 - 129 (4)	TP26.4597x25.5948x0.1875	6.54	0.418	26.000	0.032	0.80	0.046	26.000	0.002
L5	129 - 124 (5)	TP27.3247x26.4597x0.1875	9.21	0.570	26.000	0.044	0.79	0.043	26.000	0.002
L6	124 - 119 (6)	TP28.1896x27.3247x0.1875	14.41	0.865	26.000	0.066	1.01	0.051	26.000	0.002
L7	119 - 111.5 (7)	TP29.487x28.1896x0.1875	14.75	0.865	26.000	0.067	1.00	0.049	26.000	0.002
L8	111.5 - 110.25 (8)	TP29.3283x28.4633x0.2188	15.23	0.754	26.000	0.058	0.99	0.040	26.000	0.002
L9	110.25 - 107.5 (9)	TP29.804x29.3283x0.2188	15.53	0.756	26.000	0.058	0.99	0.039	26.000	0.001
L10	107.5 - 107.25 (10)	TP29.8472x29.804x0.4375	15.56	0.381	26.000	0.029	0.99	0.019	26.000	0.001
L11	107.25 - 102.25 (11)	TP30.7122x29.8472x0.4313	16.15	0.390	26.000	0.030	0.98	0.018	26.000	0.001
L12	102.25 - 97.25 (12)	TP31.5772x30.7122x0.4188	16.78	0.405	26.000	0.031	1.18	0.022	26.000	0.001
L13	97.25 - 92.25 (13)	TP32.4421x31.5772x0.4188	17.36	0.408	26.000	0.031	1.17	0.020	26.000	0.001
L14	92.25 - 90.5 (14)	TP32.7449x32.4421x0.4125	17.57	0.415	26.000	0.032	1.17	0.020	26.000	0.001
L15	90.5 - 90.25 (15)	TP32.7881x32.7449x0.4125	17.60	0.415	26.000	0.032	1.17	0.020	26.000	0.001
L16	90.25 - 88 (16)	TP33.1773x32.7881x0.4125	17.90	0.417	26.000	0.032	1.16	0.020	26.000	0.001
L17	88 - 87.75 (17)	TP33.2206x33.1773x0.5313	17.94	0.325	26.000	0.025	1.15	0.015	26.000	0.001
L18	87.75 - 87.5 (18)	TP33.2638x33.2206x0.5313	17.97	0.326	26.000	0.025	1.15	0.015	26.000	0.001
L19	87.5 - 87.25 (19)	TP33.3071x33.2638x0.4688	18.01	0.369	26.000	0.028	1.15	0.017	26.000	0.001
L20	87.25 - 82.25 (20)	TP34.1721x33.3071x0.4563	18.65	0.382	26.000	0.029	1.13	0.016	26.000	0.001
L21	82.25 - 75.25 (21)	TP35.383x34.1721x0.4563	19.21	0.388	26.000	0.030	1.55	0.022	26.000	0.001
L22	75.25 - 74.75 (22)	TP35.0319x34.167x0.5188	19.86	0.349	26.000	0.027	1.53	0.019	26.000	0.001
L23	74.75 - 70.5 (23)	TP35.767x35.0319x0.5125	20.37	0.355	26.000	0.027	1.52	0.018	26.000	0.001
L24	70.5 - 70.25 (24)	TP35.8103x35.767x0.6063	20.39	0.301	26.000	0.023	1.51	0.015	26.000	0.001
L25	70.25 - 65.25 (25)	TP36.6752x35.8103x0.5938	21.02	0.309	26.000	0.024	1.49	0.014	26.000	0.001
L26	65.25 - 60.25 (26)	TP37.54x36.6752x0.5813	21.64	0.317	26.000	0.024	1.47	0.014	26.000	0.001
L27	60.25 - 55.25 (27)	TP38.4049x37.54x0.5813	22.24	0.319	26.000	0.025	1.45	0.013	26.000	0.001
L28	55.25 - 50.25 (28)	TP39.2698x38.4049x0.5688	22.89	0.328	26.000	0.025	1.18	0.010	26.000	0.000
L29	50.25 - 45.25	TP40.1346x39.2698x0.5563	23.45	0.336	26.000	0.026	1.17	0.010	26.000	0.000

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
	(29)									
L30	45.25 - 39.75 (30)	TP41.086x40.1346x0.5563	23.48	0.336	26.000	0.026	1.16	0.010	26.000	0.000
L31	39.75 - 38.75 (31)	TP40.6966x39.6154x0.65	24.23	0.293	26.000	0.023	1.14	0.008	26.000	0.000
L32	38.75 - 35.5 (32)	TP41.2588x40.6966x0.65	24.57	0.293	26.000	0.023	1.13	0.008	26.000	0.000
L33	35.5 - 35.25 (33)	TP41.3021x41.2588x0.65	24.59	0.293	26.000	0.023	1.13	0.008	26.000	0.000
L34	35.25 - 30.25 (34)	TP42.167x41.3021x0.6375	25.11	0.299	26.000	0.023	1.11	0.008	26.000	0.000
L35	30.25 - 25.25 (35)	TP43.032x42.167x0.6375	25.61	0.299	26.000	0.023	1.09	0.007	26.000	0.000
L36	25.25 - 20.25 (36)	TP43.8969x43.032x0.625	26.12	0.304	26.000	0.023	1.08	0.007	26.000	0.000
L37	20.25 - 15.25 (37)	TP44.7619x43.8969x0.625	26.62	0.304	26.000	0.023	1.06	0.006	26.000	0.000
L38	15.25 - 10.25 (38)	TP45.6268x44.7619x0.625	27.12	0.304	26.000	0.023	1.04	0.006	26.000	0.000
L39	10.25 - 5.25 (39)	TP46.4918x45.6268x0.6125	27.62	0.310	26.000	0.024	1.02	0.006	26.000	0.000
L40	5.25 - 0.25 (40)	TP47.3568x46.4918x0.6125	28.12	0.309	26.000	0.024	1.00	0.006	26.000	0.000
L41	0.25 - 0 (41)	TP47.4x47.3568x0.6125	28.13	0.309	26.000	0.024	1.00	0.006	26.000	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	149 - 144 (1)	0.002	0.089	0.000	0.024	0.002	0.092	1.333	H1-3+VT
L2	144 - 139 (2)	0.003	0.162	0.000	0.025	0.002	0.165	1.333	H1-3+VT
L3	139 - 134 (3)	0.004	0.251	0.000	0.031	0.002	0.256	1.333	H1-3+VT
L4	134 - 129 (4)	0.004	0.331	0.000	0.032	0.002	0.336	1.333	H1-3+VT
L5	129 - 124 (5)	0.006	0.456	0.000	0.044	0.002	0.462	1.333	H1-3+VT
L6	124 - 119 (6)	0.008	0.567	0.000	0.066	0.002	0.577	1.333	H1-3+VT
L7	119 - 111.5 (7)	0.009	0.686	0.000	0.067	0.002	0.696	1.333	H1-3+VT
L8	111.5 - 110.25 (8)	0.008	0.725	0.000	0.058	0.002	0.734	1.333	H1-3+VT
L9	110.25 - 107.5 (9)	0.008	0.788	0.000	0.058	0.001	0.798	1.333	H1-3+VT
L10	107.5 - 107.25 (10)	0.004	0.406	0.000	0.029	0.001	0.410	1.333	H1-3+VT
L11	107.25 - 102.25 (11)	0.005	0.467	0.000	0.030	0.001	0.472	1.333	H1-3+VT
L12	102.25 - 97.25 (12)	0.005	0.534	0.000	0.031	0.001	0.540	1.333	H1-3+VT
L13	97.25 - 92.25 (13)	0.006	0.584	0.000	0.031	0.001	0.590	1.333	H1-3+VT
L14	92.25 - 90.5 (14)	0.006	0.609	0.000	0.032	0.001	0.616	1.333	H1-3+VT
L15	90.5 - 90.25 (15)	0.006	0.612	0.000	0.032	0.001	0.618	1.333	H1-3+VT
L16	90.25 - 88 (16)	0.006	0.633	0.000	0.032	0.001	0.639	1.333	H1-3+VT
L17	88 - 87.75 (17)	0.005	0.499	0.000	0.025	0.001	0.504	1.333	H1-3+VT
L18	87.75 - 87.5	0.005	0.500	0.000	0.025	0.001	0.505	1.333	H1-3+VT

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	(18)								
L19	87.5 - 87.25	0.005	0.566	0.000	0.028	0.001	0.572	1.333	H1-3+VT
	(19)								
L20	87.25 - 82.25	0.006	0.621	0.000	0.029	0.001	0.627	1.333	H1-3+VT
	(20)								
L21	82.25 - 75.25	0.006	0.640	0.000	0.030	0.001	0.647	1.333	H1-3+VT
	(21)								
L22	75.25 - 74.75	0.006	0.615	0.000	0.027	0.001	0.621	1.333	H1-3+VT
	(22)								
L23	74.75 - 70.5	0.007	0.649	0.000	0.027	0.001	0.656	1.333	H1-3+VT
	(23)								
L24	70.5 - 70.25	0.006	0.554	0.000	0.023	0.001	0.560	1.333	H1-3+VT
	(24)								
L25	70.25 - 65.25	0.006	0.591	0.000	0.024	0.001	0.598	1.333	H1-3+VT
	(25)								
L26	65.25 - 60.25	0.007	0.629	0.000	0.024	0.001	0.635	1.333	H1-3+VT
	(26)								
L27	60.25 - 55.25	0.007	0.652	0.000	0.025	0.001	0.659	1.333	H1-3+VT
	(27)								
L28	55.25 - 50.25	0.007	0.689	0.000	0.025	0.000	0.696	1.333	H1-3+VT
	(28)								
L29	50.25 - 45.25	0.008	0.725	0.000	0.026	0.000	0.733	1.333	H1-3+VT
	(29)								
L30	45.25 - 39.75	0.008	0.726	0.000	0.026	0.000	0.735	1.333	H1-3+VT
	(30)								
L31	39.75 - 38.75	0.008	0.666	0.000	0.023	0.000	0.674	1.333	H1-3+VT
	(31)								
L32	38.75 - 35.5	0.008	0.677	0.000	0.023	0.000	0.685	1.333	H1-3+VT
	(32)								
L33	35.5 - 35.25	0.008	0.678	0.000	0.023	0.000	0.686	1.333	H1-3+VT
	(33)								
L34	35.25 - 30.25	0.008	0.707	0.000	0.023	0.000	0.715	1.333	H1-3+VT
	(34)								
L35	30.25 - 25.25	0.009	0.722	0.000	0.023	0.000	0.731	1.333	H1-3+VT
	(35)								
L36	25.25 - 20.25	0.009	0.750	0.000	0.023	0.000	0.759	1.333	H1-3+VT
	(36)								
L37	20.25 - 15.25	0.010	0.764	0.000	0.023	0.000	0.773	1.333	H1-3+VT
	(37)								
L38	15.25 - 10.25	0.010	0.776	0.000	0.023	0.000	0.786	1.333	H1-3+VT
	(38)								
L39	10.25 - 5.25	0.010	0.804	0.000	0.024	0.000	0.814	1.333	H1-3+VT
	(39)								
L40	5.25 - 0.25 (40)	0.011	0.815	0.000	0.024	0.000	0.826	1.333	H1-3+VT
L41	0.25 - 0 (41)	0.011	0.816	0.000	0.024	0.000	0.826	1.333	H1-3+VT

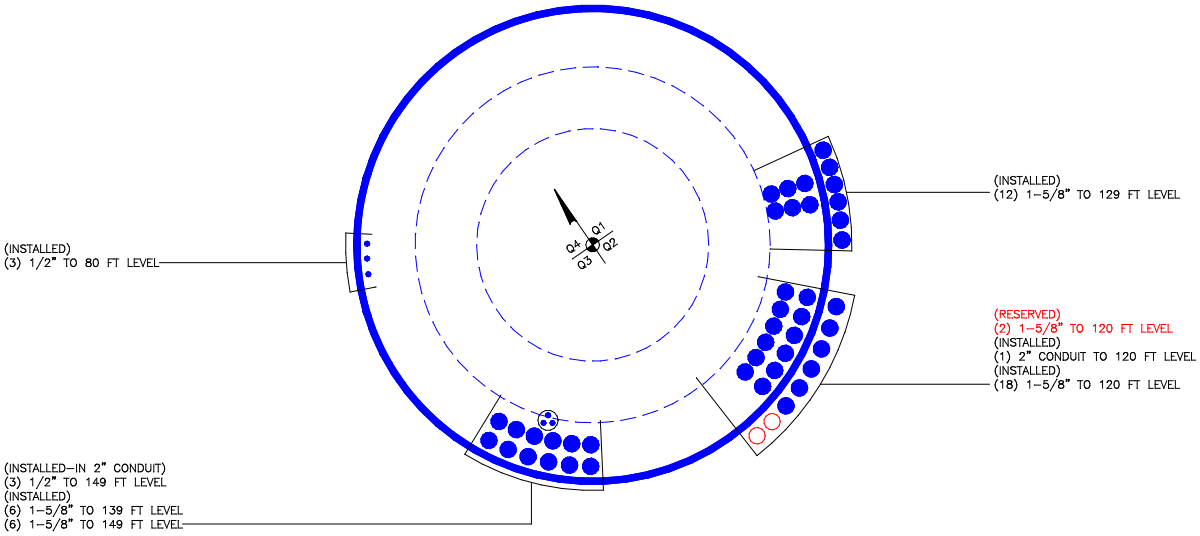
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	149 - 144	Pole	TP23.8649x23x0.1875	1	-1.25	732.55	6.9	Pass
L2	144 - 139	Pole	TP24.7299x23.8649x0.1875	2	-1.50	759.31	12.4	Pass
L3	139 - 134	Pole	TP25.5948x24.7299x0.1875	3	-2.39	786.07	19.2	Pass
L4	134 - 129	Pole	TP26.4597x25.5948x0.1875	4	-2.69	812.83	25.2	Pass
L5	129 - 124	Pole	TP27.3247x26.4597x0.1875	5	-3.59	839.59	34.7	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L6	124 - 119	Pole	TP28.1896x27.3247x0.1875	6	-5.32	866.35	43.3	Pass
L7	119 - 111.5	Pole	TP29.487x28.1896x0.1875	7	-5.70	879.47	52.2	Pass
L8	111.5 - 110.25	Pole	TP29.3283x28.4633x0.2188	8	-6.46	1050.71	55.1	Pass
L9	110.25 - 107.5	Pole	TP29.804x29.3283x0.2188	9	-6.78	1067.89	59.8	Pass
L10	107.5 - 107.25	Pole	TP29.8472x29.804x0.4375	10	-6.83	2123.10	30.8	Pass
L11	107.25 - 102.25	Pole	TP30.7122x29.8472x0.4313	11	-7.69	2154.77	35.4	Pass
L12	102.25 - 97.25	Pole	TP31.5772x30.7122x0.4188	12	-8.56	2152.94	40.5	Pass
L13	97.25 - 92.25	Pole	TP32.4421x31.5772x0.4188	13	-9.45	2212.70	44.3	Pass
L14	92.25 - 90.5	Pole	TP32.7449x32.4421x0.4125	14	-9.77	2200.72	46.2	Pass
L15	90.5 - 90.25	Pole	TP32.7881x32.7449x0.4125	15	-9.82	2203.65	46.4	Pass
L16	90.25 - 88	Pole	TP33.1773x32.7881x0.4125	16	-10.23	2230.15	48.0	Pass
L17	88 - 87.75	Pole	TP33.2206x33.1773x0.5313	17	-10.29	2865.54	37.8	Pass
L18	87.75 - 87.5	Pole	TP33.2638x33.2206x0.5313	18	-10.35	2869.34	37.9	Pass
L19	87.5 - 87.25	Pole	TP33.3071x33.2638x0.4688	19	-10.40	2539.94	42.9	Pass
L20	87.25 - 82.25	Pole	TP34.1721x33.3071x0.4563	20	-11.42	2538.27	47.0	Pass
L21	82.25 - 75.25	Pole	TP35.383x34.1721x0.4563	21	-12.05	2570.84	48.5	Pass
L22	75.25 - 74.75	Pole	TP35.0319x34.167x0.5188	22	-13.93	2954.23	46.6	Pass
L23	74.75 - 70.5	Pole	TP35.767x35.0319x0.5125	23	-14.92	2981.33	49.2	Pass
L24	70.5 - 70.25	Pole	TP35.8103x35.767x0.6063	24	-14.99	3521.65	42.0	Pass
L25	70.25 - 65.25	Pole	TP36.6752x35.8103x0.5938	25	-16.31	3535.00	44.8	Pass
L26	65.25 - 60.25	Pole	TP37.54x36.6752x0.5813	26	-17.65	3544.73	47.7	Pass
L27	60.25 - 55.25	Pole	TP38.4049x37.54x0.5813	27	-19.01	3627.67	49.5	Pass
L28	55.25 - 50.25	Pole	TP39.2698x38.4049x0.5688	28	-20.39	3632.00	52.2	Pass
L29	50.25 - 45.25	Pole	TP40.1346x39.2698x0.5563	29	-21.78	3632.70	55.0	Pass
L30	45.25 - 39.75	Pole	TP41.086x40.1346x0.5563	30	-21.86	3636.68	55.1	Pass
L31	39.75 - 38.75	Pole	TP40.6966x39.6154x0.65	31	-25.05	4295.17	50.6	Pass
L32	38.75 - 35.5	Pole	TP41.2588x40.6966x0.65	32	-26.11	4355.47	51.4	Pass
L33	35.5 - 35.25	Pole	TP41.3021x41.2588x0.65	33	-26.19	4360.11	51.5	Pass
L34	35.25 - 30.25	Pole	TP42.167x41.3021x0.6375	34	-27.83	4368.56	53.7	Pass
L35	30.25 - 25.25	Pole	TP43.032x42.167x0.6375	35	-29.49	4459.55	54.8	Pass
L36	25.25 - 20.25	Pole	TP43.8969x43.032x0.625	36	-31.17	4462.60	57.0	Pass
L37	20.25 - 15.25	Pole	TP44.7619x43.8969x0.625	37	-32.88	4551.81	58.0	Pass
L38	15.25 - 10.25	Pole	TP45.6268x44.7619x0.625	38	-34.60	4641.00	59.0	Pass
L39	10.25 - 5.25	Pole	TP46.4918x45.6268x0.6125	39	-36.35	4636.87	61.1	Pass
L40	5.25 - 0.25	Pole	TP47.3568x46.4918x0.6125	40	-38.11	4724.29	62.0	Pass
L41	0.25 - 0	Pole	TP47.4x47.3568x0.6125	41	-38.21	4728.66	62.0	Pass
							Summary	
						Pole (L41)	62.0	Pass
						RATING =	**62.0**	**Pass**

APPENDIX B

BASE LEVEL DRAWING


(INSTALLED)
(12) 1-5/8" TO 129 FT LEVEL
(INSTALLED)
(3) 1/2" TO 80 FT LEVEL
(RESERVED)
(2) 1-5/8" TO 120 FT LEVEL
(INSTALLED)
(1) 2" CONDUIT TO 120 FT LEVEL
(INSTALLED)
(18) 1-5/8" TO 120 FT LEVEL
(INSTALLED-IN 2" CONDUIT)
(3) 1/2" TO 149 FT LEVEL
(INSTALLED)
(6) 1-5/8" TO 139 FT LEVEL
(6) 1-5/8" TO 149 FT LEVEL
Q1
Q2
Q3
Q4

APPENDIX C

ADDITIONAL CALCULATIONS

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

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

Site Data

Project No.:
Site Name:
Site ID:

Anchor Rod Data		
Qty:	12	
Diam:	2.25	in
Rod Material:	A615-J	
Strength, Fu:	100	ksi
Yield, Fy:	75	ksi
Bolt Circle:	54	in
Anchor Spacing:	6	in

Plate Data		
W=Side:	53	in
Thick:	2.75	in
Grade:	60	ksi
Clip Distance:	9	in

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

Pole Data		
Diam:	47.4	in
Thick:	0.375	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round

Stress Increase Factor		
ASD ASIF:	1.333	

Base Reactions		
TIA Revision:	F	
Unfactored Moment, M:	2268.6435	ft-kips
Unfactored Axial, P:	38	kips
Unfactored Shear, V:	28	kips

*Moment adjusted to match rod tension.

Anchor Rod Results

Adjusted Max Rod (Cu+ Vu/ŕ):	164.881	Kips
Allowable Tension:	195.0	Kips
Anchor Rod Stress Ratio:	84.6%	**Pass**

Base Plate Results — Flexural Check

Base Plate Stress:	41.6	ksi
Allowable PL Bending Stress:	60.0	ksi
Base Plate Stress Ratio:	69.4%	**Pass**

PL Ref. Data	
Yield Line (in):	27.55
Max PL Length:	27.55

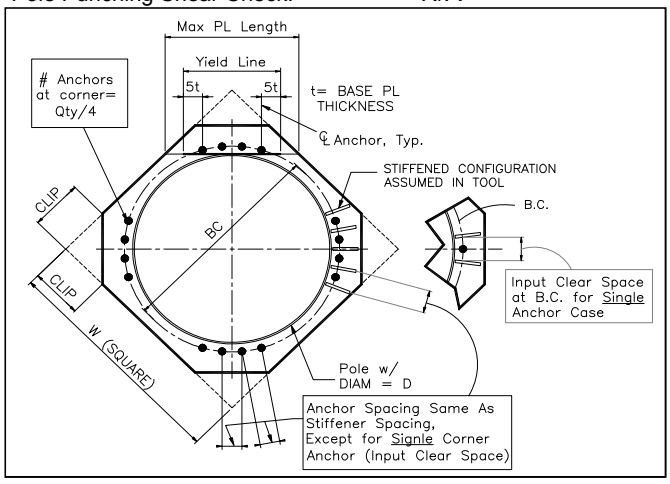
N/A - Unstiffened

Stiffener Results

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

Pole Results

Pole Punching Shear Check: N/A



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

Analysis date: 6/28/2016

FDH VELOCITEL
ENGINEERING INNOVATION

Version: 1.0
Version Date: 5/26/2016

FDH Velocitel -- 6521 Meridien Drive, Raleigh, NC 27616 -- Ph. 919.755.1012 -- Fax 919.755.1031

Monopole Anchor Rod Modifications

Project & Site Details	
Project No.	16BKDF1400
Project Name	OXFORD-QUAKER FARMS
Site ID	845455
Date	June 28, 2016
Code	TIA/EIA-222-F
Maximum Stress Ratio	100%

Tower Reactions		
Moment	2769	k-ft
Axial	38	k
Shear	28	k

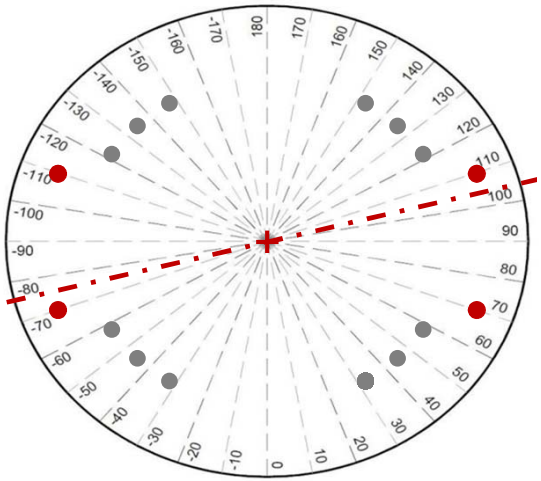
Optional Inputs	
Axis Angle to 0° (°)	104.5
Additional Inertia (in^4)	0

Centroid		
x	0.0000	in
y	0.0000	in

Existing Anchor Rod Input		
Anchor Rods	Y	(Y/N)
Base Plate Type	Square	
Quantity	12	Rods
Grade	A615-75	
Thread Form	Non-Upset	
Diameter	2.25	in
Bolt Circle	54	in
Angle to 0° of First Rod		
Spacing	6	in
Detail Type	d	
l_{ar}	0.5	in
η	0.5	

Foundation Input		
Pier Diameter	7	ft
f'c, Pier Concrete Strength	3000	psi
fy, Rebar Yield Strength	60000	psi
Vertical Rebar Size	#9	
Vertical Rebar Quantity		Bars
Horizontal Rebar Size	#4	
Side Cover	3	in
Top Cover	3	in
τ, Ultimate Bond Resistance	1.8	ksi
Vertical Bar Diameter	1.128	in
Horizontal Bar Diameter	0.5	in
Rebar Cage Circle	75.872	in

Moment of Inertia		
	I (in^4)	Angle (°)
Min.	19400.9	90
Max.	32428.5	180
Current	**20217.6**	**104.5**



Post-Installed Anchor Rods		
Quantity	4	Rods
Any Symmetric Rods?	N	(Y/N)

Individual Post-Installed Anchor Rod Input

Name	Angle	Axis Angle of Max (°)	Tu (kips)	Ta (kips)	Controlling	Percentage	Pass/Fail
AR1	70	133.0	151.2	218.7	Anchor Rod Tension	69.1%	Pass
AR1	110	47.0	151.2	218.7	Anchor Rod Tension	69.1%	Pass
AR1	250	133.0	151.2	218.7	Anchor Rod Tension	69.1%	Pass
AR1	290	47.0	151.2	218.7	Anchor Rod Tension	69.1%	Pass
Existing Rods		104.5	164.881	195.0	Anchor Rod Tension	84.6%	Pass

Overall	84.6%	Pass

Post-Installed Anchor Rod Summary

Post-Installed Anchor Rods						Anchor Rod Sleeve		Transfer Plate	
Assembly Name	Diameter (in)	Grade	Bolt Circle (in)	Target Tension (kips)	Required Embedment (ft)	Member	Grade	Dimensions (H" x W" x T")	Grade
AR1	2.25	A193 B7	65.4	190	5.20	HSS5x5x1/2	A500-46	36 x 6 1/2 x 1 1/4	A572-65

Anchor Rod Colors	
Apply New Rod Colors	
AR1	

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Version:	2.2
Version Date:	3/11/2016

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Base Transfer Stiffener

Project & Site Details	
Project No.	16BKFD1400
Project Name	OXFORD-QUAKER FARMS
Site ID	845455
Date	June 28, 2016
Code	TIA/EIA-222-F
Maximum Stress Ratio	100%

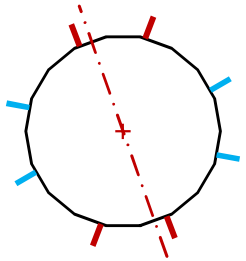
Tower Reactions		
Moment	2769	k-ft
Axial	38	kips
Shear	28	kips

Optional Inputs	
Axis Angle to 0° (°)	19
Additional Inertia (in^4)	0

Centroid		
x	0.0000	in
y	0.0000	in

Pole Properties		
Pole Diameter	47.4	in
Pole Thickness	0.375	in
Pole Grade	A572-65	
Number of Sides	18	Sided

Stiffener Properties		
Stiffener Quantity	8	Stiffeners
Any Symmetric Plates?	N	(Y/N)



Moment of Inertia		
	I (in^4)	Angle (°)
Min.	27740.3	6
Max.	34172.3	96
Current	**28068.0**	**19**

Individual Stiffener Input					
Stiffener Name	Angle to 0° (°)	Axis Angle of Max (°)	Controlling Case	Percentage	Pass/Fail
1. PL 6x1.25	26	126	Stress	58.8%	Pass
1. PL 6x1.25	166	64	Stress	58.7%	Pass
1. PL 6x1.25	206	126	Stress	58.8%	Pass
1. PL 6x1.25	346	64	Stress	58.7%	Pass
2. PL 4x1.25	76	173	Stress	63.7%	Pass
2. PL 4x1.25	116	19	Stress	63.8%	Pass
2. PL 4x1.25	256	173	Stress	63.7%	Pass
2. PL 4x1.25	296	19	Stress	63.8%	Pass
Pole		2	Stress	56.3%	Pass
			Overall	**63.8%**	**Pass**

Stiffener Input													
Stiffener Name	Width (in)	Thickness (in)	Considering Plate Capacity (Y/N)	Height (in)	Notch (in)	Offset from Pole (in)	Grade	Weld Electrode (ksi)	Vertical Weld Size (in)	Horizontal Weld Type	Groove Angle (°)	Horizontal Groove Size (in)	Horizontal Fillet Size (in)
1. PL 6x1.25	6	1.25	Y	78	0.75	0	A572-65	80	1/4	CJP			
2. PL 4x1.25	4	1.25	Y	36	0.75	0	A572-65	80	3/8	CJP			

(Bearing and Stability Checks) Tool for TIA Rev F or G - Application (MP, SST with unitbase)

Site Data

Site ID:
Site Name:
Job No.:

Loads Already Factored		
For P (DL)	1.2	<----Disregard
For P,V, and M (WL)	1.35	<----Disregard

Pad & Pier Data		
Base PL Dist. Above Pier:	2.5	in
Pier Dist. Above Grade:	6	in
Pad Bearing Depth, D:	7.5	ft
Pad Thickness, T:	3.5	ft
Pad Width=Length, L:	20	ft
Pier Cross Section Shape:	Square	<--Pull Down
Enter Pier Side Width:	7	ft
Concrete Density:	150.0	pcf
Pier Cross Section Area:	49.00	ft^2
Pier Height:	4.50	ft
Soil (above pad) Height:	4.00	ft

Soil Parameters		
Unit Weight, γ:	121.7	pcf
Ultimate Bearing Capacity, qn:	30.92	ksf
Strength Reduct. factor, ϕ:	0.75	
Angle of Friction, Φ:	36.0	degrees
Undrained Shear Strength, Cu:	0.00	ksf
Allowable Bearing: ϕ*qn:	23.19	ksf
Passive Pres. Coeff., Kp	3.85	

Forces/Moments due to Wind and Lateral Soil		
Minimum of (φ*Ultimate Pad Passive Force, Vu):	28.0	kips
Pad Force Location Above D:	1.57	ft
ϕ(Passive Pressure Moment):	44.03	ft-kips
Factored O.T. M(WL), "1.6W":	2998.8	ft-kips
Factored OT (MW-Msoil), M1	2954.80	ft-kips

Resistance due to Foundation Gravity		
Soil Wedge Projection grade, a:	2.91	ft
Sum of Soil Wedges Wt:	34.75	kips
Soil Wedges ecc, K1:	7.24	ft
Ftg+Soil above Pad wt:	413.9	kips
Unfactored (Total ftg-soil Wt):	448.69	kips
1.2D. **No Soil Wedges**.	534.73	kips
0.9D. **With Soil Wedges**	432.32	kips

Resistance due to Cohesion (Vertical)		
ϕ*(1/2*Cu)(Total Vert. Planes)	0.00	kips
Cohesion Force Eccentricity, K2	0.00	ft

Monopole Base Reaction Forces		
TIA Revision:	G	<--Pull Down
Factored DL Axial, PDu:	38	kips
Factored WL Shear, Vu:	28	kips
Factored WL Moment, Mu:	2769	ft-kips

Load Factor	Shaft Factored Loads		
1.00	1.2D+1.6W, Pu:	38	kips
0.90	0.9D+1.6W, Pu:	28.5	kips
1.00	Vu:	28	kips
	Mu:	2769	ft-kips

1.2D+1.6W Load Combination, Bearing Results:

(**No Soil Wedges**) [Reaction+Conc+Soil]	534.73	P1="1.2D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil), M1	2954.80	ft-kips

Orthogonal Direction:

ecc1 = M1/P1 =	5.53	ft
Orthogonal qu=	2.99	ksf
qu/ϕ*qn Ratio=	**12.88%**	**Pass**

Diagonal Direction:

ecc2 = (0.707M1)/P1 =	3.91	ft
Diagonal qu=	3.60	ksf
qu/ϕ*qn Ratio=	**15.53%**	**Pass**

Run <-- Press Upon Completing All Input

Overturning Stability Check

0.9D+1.6W Load Combination, Bearing Results:

(**w/ Soil Wedges**) [Reaction+Conc+Soil]	432.32	P2="0.9D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil) - 0.9(M of Wedge + M of Cohesion), M2	2728.50	ft-kips

Orthogonal ecc3 = M2/P2 =	6.31	ft
Ortho Non Bearing Length,NBL=	12.62	ft
Orthogonal qu=	2.93	ksf
Diagonal qu=	3.53	ksf

Max Reaction Moment (ft-kips) so that qu=φ*qn = 100% Capacity Rating			
Actual M:	2769.00		
M Orthogonal:	4188.57	**66.11%**	**Pass**
M Diagonal:	4188.57	**66.11%**	**Pass**

Moment Capacity of Drilled Concrete Shaft (Caisson) for TIA Rev F or G

Note: Shaft assumed to have ties, not spiral, transverse reinforcing

Site Data

BU#:
Site Name:
App #:

Enter Load Factors Below:		
For M (WL)	1.3	<---- Enter Factor
For P (DL)	1.3	<---- Enter Factor

Pier Properties

Concrete:

Pier Diameter =	7.0	ft
Concrete Area =	7056.0	in^2

Reinforcement:

Clear Cover to **Tie**=	3.00	in
Horiz. **Tie** Bar Size=	4	
Vert. Cage Diameter =	6.32	ft
Vert. Cage Diameter =	75.87	in
Vertical Bar Size =	9	
Bar Diameter =	1.13	in
Bar Area =	1	in^2
Number of Bars =	24	
As Total=	23.52	in^2
A s/ Aconc, Rho:	0.0033	0.33%

ACI 10.5 , ACI 21.10.4, and IBC 1810.
Min As for Flexural, Tension Controlled, Shafts:
(3)*(Sqrt(f'c)/Fy: 0.0027
200 / Fy: 0.0033

Minimum Rho Check:

Actual Req'd Min. Rho:	0.33%	Flexural
Provided Rho:	0.33%	**OK**

Ref. Shaft Max Axial Capacities, ϕ Max(Pn or Tn):		
Max Pu = (φ=0.65) Pn.		
Pn per ACI 318 (10-2)	10058.89	kips
at Mu=(ϕ=0.65)Mn=	#NUM!	ft-kips
Max Tu, (φ=0.9) Tn =	1270.08	kips
at Mu=ϕ=(0.90)Mn=	0.00	ft-kips

Maximum Shaft Superimposed Forces

TIA Revision:	F	
Max. Service Shaft M:	126	ft-kips **(* Note)**
Max. Service Shaft P:	38	kips
Max Axial Force Type:	Comp.	

(*) Note: Max Shaft Superimposed Moment does not necessarily equal to the shaft top reaction moment

Load Factor	Shaft Factored Loads		
1.30	Mu:	163.8	ft-kips
1.30	Pu:	49.4	kips

Material Properties

Concrete Comp. strength, f'c =	3000	psi
Reinforcement yield strength, Fy =	60	ksi
Reinforcing Modulus of Elasticity, E =	29000	ksi
Reinforcement yield strain =	0.00207	
Limiting compressive strain =	0.003	

ACI 318 Code

Select Analysis ACI Code= 2002

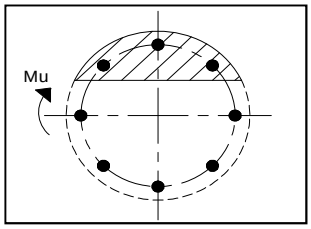
Seismic Properties

Seismic Design Category = D
Seismic Risk = **High**

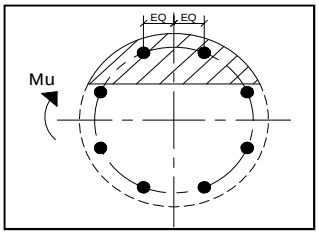
Solve (Run) <-- Press Upon Completing All Input

Results:

Governing Orientation Case: **2**



Case 1



Case 2

Dist. From Edge to Neutral Axis:	**11.84**	in
Extreme Steel Strain, ϵt:	**0.0172**	
	ϵt > 0.0050, Tension Controlled	
Reduction Factor,φ:	**0.900**	

Output Note: Negative Pu=Tension

For Axial Compression, φ Pn = Pu:	49.40	kips
Drilled Shaft Moment Capacity, φMn:	**3900.58**	ft-kips
Drilled Shaft Superimposed Mu:	**163.80**	ft-kips

(Mu/φMn, Drilled Shaft Flexure CSR:	**4.2%**

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Verision:	2.3
Version Date:	5/13/2016

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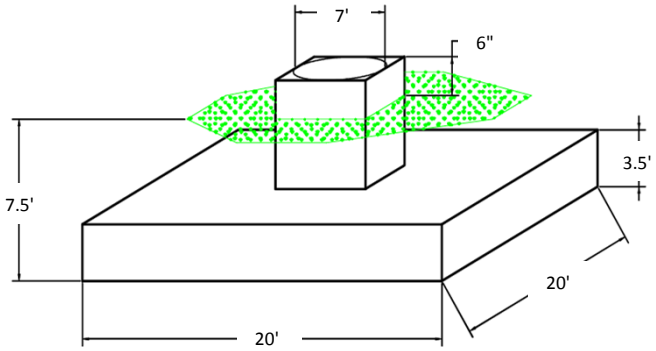
MONOPOLE PAD AND PIER STEEL CHECKS

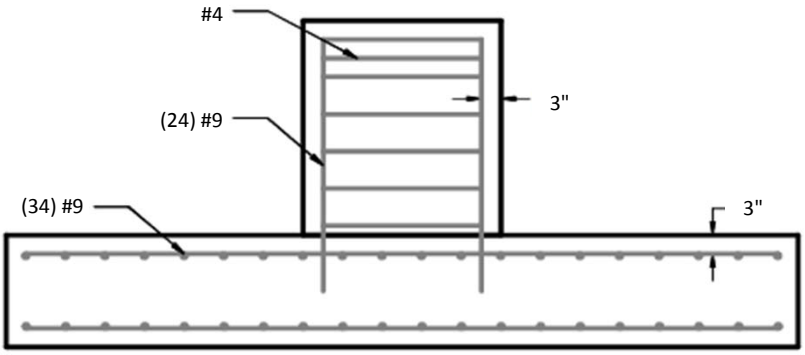
Project & Site Details			
Project No.	16BKFD1400	Rev.	0
Project Name	OXFORD-QUAKER FARMS		
Site ID	845455		
Date	Tuesday, June 28, 2016		
Code	TIA/EIA-222-F		
Overstress Capacity	100%		

tnx Reactions		
Moment, M	2,769	kip-ft
Shear, V	28	k
Axial, P	38	k

Foundation Details		
Pier Above Grade, E	0.5	ft
Pad Depth Below Grade, D	7.5	ft
Pad Width, W	20.0	ft
Pad Thickness, T	3.5	ft
Pier Shape	Square	-
Pier Diameter, D_p	7.0	ft
Density of Soil, γ_s	0.150	kcf
Density of Concrete, γ_c	0.150	kcf



Pad Steel Details		
Horiz. Bar Size	#9	-
Pad Bar Diameter, d_b	1.128	in
Number of pad bars, n	34	-
Strength of Concrete, f_c'	3,000	psi
Clear Cover, cc	3.0	in
Yield Strength of Steel, F_y	60	ksi



Pad Steel Checks		
Pad Shear	30.9%	PASS
Two-Way Shear	17.9%	PASS
Pad Flexure	24.0%	PASS
Steel Yielding	OK	

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

AT&T Existing Facility

Site ID: CT2256

Oxford
85 Quaker Farms Road
Oxford, CT 06478

July 8, 2016

EBI Project Number: 6216003134

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	8.18 %

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

EBI Consulting
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July 8, 2016

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

Emissions Analysis for Site: **CT2256 – Oxford**

EBI Consulting was directed to analyze the proposed AT&T facility located at **85 Quaker Farms Road, Oxford, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **85 Quaker Farms Road, Oxford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

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

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

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

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

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

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

8) The antennas used in this modeling are the **Powerwave 7770, Commscope SBNH-1D6565C and the KMW AM-X-CD-16-65-00T-RET** for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antenna mounting height centerlines of the proposed antennas are **136 feet** above ground level (AGL) for **Sector A**, **136 feet** above ground level (AGL) for **Sector B** and **136 feet** above ground level (AGL) for Sector C.

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

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

AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	**136 feet**	Height (AGL):	**136 feet**	Height (AGL):	**136 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,140.89	ERP (W):	2,140.89	ERP (W):	2,140.89
Antenna A1 MPE%	**0.59 %**	Antenna B1 MPE%	**0.59 %**	Antenna C1 MPE%	**0.59 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	Commscope SBNH-1D6565C	Make / Model:	Commscope SBNH-1D6565C
Gain:	13.35 / 15.25 dBd	Gain:	13.35 / 15.25 dBd	Gain:	13.35 / 15.25 dBd
Height (AGL):	**136 feet**	Height (AGL):	**136 feet**	Height (AGL):	**136 feet**
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	6,614.85	ERP (W):	7,395.97	ERP (W):	7,395.97
Antenna A2 MPE%	**2.04 %**	Antenna B2 MPE%	**2.25 %**	Antenna C2 MPE%	**2.25 %**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 dBd	Gain:	11.4 dBd	Gain:	11.4 dBd
Height (AGL):	**136 feet**	Height (AGL):	**136 feet**	Height (AGL):	**136 feet**
Frequency Bands	850 MHz	Frequency Bands	850 MHz	Frequency Bands	850 MHz
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	60 Watts	Total TX Power(W):	60 Watts	Total TX Power(W):	60 Watts
ERP (W):	828.23	ERP (W):	828.23	ERP (W):	828.23
Antenna A3 MPE%	**0.31 %**	Antenna B3 MPE%	**0.31 %**	Antenna C3 MPE%	**0.31 %**

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max per sector	**3.15 %**
T-Mobile	1.92 %
Verizon Wireless	3.11 %
Site Total MPE %:	**8.18 %**

AT&T Sector A Total:	2.94 %
AT&T Sector B Total:	3.15 %
AT&T Sector C Total:	3.15 %
Site Total:	8.18 %

AT&T _ Max Values Per Sector (Sectors B & C)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	414.12	136	1.76	850 MHz	567	0.31%
AT&T 1900 MHz (PCS) UMTS	2	656.33	136	2.79	1900 MHz (PCS)	1000	0.28%
AT&T 700 MHz LTE	2	1,390.44	136	5.92	700 MHz	467	1.27%
AT&T 1900 MHz (PCS) LTE	2	2,307.55	136	9.82	1900 MHz (PCS)	1000	0.98%
AT&T 850 MHz GSM	2	414.12	136	1.76	850 MHz	567	0.31%
						Total:	**3.15 %**

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	2.94 %
Sector B:	3.15 %
Sector C:	3.15 %
AT&T Maximum Total (per sector):	3.15 %
Site Total:	8.18 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **8.18 %** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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