NSS NORTHEAST SITE SOLUTIONS

Turnkey Wireless Development

May 11, 2015

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
376 Deercliff Road, Avon, CT 06001
Longitude:-72.80075000
Latitude: 41.774972
T-Mobile Site#: CT11376A_VoLte

Members of the Siting Council:

On behalf of T-Mobile, Northeast Site Solutions (NSS) is submitting an exempt modification application to the Connecticut Siting Council for modification of existing equipment at a tower facility located at 376 Deercliff Road, Avon, CT 06001.

The 376 Deercliff Road, Avon, CT facility consists of a 560' Guyed Tower owned and operated by Crown. In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of the municipality in which the affected cell site is located.

As part of T-Mobile's VOLTE Project, T-Mobile desires to upgrade their equipment to meet the new standards of 4G technology. The new equipment will allow customers to download files and browse the internet at a high rate of speed while also allowing their phones to be compatible with the latest 4G technology.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in T-Mobile's operations at the site along with the required fee of $625.

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The changes to the facility do not constitute modifications as defined in Connecticut General Statutes significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The overall height of the structure will be unaffected.

2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than the new equipment cabinets.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.

4. The changes in radio frequency power density will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, Northeast Site Solutions (NSS) on behalf of T-Mobile, respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at 860.209.4690 with any questions you may have concerning this matter.

Sincerely,

Denise Sabo
Mobile: 860-209-4690
Fax: 413-521-0558
Office: 199 Brickyard Rd, Farmington, CT 06032
Email: denise@northeastsitesolutions.com

Exhibit A

T-MOBILE NORTHEAST LLC

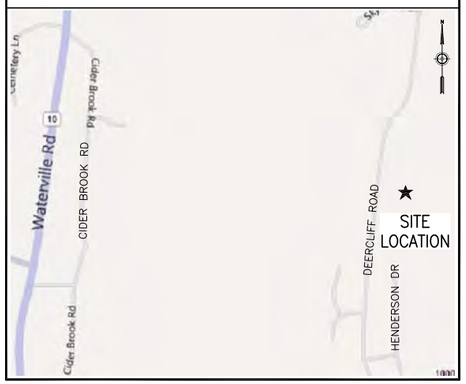
SITE #: CT11376A

SITE NAME: FARMINGTON1/RT10

SITE ADDRESS:
376 DEERCLIFF ROAD
AVON, CT, 06001

WIRELESS BROADBAND FACILITY
CONSTRUCTION DRAWINGS
(4E-GU19 CONFIGURATION)

VICINITY MAP



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL BEFORE YOU DIG:

WWW.CBYD.COM

CALL 800 922 4455, OR 811

CALL THREE WORKING DAYS PRIOR TO DIGGING

SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTOR(S) AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS.

COLOR CODE FOR UTILITY LOCATIONS

ELECTRIC – RED		**SEWER**	**– GREEN**
GAS/OIL	– YELLOW	**SURVEY**	**– PINK**
TEL/CATV	– ORANGE	PROPOSED EXCAVATION	– WHITE
WATER	– BLUE	**RECLAIMED WATER**	**– PURPLE**

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES. RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONSTRUCT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE T–MOBILE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF THE CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXPENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING OF ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUM OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND INSPECTIONS WHICH ARE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS, AS WELL AS THE LATEST EDITIONS OF ANY PERTINENT STATE SAFETY REGULATIONS.
14. THE CONTRACTOR SHALL NOTIFY THE T–MOBILE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE T–MOBILE REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.
16. THE CONTRACTOR SHALL RETURN ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK.
17. ATLANTIS GROUP, INC. HAS NOT CONDUCTED A STRUCTURAL ANALYSIS FOR THIS PROJECT AND DOES NOT ASSUME ANY LIABILITY FOR THE ADEQUACY OF THE STRUCTURE AND COMPONENTS.
18. REFER TO STRUCTURAL LETTER DOCUMENT ENTITLED, "STRUCTURAL ANALYSIS REPORT" PREPARED BY B+T GRP "T–MOBILE SITE ID CT11376A", DATED MARCH 15, 2015

SITE INFORMATION

SITE NUMBER:	CT11376A
SITE NAME:	FARMINGTON1/RT10
SITE ADDRESS:	376 DEERCLIFF ROAD AVON, CT, 06001
LAT./LONG.:	N 41.462995 / W –72.48207
JURISDICTION:	HARTFORD COUNTY
PROPERTY OWNER:	WARREN KELLEHER, PROJECT MANAGER T: (781) 970–0055 M: (978) 807–2700 CROWN CASTLE 500 WEST CUMMINGS PARK, SUITE 3600, WOBURN, MA 01801 WARREN.KELLEHER.VENDOR@ CROWNCASTLE.COM

CODE COMPLIANCE

CONNECTICUT STATE BUILDING CODE

2005 CONNECTICUT BUILDING CODE WITH 2013 AMENDMENT
2011 NATIONAL ELECTRICAL CODE

CONSTRUCTION TYPE: 2B USE GROUP: N/A

PROJECT SUB–CONTRACTORS

APPLICANT:	T–MOBILE NORTHEAST, LLC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 (860) 692–7100
PROJECT MANAGER	LISA LIN ALLEN NORTHEAST SITE SOLUTIONS 54 MAIN STREET STURBRIDGE, MA 01566 (508) 434–5237
ARCHITECT/ENGINEER:	ATLANTIS GROUP INC. 1340 CENTRE STREET SUITE 212 NEWTON CENTER, MA 02459 (617) 965–0789

SHEET INDEX

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E–1	GROUNDING DIAGRAM
E–2	GROUNDING DETAILS

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX:(860) 692-7159

ATLANTIS GROUP
1340 Centre Street, Suite 212
Newton Center, MA 02459
Office: 617–965–0789
Fax: 617–213–5056

SUBMITTALS

DATE	DESCRIPTION	REVISION
03/12/15	ISSUED FOR REVIEW	A
03/13/15	REVISED PER COMMENTS	0
04/22/15	FINAL CD	1

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	CT11376A
DRAWN BY:	MB
CHECKED BY:	SM

STATE OF CONNECTICUT
HOSSEIN VAHEDI
NO. ARI. 11162
LICENSED ARCHITECT

PROFESSIONAL SEAL

SITE NUMBER
CT11376A
SITE NAME
FARMINGTON1/RT10
SITE ADDRESS
376 DEERCLIFF ROAD
AVON, CT, 06001

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

ELECTRICAL NOTES:

WORK INCLUDED

1. INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, PLANT SERVICES AND ADMINISTRATIVE TASKS REQUIRED TO COMPLETE AND MAKE OPERABLE THE ELECTRICAL WORK SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   A. PREPARE AND SUBMIT SHOP DRAWINGS, DIAGRAMS AND ILLUSTRATIONS.
   B. PROCURE ALL NECESSARY PERMITS AND APPROVALS AND PAY ALL REQUIRED FEES AND CHARGES IN CONNECTION WITH THE WORK OF THIS CONTRACT.
   C. SUBMIT AS-BUILT DRAWINGS, OPERATING AND MAINTENANCE INSTRUCTIONS AND MANUALS.
   D. EXECUTE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING OF EXISTING OR NEWLY INSTALLED CONSTRUCTION REQUIRED FOR THE WORK OF THIS CONTRACT. FOR SLAB PENETRATIONS THROUGH POST TENSION SLABS, X-RAY EXACT AREA OF PENETRATION PRIOR TO PERFORMING WORK. COORDINATE ALL X-RAY WORK WITH BUILDING ENGINEER.
   E. PROVIDE HANGERS, SUPPORTS, FOUNDATIONS, STRUCTURAL FRAMING SUPPORTS, AND BASES FOR CONDUIT AND EQUIPMENT PROVIDED OR INSTALLED UNDER THE WORK OF HIS CONTRACT. PROVIDE COUNTER FLASHING, SLEEVES AND SEALS FOR FLOOR AND WALL PENETRATIONS.
   F. MAINTAIN ALL EXISTING ELECTRICAL SERVICES IN THE BUILDING AREAS NOT AFFECTED BY THE ALTERATION DURING THE PROGRESS OF THE WORK INCLUDING PROVIDING ALL TEMPORARY JUMPERS, CONDUITS, CAPS, PROTECTIVE DEVICES, CONNECTIONS AND EQUIPMENT REQUIRED. PROVIDE TEMPORARY LIGHT AND POWER FOR CONSTRUCTION PURPOSES.
2. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IT IS NOT THE INTENT TO GIVE EVERY DETAIL ON THE DRAWINGS AND IN THE SPECIFICATIONS. IF AN ITEM OF WORK IS INDICATED IN THE DRAWINGS, IT IS CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT USUALLY FURNISHED OR NEEDED TO MAKE A COMPLETE INSTALLATION WHETHER OR NOT SPECIFICALLY MENTIONED IN THE CONTRACT DOCUMENTS.

GENERAL REQUIREMENTS

1. PROVIDE ALL WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND LOCAL AND STATE ELECTRICAL CODES.
2. THE ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY. REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT DIMENSIONS OF THE BUILDING.
3. LOAD CALCULATIONS ARE BASED ON EXISTING BUILDING INFORMATION/DRAWINGS PROVIDED TO ENGINEERING. CONTRACTOR IS TO VERIFY ALL EXISTING RATINGS AND LOADS PRIOR TO PURCHASING OF SPECIFIED EQUIPMENT FOR COMPLIANCE TO NEC. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES AND REQUEST FURTHER DIRECTION BY ENGINEER.
4. EXISTING BUILDING EQUIPMENT IS NOTED ON THE DRAWINGS. NEW OR RELOCATED EQUIPMENT IS SHOWN WITH SOLID LINES. FUTURE EQUIPMENT (NOT IN THIS CONTRACT) IS DEPICTED WITH SHADED LINES. REQUEST CLARIFICATION OF DRAWINGS OR OF SPECIFICATIONS PRIOR TO PRICING OR INSTALLATION.
5. GENERAL
   A. AFTER CAREFULLY STUDYING THE DRAWINGS AND SPECIFICATIONS, AND BEFORE SUBMITTING THE PROPOSAL, MAKE A MANDATORY SITE VISIT TO ASCERTAIN CONDITIONS OF THE SITE, AND THE NATURE AND EXACT QUANTITY OF WORK TO BE PERFORMED. NO EXTRA COMPENSATION WILL BE ALLOWED FOR FAILURE TO NOTIFY THE OWNER, IN WRITING, OF ANY DISCREPANCIES THAT MAY HAVE BEEN NOTED BETWEEN THE EXISTING CONDITIONS AND THE DRAWINGS AND SPECIFICATIONS.
   B. VERIFY ALL MEASUREMENTS AT THE SITE AND BE RESPONSIBLE FOR CORRECTNESS OF SAME.
6. QUALITY, WORKMANSHIP, MATERIALS AND SAFETY
   A. PROVIDE NEW MATERIALS AND EQUIPMENT OF A DOMESTIC MANUFACTURER BY THOSE REGULARLY ENGAGED IN THE PRODUCTION AND MANUFACTURE OF SPECIFIED MATERIALS AND EQUIPMENT. WHERE UL, OR OTHER AGENCY, HAS ESTABLISHED STANDARDS FOR MATERIALS, PROVIDE MATERIALS WHICH ARE LISTED AND LABELED ACCORDINGLY. THE COMMERCIALLY STANDARD ITEMS OF EQUIPMENT AND THE SPECIFIC NAMES MENTIONED HEREIN ARE INTENDED FOR THE PROPER FUNCTIONING OF THE WORK.
   B. WORK SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE REQUIRED FOR THE WORK. INSTALL MATERIALS AND EQUIPMENT TO PRESENT A NEAT APPEARANCE WHEN COMPLETED AND IN ACCORDANCE WITH THE APPROVED RECOMMENDATIONS OF THE MANUFACTURER AND IN ACCORDANCE WITH CONTRACT DOCUMENTS.
   C. PROVIDE LABOR, MATERIALS, APPARATUS AND APPLIANCES ESSENTIAL TO THE FUNCTIONING OF THE SYSTEMS DESCRIBED OR INDICATED HEREIN, OR WHICH MAY BE REASONABLY IMPLIED AS ESSENTIAL WHENEVER MENTIONED IN THE CONTRACT DOCUMENT OR NOT.
   D. MAKE WRITTEN REQUESTS FOR SUPPLEMENTARY INSTRUCTIONS TO ARCHITECT/ENGINEER IN CASE OF DOUBT AS TO WORK INTENDED OR IN EVENT OF NEED FOR EXPLANATION THEREOF.
   E. PERFORMANCE AND MATERIAL REQUIREMENTS SCHEDULED OR SPECIFIED ARE MINIMUM STANDARD ACCEPTABLE. THE RIGHT TO JUDGE THE QUALITY OF EQUIPMENT THAT DEVIATES FROM THE CONTRACT DOCUMENT REMAINS SOLELY WITH ARCHITECT/ENGINEER. CONTRACT DOCUMENT OR NOT.

GUARANTEE

1. GUARANTEE MATERIALS, PARTS AND LABOR FOR WORK FOR ONE YEAR FROM THE DATE OF ISSUANCE OF OCCUPANCY PERMIT. DURING THAT PERIOD, MAKE GOOD FAULTS OR IMPERFECTIONS THAT MAY ARISE DUE TO DEFECTS OR OMISSIONS IN MATERIALS OR WORKMANSHIP WITH NO ADDITIONAL COMPENSATION AND AS DIRECTED BY ARCHITECT.

CLEANING

1. REMOVE ALL CONSTRUCTION DEBRIS RESULTING FROM THE WORK.
2. CLEAN EQUIPMENT AND SYSTEMS FOLLOWING THE COMPLETION OF THE PROJECT TO THE SATISFACTION OF THE ENGINEER.

COORDINATION AND SUPERVISION

1. CAREFULLY LAY OUT ALL WORK IN ADVANCE TO AVOID UNNECESSARY CUTTING, CHANNELING, CHASING OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS OR OTHER SURFACES. WHERE SUCH WORK IS NECESSARY, HOWEVER, PATCH AND REPAIR THE WORK IN AN APPROVED MANNER BY SKILLED MECHANICS AT NO ADDITIONAL COST TO THE OWNER. RENDER FULL COOPERATION TO OTHER TRADES WHERE WORK WILL BE INSTALLED IN CLOSE PROXIMITY TO WORK OF OTHER TRADES. ASSIST IN WORKING OUT SPACE CONDITIONS. IF WORK IS INSTALLED BEFORE COORDINATION WITH OTHER TRADES, OR CAUSES INTERFERENCE, MAKE CHANGES NECESSARY TO CORRECT CONDITIONS WITHOUT EXTRA CHARGE.

SUBMITTALS

1. AS-BUILT DRAWINGS:
   A. UPON COMPLETION OF THE WORK, FURNISH TO THE OWNER "AS-BUILT" DRAWINGS.
2. SERVICE MANUALS:
   A. UPON COMPLETION OF THE WORK, FULLY INSTRUCT T-MOBILE AS TO THE OPERATION AND MAINTENANCE OF ALL MATERIAL, EQUIPMENT AND SYSTEMS.
   B. PROVIDE 3 COMPLETE BOUND SETS OF INSTRUCTIONS FOR OPERATING AND MAINTAINING ALL SYSTEMS AND EQUIPMENT.

CUTTING AND PATCHING

1. PROVIDE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING REQUIRED TO COMPLETE THE WORK.
2. OBTAIN OWNER APPROVAL PRIOR TO CUTTING THROUGH FLOORS OR WALLS FOR PIPING OR CONDUIT.

TESTS, INSPECTION AND APPROVAL

1. BEFORE ENERGIZING ANY ELECTRICAL INSTALLATION, INSPECT EACH UNIT IN DETAIL. TIGHTEN ALL BOLTS AND CONNECTIONS (TORQUE-TIGHTEN WHERE REQUIRED) AND DETERMINE THAT ALL COMPONENTS ARE ALIGNED, AND THE EQUIPMENT IS IN SAFE, OPERATIONAL CONDITION.
2. PROVIDE THE COMPLETE ELECTRICAL SYSTEM FREE OF GROUND FAULTS AND SHORT CIRCUITS SUCH THAT THE SYSTEM WILL OPERATE SATISFACTORILY UNDER FULL LOAD CONDITIONS, WITHOUT EXCESSIVE HEATING AT ANY POINT IN THE SYSTEM.

SPECIAL REQUIREMENTS

1. DO NOT LEAVE ANY WORK INCOMPLETE NOR ANY HAZARDOUS SITUATIONS CREATED WHICH WILL AFFECT THE LIFE OR SAFETY OF THE PUBLIC AND/OR BUILDING OCCUPANTS. DO NOT INTERFERE WITH OR CUTOFF ANY OF THE EXISTING SERVICES WITHOUT THE OWNER'S WRITTEN PERMISSION.
2. WHEN NECESSARY TO TEMPORARILY DISCONNECT ANY EXISTING BUILDING UTILITIES AND SERVICE SYSTEMS, INCLUDING FEEDER OR BRANCH CIRCUITING SUPPLYING EXISTING FACILITIES, CONFER WITH THE OWNER AND ARRANGE THE PERIOD OF INTERRUPTION FOR A TIME MUTUALLY AGREED UPON. SHUTDOWN NOTE: SCHEDULE AND NOTIFY OWNER 48 HOURS PRIOR TO SHUTDOWN. ALL SHUTDOWN WORK TO BE SCHEDULED AT A TIME CONVENIENT TO OWNER.

GROUNDING

1. ROUTE ALL GROUNDING CONDUCTORS AS SHOWN ON CONDUIT/GROUNDING RISER.
2. ROUTE 500 KCMIL CU. THHN CONDUCTOR FROM THE MGB LOCATION TO BUILDING STEEL. VERIFY BUILDING STEEL IS EFFECTIVELY GROUNDED PER NEC TO THE MAIN SERVICE GROUNDING ELECTRODE CONDUCTOR (GEC).
3. MAKE ALL GROUND CONNECTIONS FROM MGB TO ELECTRICAL EQUIPMENT WITH 2 HOLE, CRIMP TYPE, BURNDY COMPRESSION TERMINATIONS, SIZED AS REQUIRED.
4. USE 1 HOLE, CRIMP TYPE, BURNDY COMPRESSIONS TERMINATIONS, SIZED AS REQUIRED, AT EQUIPMENT GROUND CONNECTIONS.
5. HIRE AN INDEPENDENT LAB TO PERFORM THE SPECIFIED OHMS TESTING. PROVIDE 4 SETS OF THE CERTIFIED DOCUMENTS TO THE OWNER FOR VERIFICATION PRIOR TO THE PROJECT COMPLETION.

RACEWAYS

1. ALL WIRING TO BE INSTALLED IN CONDUIT SYSTEMS IN ACCORDANCE WITH THE FOLLOWING:
   A. EXTERIOR FEEDERS AND CONTROL, WHERE UNDERGROUND, TO BE IN SCH 40 PVC.
   B. EXTERIOR, ABOVE GROUND POWER CONDUITS TO BE GALVANIZED RIGID STEEL (RGS).
   C. ALL TELECOMMUNICATION CONDUITS, INTERIOR/EXTERIOR, TO BE EMT.
   D. INSTALL PULL ROPES IN ALL NEW EMPTY CONDUITS INSTALLED ON THIS PROJECT.
   E. ALL TELECOM CONDUITS AND PULL BOXES INSTALLED ON THIS PROJECT TO BE LABELED "T-MOBILE". OWNER WILL PROVIDE LABELS FOR CONTRACTOR TO INSTALL.
   F. INTERIOR FEEDERS TO BE INSTALLED IN E.M.T. WITH STEEL COMPRESSION FITTINGS.
   G. MINIMUM SIZE CONDUIT TO BE ¾" TRADE SIZE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
   H. FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT TO BE INSTALLED IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
   I. CONDUIT TO BE RUN CONCEALED IN CEILINGS, FINISHED AREAS OR DRYWALL PARTITIONS, UNLESS OTHERWISE NOTED.
   J. THE ROUTING OF CONDUITS INDICATED ON THE DRAWINGS IS DIAGRAMMATIC. BEFORE INSTALLING ANY WORK, EXAMINE THE WORKING LAYOUTS AND SHOP DRAWINGS OF THE OTHER TRADES TO DETERMINE THE EXACT LOCATIONS AND CLEARANCES.
   K. ALL EXTERIOR MOUNTING HARDWARE TO BE GALVANIZED STEEL. COORDINATE WITH BUILDING ENGINEER PRIOR TO ATTACHING TO BUILDING STRUCTURE.

RACEWAYS CONT'D

   L. PENETRATIONS OF WALLS, FLOORS AND ROOFS, FOR THE PASSAGE OF ELECTRICAL RACEWAYS, TO BE PROPERLY SEALED AFTER INSTALLATION OF RACEWAYS SO AS TO MAINTAIN THE STRUCTURAL OR WATERPROOF INTEGRITY OF THE WALL, FLOOR OR ROOF SYSTEM TO BE PENETRATED. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED WALLS, CEILINGS OR SMOKE TIGHT CORRIDOR PARTITIONS TO MAINTAIN PROPER RATING OF WALL OR CEILING.
   M. PROVIDE ALL CONDUIT ENDS WITH INSULATED METALLIC GROUNDING BUSHINGS.
   N. CONDUIT TO BE SUPPORTED AT MAXIMUM DISTANCE OF 8'-0", OR AS REQUIRED BY NEC, IN HORIZONTAL AND VERTICAL DIRECTIONS.
   O. PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR ALL JUNCTION BOXES AND/OR OUTLET BOXES NOT USED IN EXPOSED AREAS. PROVIDE ALL OTHER UNUSED BOXES WITH STANDARD STEEL COVER PLATES.
   P. WHERE APPLICABLE, PROVIDE ROOFTOP CONDUIT SUPPORT SYSTEM, CONFORMING TO ROOFTOP WARRANTY REQUIREMENTS, PER BUILDING.

WIRES AND CABLES

1. CONTRACTOR TO COORDINATE WITH EQUIPMENT SUPPLIER AND VENDOR FOR EXACT EQUIPMENT OVER-CURRENT PROTECTION VOLTAGE, WIRE SIZE AND PLUG CONFIGURATION, IF APPLICABLE, PRIOR TO BID.
2. ALL EQUIPMENT/DEVICES TO BE PROVIDED WITH INSULATED GROUND CONDUCTOR.
3. ALL WIRE AND CABLE TO BE 600VOLT, COPPER, WITH THWN/THHN INSULATION, EXCEPT AS NOTED.
4. WIRE FOR POWER AND LIGHTING WILL NOT BE LESS THAN NO. 12AWG. ALL WIRE NO. 8 AND LARGER TO BE STRANDED.
5. CONTROL WIRING IS NOT TO BE LESS THAN NO. 14AWG, FLEXIBLE IN SINGLE CONDUCTORS OR MULTI-CONDUCTOR CABLES. CONTROL WIRING WILL CONSIST OF MULTI-CONDUCTOR CABLES WHEREVER POSSIBLE. CABLES TO BE PROVIDED WITH AN OVERALL FLAME-RETARDANT, EXTRUDED JACKET AND RATED FOR PLENUM USE. ALL CONTROL WIRE TO BE 600VOLT RATED.
6. WIRE PREVIOUSLY PULLED INTO CONDUIT IS CONSIDERED USED AND IS NOT TO BE RE-PULLED.
7. HOME RUNS AND BRANCH CIRCUIT WIRING FOR 20A, 120V CIRCUITS:

LENGTH (FT.)	HOME RUN WIRE SIZE
0 TO 50	NO. 12
51 TO 100	NO. 10
101 TO 150	NO. 8

8. VOLTAGE DROP IS NOT TO EXCEED 3%.
9. MAKE ALL CONNECTIONS WITH UL APPROVED, SOLDERLESS, PRESSURE TYPE INSULATED CONNECTORS: SCOTCHLOK OR AND APPROVED EQUAL.

WIRING DEVICES

1. ALL RECEPTACLES INSTALLED IN THIS PROJECT TO BE GROUNDING TYPE, WITH GROUNDING PIN SLOT CONNECTED TO DEVICE GROUND SCREW FOR GROUND WIRE CONNECTION.

DISCONNECT SWITCHES AND FUSES

1. DISCONNECT SWITCHES TO BE VOLTAGE-RATED TO SUIT THE CHARACTERISTICS OF THE SYSTEM FROM WHICH THEY ARE SUPPLIED.
2. PROVIDE HEAVY-DUTY, METAL-ENCLOSED, EXTERNALLY-OPERATED DISCONNECT SWITCHES, FUSED OR UNFUSED, OF SUCH TYPE AND SIZE AS REQUIRED TO PROPERLY PROTECT OR DISCONNECT THE LOAD FOR WHICH THEY ARE INTENDED.
3. PROVIDE NEMA 1 DISCONNECT SWITCHES FOR INTERIOR INSTALLATION, NEMA 3R FOR EXTERIOR INSTALLATION.
4. DISCONNECT SWITCHES TO BE MANUFACTURED BY:
   A. GENERAL ELECTRIC COMPANY
   B. SQUARE-D
5. PROVIDE RK-1 TYPE FUSES, UNLESS NOTED OTHERWISE.

INSTALLATION

1. INSTALL DISCONNECT SWITCHES WHERE INDICATED ON DRAWINGS.
2. INSTALL FUSES IN FUSIBLE DISCONNECT SWITCHES. FUSES MUST MATCH IN TYPE AND RATING.
3. FUSES TO BE MOUNTED SO THAT THE LABELS SHOWING THEIR RATINGS CAN BE READ WITHOUT REQUIRING FUSE REMOVAL.
4. FURNISH AND DEPOSIT SPARE FUSES AT THE JOB SITE AS FOLLOWS:
   A. THREE SPARES FOR EACH TYPE AND SIZE, IN EXCESS OF 60A, USED FOR INITIAL FUSING.
   B. TEN PERCENT SPARES FOR EACH TYPE AND SIZE, UP TO AND INCLUDING 60A, USED FOR INITIAL FUSING. IN NO CASE WILL LESS THAN THREE FUSES OF ONE PARTICULAR TYPE AND SIZE BE FURNISHED.

GENERAL NOTES:

INTENT

1. THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION.
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED, OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH
3. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.
4. THE PURPOSE OF THE SPECIFICATIONS IS TO INTERPRET THE INTENT OF THE DRAWINGS AND TO DESIGNATE THE METHOD OF THE PROCEDURE, TYPE AND QUALITY OF MATERIALS REQUIRED TO COMPLETE THE WORK.
5. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK WILL BE MADE OR PERMITTED BY THE OWNER WITHOUT ISSUING A CHANGE ORDER.

CONFLICTS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATIONS OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE OWNER FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
2. THE BIDDER, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING CONCERNING SUCH BIDDER MIGHT HAVE FULLY INFORMED THEMSELVES PRIOR TO THE BIDDING.
3. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES OR CONDITIONS THAT MAY BE ENCOUNTERED, OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS GOVERNING THE WORK.

CONTRACTS AND WARRANTIES

1. CONTRACTOR IS RESPONSIBLE FOR APPLICATION AND PAYMENT OF CONTRACTOR LICENSES AND BONDS.
2. SEE MASTER CONTRACTION SERVICES AGREEMENT FOR ADDITIONAL DETAILS.

STORAGE

1. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY FASHION AND IN A MANNER THAT DOES NOT NECESSARILY OBSTRUCT THE FLOW OF OTHER WORK. ANY STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE ASSOCIATED MANUFACTURER.

CLEANUP

1. THE CONTRACTORS SHALL, AT ALL TIMES, KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR EMPLOYEES AT WORK AND AT THE COMPLETION OF THE WORK. THEY SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE BUILDING AREA, INCLUDING ALL THEIR TOOLS, SCAFFOLDING AND SURPLUS MATERIALS AND SHALL LEAVE THEIR WORK CLEAN AND READY TO USE.
2. EXTERIOR
   A. VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER.
   B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
   C. IF NECESSARY, TO ACHIEVE A UNIFORM DEGREE OF CLEANLINESS, HOSE DOWN THE EXTERIOR OF THE STRUCTURE.
3. INTERIOR
   A. VISUALLY INSPECT INTERIOR SURFACE AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER FROM WALLS, FLOOR, AND CEILING.
   B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
   C. REMOVE PAINT DROPPINGS, SPOTS, STAINS, AND DIRT FROM FINISHED SURFACES.

CHANGE ORDER PROCEDURE:

1. REFER TO SECTION 17 OF SIGNED MCSA: SEE PROFESSIONAL SERVICE AGREEMENT FOR MCSA.

RELATED DOCUMENTS AND COORDINATION

1. GENERAL CARPENTRY, ELECTRICAL AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK, THE CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

SHOP DRAWINGS

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUIRED AND LISTED IN THESE SPECIFICATIONS TO THE OWNER FOR APPROVAL.
2. ALL SHOP DRAWINGS SHALL BE REVIEWED, CHECKED AND CORRECTED BY CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER.

PRODUCTS AND SUBSTITUTIONS

1. SUBMIT 3 COPIES OF EACH REQUEST FOR SUBSTITUTION. IN EACH REQUEST, IDENTIFY THE PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED BY THE SUBSTITUTION. INCLUDE RELATED SPECIFICATION SECTION AND DRAWING NUMBERS AND COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS.
2. SUBMIT ALL NECESSARY PRODUCT DATA AND CUT SHEETS WHICH PROPERLY INDICATE AND DESCRIBE THE ITEMS, PRODUCTS AND MATERIALS BEING INSTALLED. THE CONTRACTOR SHALL, IF DEEMED NECESSARY BY THE OWNER, SUBMIT ACTUAL SAMPLES TO THE OWNER FOR APPROVAL IN LIEU OF CUT SHEETS.

QUALITY ASSURANCE

1. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THESE SHALL INCLUDE, BUT NOT BE LIMITED TO THE APPLICABLE CODES SET FORTH BY THE LOCAL GOVERNING BODY. SEE "CODE COMPLIANCE" T-1.

ADMINISTRATION

1. BEFORE THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR WILL ASSIGN A PROJECT MANAGER WHO WILL ACT AS A SINGLE POINT OF CONTACT FOR ALL PERSONNEL INVOLVED IN THIS PROJECT. THIS PROJECT MANAGER WILL DEVELOP A MASTER SCHEDULE FOR THE PROJECT WHICH WILL BE SUBMITTED TO THE OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK.
2. SUBMIT A BAR TYPE PROGRESS CHART, NOT MORE THAN 3 DAYS AFTER THE DATE ESTABLISHED FOR COMMENCEMENT OF THE WORK ON THE SCHEDULE, INDICATING A TIME BAR FOR EACH MAJOR CATEGORY OR UNIT OF WORK TO BE PERFORMED AT THE SITE, PROPERLY SEQUENCED AND COORDINATED WITH OTHER ELEMENTS OF WORK AND SHOWING COMPLETION OF THE WORK SUFFICIENTLY IN ADVANCE OF THE DATE ESTABLISHED FOR SUBSTANTIAL COMPLETION OF THE WORK.
3. PRIOR TO COMMENCING CONSTRUCTION, THE OWNER SHALL SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES. THIS WOULD INCLUDE, BUT NOT LIMITED TO, THE OWNER, PROJECT MANAGER, CONTRACTOR, LAND OWNER REPRESENTATIVE, LOCAL TELEPHONE COMPANY, TOWER ERECTION FOREMAN (IF SUBCONTRACTED).
4. CONTRACTOR SHALL BE EQUIPPED WITH SOME MEANS OF CONSTANT COMMUNICATIONS, SUCH AS A MOBILE PHONE OR A BEEPER. THIS EQUIPMENT WILL NOT BE SUPPLIED BY THE OWNER, NOR WILL WIRELESS SERVICE BE ARRANGED.
5. DURING CONSTRUCTION, CONTRACTOR MUST ENSURE THAT EMPLOYEES AND SUBCONTRACTORS WEAR HARD HATS AT ALL TIMES. CONTRACTOR WILL COMPLY WITH ALL WPCS SAFETY REQUIREMENTS IN THEIR AGREEMENT.
6. PROVIDE WRITTEN DAILY UPDATES ON SITE PROGRESS TO THE OWNER.
7. COMPLETE INVENTORY OF CONSTRUCTION MATERIALS AND EQUIPMENT IS REQUIRED PRIOR TO START OF CONSTRUCTION.
8. NOTIFY THE OWNER/PROJECT MANAGER IN WRITING NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, TOWER ERECTIONS, AND EQUIPMENT CABINET PLACEMENTS.

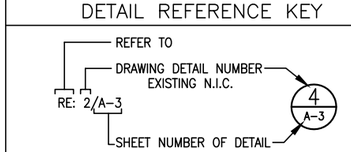
INSURANCE AND BONDS

1. CONTRACTOR, AT THEIR OWN EXPENSE, SHALL CARRY AND MAINTAIN, FOR THE DURATION OF THE PROJECT, ALL INSURANCE, AS REQUIRED AND LISTED, AND SHALL NOT COMMENCE WITH THEIR WORK UNTIL THEY HAVE PRESENTED AN ORIGINAL CERTIFICATE OF INSURANCE STATING ALL COVERAGES TO THE OWNER. REFER TO THE MASTER AGREEMENT FOR REQUIRED INSURANCE LIMITS.
2. THE OWNER SHALL BE NAMED AS AN ADDITIONAL INSURED ON ALL POLICIES.
3. CONTRACTOR MUST PROVIDE PROOF OF INSURANCE.

ARCHITECTURAL SYMBOLS

STORAGE
38
3

DETAIL REFERENCE KEY



ABBREVIATIONS

ADJ	ADJUSTABLE
AGL	ABOVE GROUND LINE
&	AND
APPROX	APPROXIMATE
@	AT
BTS	BASE TRANSMISSION STATION
CAB	CABINET
CLG	CEILING
CONC	CONCRETE
CONT	CONTINUOUS
DIA OR ø	DIAMETER
DWG	DRAWING
EA	EACH
ELEC	ELECTRICAL
ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EGB	EQUIPMENT GROUND BAR
(E)	EXISTING
EXT	EXTERIOR
FF	FINISHED FLOOR
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GRND	GROUND
LG	LONG
MAX	MAXIMUM
MECH	MECHANICAL
MW	MICROWAVE DISH
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MTL	METAL
(N)	NEW
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OPP	OPPOSITE
(P)	PROPOSED
PCS	PERSONAL COMMUNICATION SYSTEM
PPC	POWER PROTECTION CABINET
SF	SQUARE FOOT
SHT	SHEET
SIM	SIMILAR
SS	STAINLESS STEEL
STL	STEEL
TOC	TOP OF CONCRETE
TOM	TOP OF MASONRY
TYP	TYPICAL
VIF	VERIFY IN FIELD
UON	UNLESS OTHERWISE NOTED
WWF	WELDED WIRE FABRIC
W/	WITH

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SUBMITTALS

DATE	DESCRIPTION	REVISION
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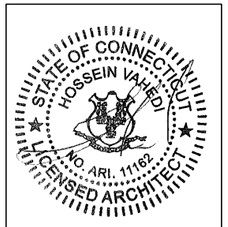
03/13/15	REVISED PER COMMENTS	0
04/22/15	FINAL CD	1

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	CT11376A
DRAWN BY:	MB
CHECKED BY:	SM

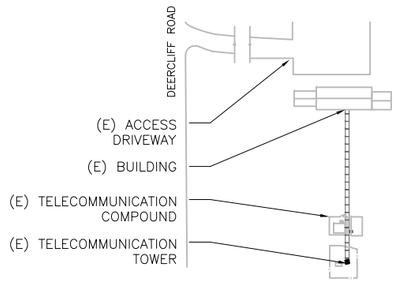


PROFESSIONAL SEAL

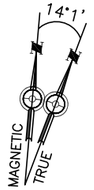
SITE NUMBER
CT11376A
SITE NAME
FARMINGTON1/RT10
SITE ADDRESS
376 DEERCLIFF ROAD
AVON, CT, 06001

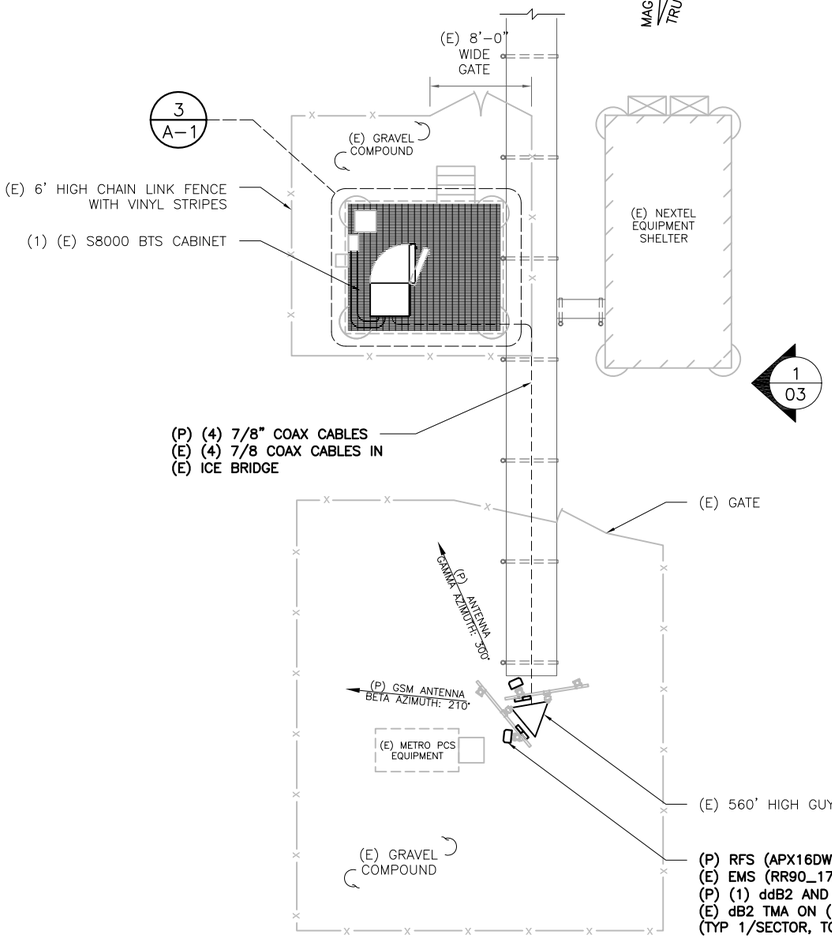
SHEET TITLE
GENERAL AND ELECTRICAL NOTES

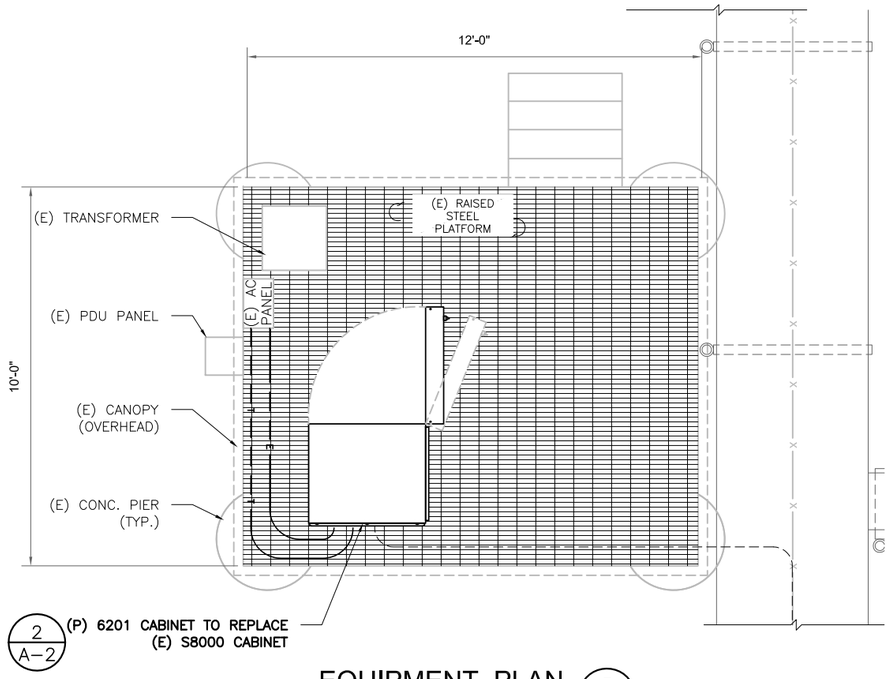
SHEET NUMBER
N-1



KEY MAP (1 / A-1)
SCALE: NOT TO SCALE







EQUIPMENT PLAN (3 / A-1)
SCALE: 1/4" = 1'-0" (11x17)
1/2" = 1'-0" (24x36)

0 4 8 12
SCALE 1"=4' (11x17)
1"=2' (24x36)

COMPOUND PLAN (2 / A-1)
SCALE: 1" = 10'-0" (11x17)
1" = 5'-0" (24x36)

0 10 20 30
SCALE 1"=10' (11x17)
1"=5' (24x36)

GENERAL SITE NOTES

1. SITE INFORMATION WAS OBTAINED FROM A FIELD INVESTIGATION PERFORMED BY ATLANTIS GROUP, INC. CONTRACTOR TO FIELD VERIFY DIMENSIONS AS NECESSARY BEFORE CONSTRUCTION.

2. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE SIGNS OF ADVERTISING.

3. THE PROPOSED DEVELOPMENT IS UNMANNED AND THEREFORE DOES NOT REQUIRE A MEANS OF WATER SUPPLY OR SEWAGE DISPOSAL.

4. NO LANDSCAPING WORK IS PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT OTHER THAN THAT WHICH IS SHOWN.

5. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.

6. UTILITIES SHOWN ON PLAN ARE TAKEN FROM OWNERS RECORDS AND FIELD LOCATION OF VISIBLE SURFACE FEATURES. THE EXISTENCE, EXTENT AND EXACT HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES HAS NOT BEEN VERIFIED. ANY CONTRACTOR PERFORMING WORK ON THIS SITE MUST CONTACT CALL BEFORE YOU DIG THREE WORKING DAYS PRIOR TO COMMENCING WORK.

7. ALL OBSOLETE OR UNUSED FACILITIES SHALL BE REMOVED WITHIN 12 MONTHS OF CESSATION OF OPERATIONS.

SITE LEGEND

- SITE PROPERTY LINE
- STREET OR ROAD
- CHAIN LINK FENCE
- OPAQUE WOODEN FENCE
- BOARD ON BOARD FENCE
- DECIDUOUS TREES/SHRUBS
- EVERGREEN TREES/SHRUBS
- TREE LINE
- UTILITY POLE
- (E) EXISTING
- (N) NEW
- (P) PROPOSED
- (F) FUTURE
- PROP. LTE ANTENNA
- PROP. UMTS/GSM ANTENNA
- EX. GSM ANTENNA
- EX. UMTS ANTENNA

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OPS			
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SITE AC.			

PROJECT NO:	CT11376A
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CHECKED BY:	SM

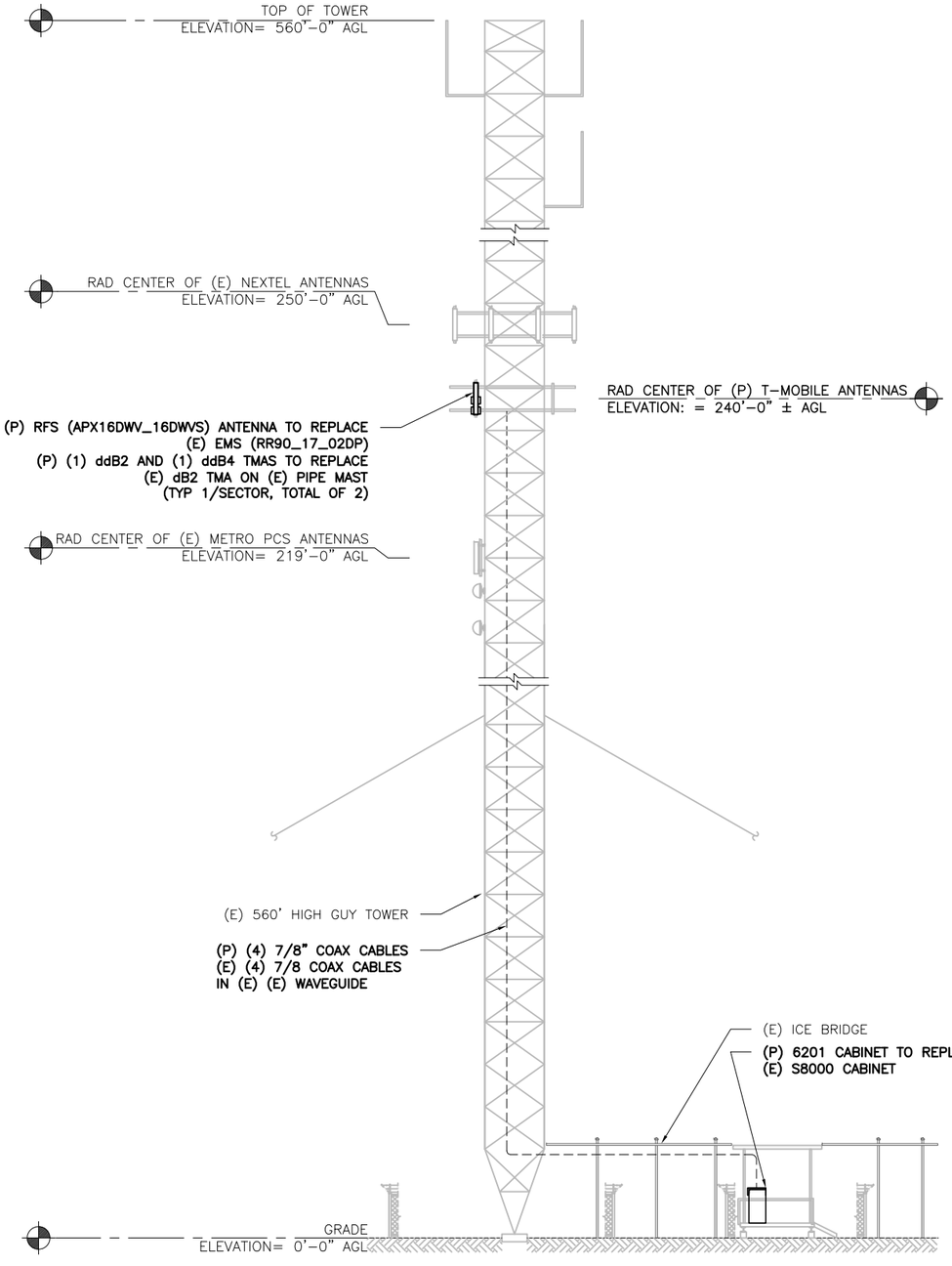
STATE OF CONNECTICUT · HOSSEIN VALEDI · No. ARI. 11162 · LICENSED ARCHITECT

PROFESSIONAL SEAL

SITE NUMBER
CT11376A
SITE NAME
FARMINGTON1/RT10
SITE ADDRESS
376 DEERCLIFF ROAD
AVON, CT, 06001

SHEET TITLE
SITE PLAN

SHEET NUMBER
A-1

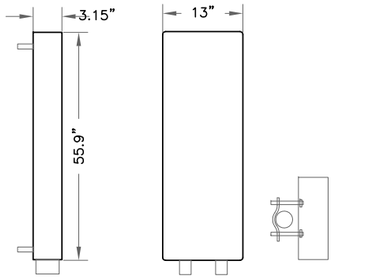


ELEVATION VIEW (1 / A-2)

SCALE: 1" = 20'-0" (11x17)
1" = 10'-0" (24x36)

0 20 40 60

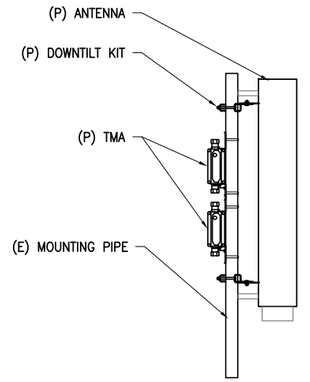
SCALE 1"=20' (11x17)
1"=10' (24x36)



MANUFACTURE: RFS
MODEL NO.:APX16DWV-16DWVS
DIMENSIONS - HxWxD, (IN) 55.9x13x3.15

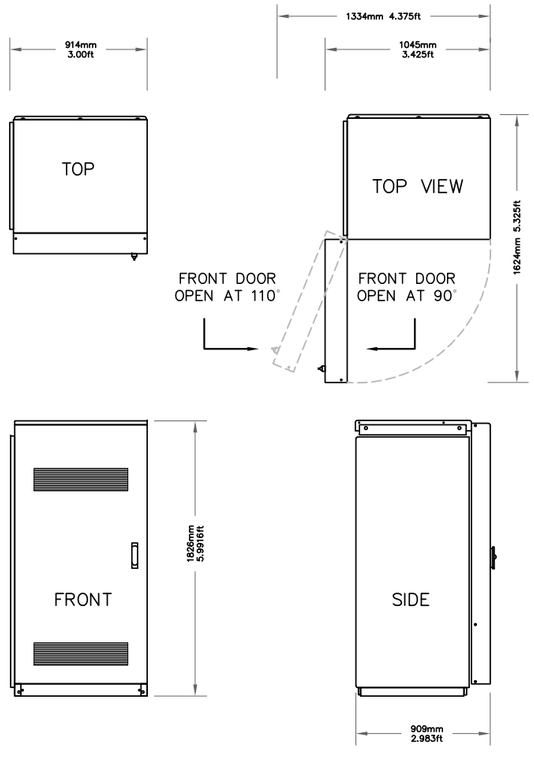
ANTENNA DETAILS (2 / A-2)

SCALE: N.T.S



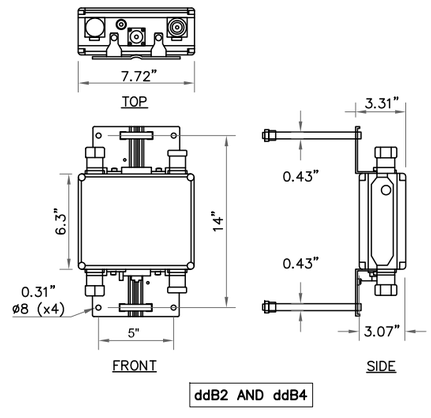
ANTENNA MOUNT DETAIL (3 / A-2)

SCALE: N.T.S



ERICSSON RBS 6201 EQUIPMENT CABINET (4 / A-2)

SCALE: N.T.S



TMA DETAILS (5 / A-2)

SCALE: N.T.S

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RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	CT11376A
DRAWN BY:	MB
CHECKED BY:	SM

STATE OF CONNECTICUT
HOSSEIN VAHEDI
No. ARI. 11162
LICENSED ARCHITECT

PROFESSIONAL SEAL

SITE NUMBER
CT11376A
SITE NAME
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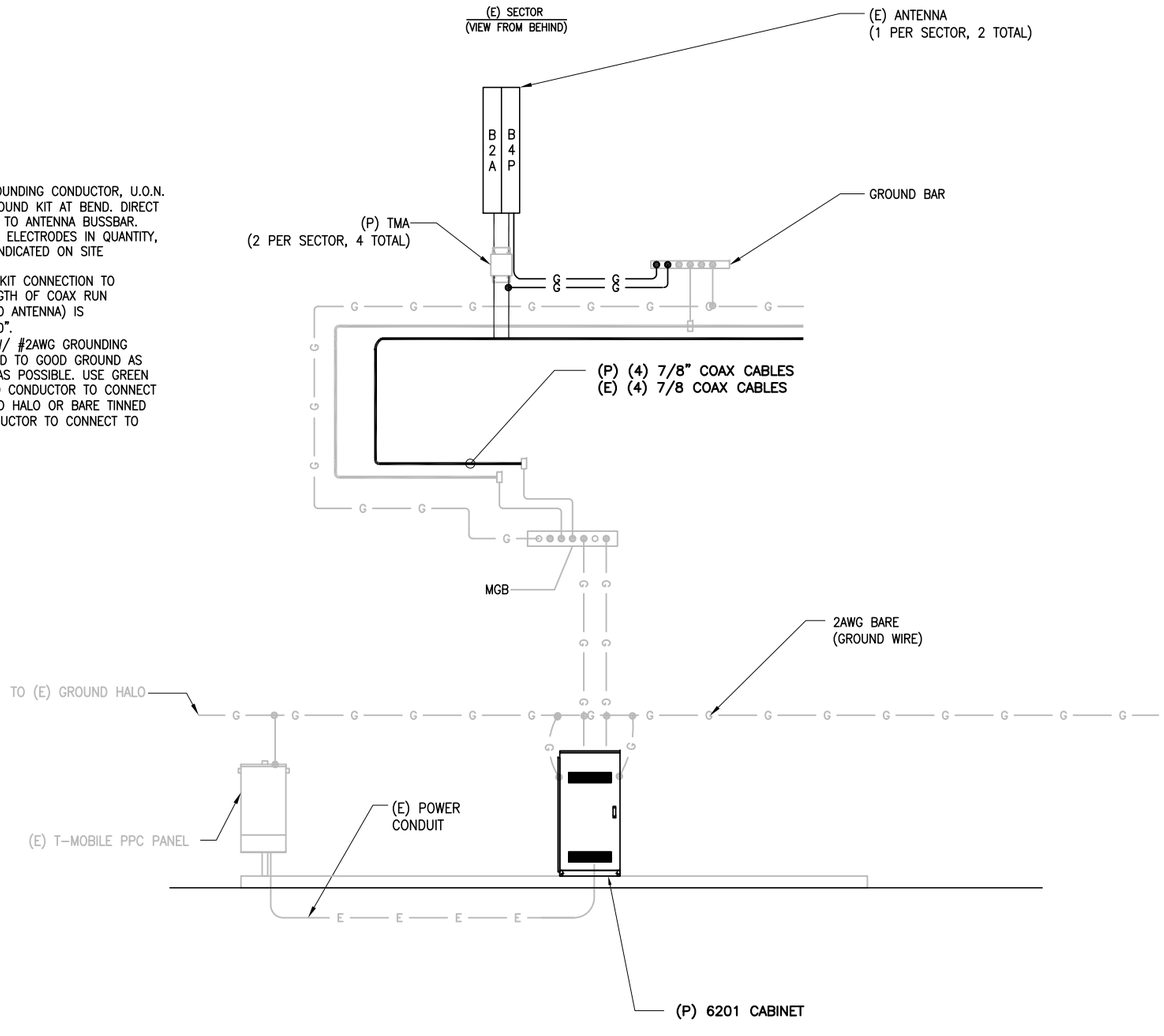
SITE ADDRESS
376 DEERCLIFF ROAD
AVON, CT, 06001

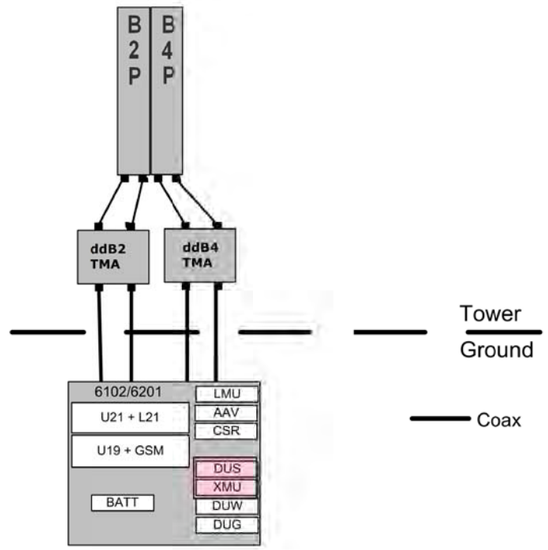
SHEET TITLE
ELEVATION

SHEET NUMBER
A-2

NOTES:
A. PROVIDE #2AWG GROUNDING CONDUCTOR, U.O.N.
B. DO NOT INSTALL GROUND KIT AT BEND. DIRECT GROUND WIRE DOWN TO ANTENNA BUSSBAR.
C. PROVIDE GROUNDING ELECTRODES IN QUANTITY, TYPE AND SIZE AS INDICATED ON SITE GROUNDING PLAN.
D. ADD COAX GROUND KIT CONNECTION TO BUSSBAR WHEN LENGTH OF COAX RUN (FROM EQUIPMENT TO ANTENNA) IS GREATER THAN 20'-0".
E. GROUND HCS BOX W/ #2AWG GROUNDING CONDUCTOR ATTACHED TO GOOD GROUND AS DIRECT AND SHORT AS POSSIBLE. USE GREEN STRANDED INSULATED CONDUCTOR TO CONNECT TO BUSSBAR/GROUND HALO OR BARE TINNED SOLID COPPER CONDUCTOR TO CONNECT TO GROUND RING.



GROUNDING DIAGRAM 1/E-1
SCALE: N.T.S



TRUNK FIBER NOTES:
1. IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO ⅞" COAXIAL CABLE, AND SIMILAR INSTALLATION TECHNIQUES APPLY. ALL CABLES ARE INDIVIDUALLY SERIALIZED, BE SURE TO WRITE DOWN THE CABLE SERIAL NUMBER FOR FUTURE REFERENCE.
2. THE TERMINATED FIBER ENDS (THE BROKEN OUT FIBERS PLUS CONNECTORS) HOWEVER ARE FRAGILE, AND THESE MUST BE PROTECTED DURING THE INSTALLATION PROCESS.
3. LEAVE THE PROTECTIVE TUBE AND SOCK AROUND THE FIBER TAILS AND CONNECTORS IN PLACE DURING HOISTING AND SECURING THE CABLE. REMOVE THIS ONLY JUST PRIOR TO MAKING THE FINAL CONNECTIONS TO THE OVP BOX.
4. DO NOT BEND THE FIBER ENDS (IN THE ORANGE FURCATION TUBES) TIGHTER THAN ¾" (19MM) BEND RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS FIBERS.
5. BE SURE THAT THE LACE UP ENDS AND FIBER CONNECTORS ARE NOT DAMAGED BY ATTACHMENT OF A HOISTING GRIP OR DURING THE HOISTING PROCESS. ATTACH A HOISTING GRIP ON THE JACKETED CABLE NO LESS THAN 6 INCHES BELOW THE FIBER BREAKOUT POINT. IF A HOISTING GRIP IS NOT EASILY ATTACHED, USE A SIMPLE LINE ATTACHED BELOW THE FIBER BREAK-OUT POINT (I.E. AT THE CABLE OUTER JACKET). PREVENT THE FIBER TAILS (IN PROTECTIVE TUBE) AT THE CABLE END FROM UNDUE MOVEMENT DURING HOISTING BY SECURING THE PROTECTIVE TUBE (WITH OUTER SOCK) TO THE HOISTING LINE.
6. DURING HOISTING ENSURE THAT THERE IS A FREE PATH AND THAT THE CABLE, AND ESPECIALLY THE FIBER ENDS, WILL NOT BE SNAGGED ON TOWER MEMBERS OR OTHER OBSTACLES.
7. INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO +70C).
8. MINIMUM CABLE BEND RADII ARE 22.2" (565MM) LOADED (WITH TENSION ON THE CABLE) AND 11.1" (280MM) UNLOADED.
9. MAXIMUM CABLE TENSILE LOAD IS 3560 N (800 LB) SHORT TERM (DURING INSTALLATION) AND 1070 N (240 LB) LONG TERM.
10. COMMSCOPE NON LACE UP GRIP RECOMMENDED FOR MONOPOLE INSTALLATIONS.
11. MAXIMUM HANGER SPACING 3FT (0.9 M).

HYBRID FIBER/POWER JUMPER NOTES:
1. IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO A ⅜" COAXIAL CABLE.
2. THE TERMINATED FIBER ENDS HOWEVER ARE FRAGILE AND MUST BE PROTECTED DURING INSTALLATION. LEAVE THE PACKAGING AROUND THE FIBER ENDS IN PLACE UNTIL READY TO CONNECT THE JUMPER BETWEEN OVP AND RRU OR BBU.
3. DO NOT BEND THE FIBER BREAKOUT CABLE (BETWEEN THE MAIN CABLE AND THE FIBER CONNECTOR) TIGHTER THAN ¾" (19MM) RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS.
4. ATTACH THE MAIN CABLE SECURELY TO THE STRUCTURE OR EQUIPMENT USING HANGERS AND/OR CABLE TIES TO PREVENT STRAIN ON CONNECTIONS FROM MOVEMENT IN WIND OR SNOW/ICE CONDITIONS.
5. ENSURE THE LC FIBER CONNECTORS ARE SEATED FIRMLY IN PANEL IN OVP OR IN EQUIPMENT.
6. INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO 70C).
7. MINIMUM CABLE BEND RADII ARE 10.3 INCH (265MM) LOADED (WITH TENSION ON THE CABLE) AND 5.2 INCH (130MM) UNLOADED.
8. MAXIMUM CABLE TENSILE LOAD IS 350 LB (1560N) SHORT TERM (DURING INSTALLATION) AND 105 LB (470N) LONG TERM.
9. STANDARD LENGTHS AVAILABLE ARE 6 FEET, 15 FEET AND 20 FEET

4E-GU19 CONFIGURATION
COAX/FIBER PLUMBING DIAGRAM 2/E-1
SCALE: N.T.S

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03/12/15	ISSUED FOR REVIEW	A
03/13/15	REVISED PER COMMENTS	0
04/22/15	FINAL CD	1

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

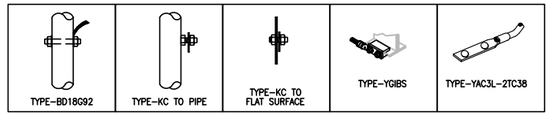
PROJECT NO:	CT11376A
DRAWN BY:	MB
CHECKED BY:	SM

STATE OF CONNECTICUT
HOSSEIN VAHEDI
NO. ARI.11162
LICENSED ARCHITECT
PROFESSIONAL SEAL

SITE NUMBER
CT11376A
SITE NAME
FARMINGTON1/RT10
SITE ADDRESS
376 DEERCLIFF ROAD
AVON, CT, 06001

SHEET TITLE
GROUNDING DIAGRAM AND POWER ONE LINE DIAGRAM

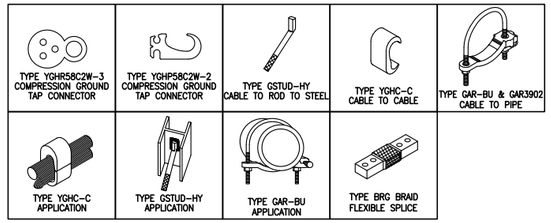
SHEET NUMBER
E-1



BURNDY GROUNDING DETAILS

1 E-2

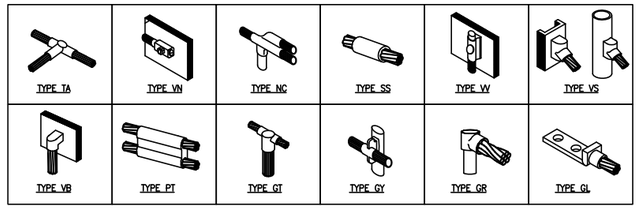
SCALE: N.T.S.



BURNDY GROUNDING PRODUCTS

2 E-2

SCALE: N.T.S.



CADWELD GROUNDING CONNECTION PRODUCTS

3 E-2

SCALE: N.T.S.

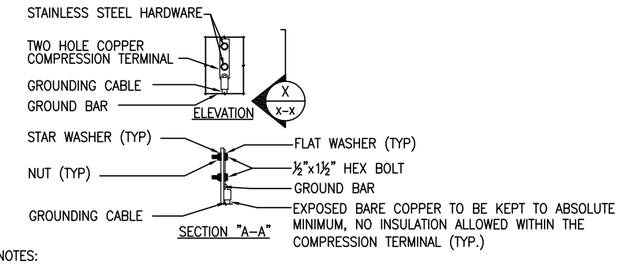
TERMINATION TYPES:
A. MECHANICAL COMPRESSION LUG
B. DOUBLE BARRELL COMPRESSION CONNECTOR
C. EXOTHERMIC TERMINATION
D. BEAM CLAMP

	SOLID #2 TINNED COPPER	#6 GROUND LEAD	#2/0 STRANDED MAIN DOWN CONDUCTOR	MASTER GRND BAR	STRUCTURAL OR TOWER STEEL	BLDG SERVICE ENTR OR GRND RING	GROUND ROD
SOLID #2 TINNED COPPER	B OR C	B OR C		C	A, C, OR D		C
#6 GROUND LEAD	B OR C			A	A, C, OR D		
#2/0 STRANDED GRNDG ELECTRODE CONDUCTOR				A	A, C, OR D	A	
MASTER GROUND BAR	C	A	A				
STRUCTURAL OR TOWER STEEL	A, C, OR D	A, C, OR D	A, C, OR D				
GROUND RING	C		C				C

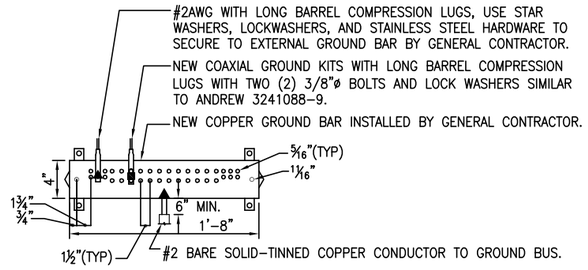
GROUNDING TERMINATION MARTIX

4 E-2

SCALE: N.T.S.



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

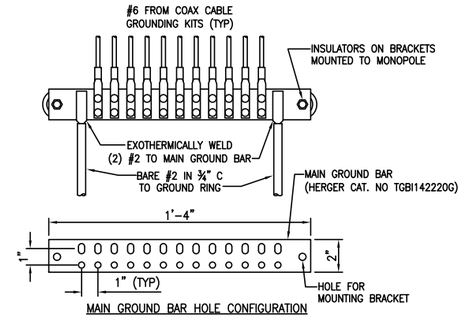


NOTES:
1. ALL HARDWARE STAINLESS STEEL COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
3. ALL HOLES ARE COUNTERSUNK 1/16".

TYPICAL GROUND BAR CONNECTIONS DETAIL

5 E-2

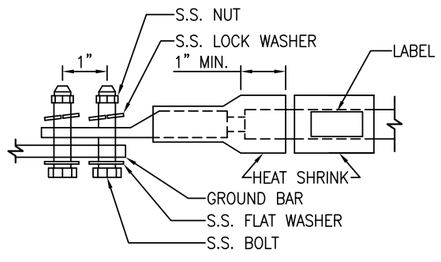
SCALE: N.T.S.



GROUND BAR DETAIL

6 E-2

SCALE: N.T.S.



LUG NOTES:
1. ALL HARDWARE IS 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS.
2. ALL HARDWARE SHALL BE S.S. ⅜"ø OR LARGER.
3. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH ANTI-OXIDIZATION COMPOUND PRIOR TO MATING.

GROUND BAR DETAIL

7 E-2

SCALE: N.T.S.

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX:(860) 692-7159

ATLANTIS GROUP
1340 Centre Street, Suite 212
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

SUBMITTALS

DATE	DESCRIPTION	REVISION
03/12/15	ISSUED FOR REVIEW	A
03/13/15	REVISED PER COMMENTS	0
04/22/15	FINAL CD	1

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
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OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	CT11376A
DRAWN BY:	MB
CHECKED BY:	SM

PROFESSIONAL SEAL

SITE NUMBER
CT11376A
SITE NAME
FARMINGTON1/RT10
SITE ADDRESS
376 DEERCLIFF ROAD
AVON, CT, 06001

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
E-2

Exhibit B

March 18, 2015

Charles McGuirt
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277
(704) 405-6607

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

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	CT11376A
	Carrier Site Name:	Farmington1/Rt10
Crown Castle Designation:	**Crown Castle BU Number:**	870800
	Crown Castle Site Name:	Avon (Deercliff Rd.)
	Crown Castle JDE Job Number:	325640
	Crown Castle Work Order Number:	1023768
	Crown Castle Application Number:	286080 Rev. 2
Engineering Firm Designation:	**B+T Group Project Number:**	83041.005.01
Site Data:	**376 Deercliff Road, Avon, Hartford County, CT** **Latitude *41° 46' 29.95"*, Longitude *-72° 48' 2.07"*** **560 Foot - Guyed Tower**	

Dear Charles McGuirt,

B+T Group is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 765584, in accordance with application 286080, 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:

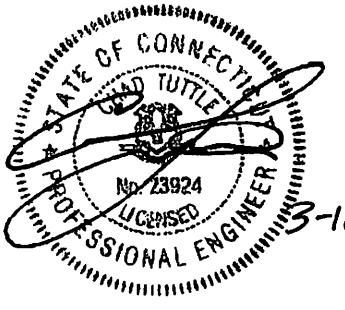
LC7: Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table 1 and Table 2 for the proposed and existing/reserved loading, respectively.

The analysis has been performed in accordance with the TIA/EIA-222-F standard and 2005 CT State Building Code based upon a wind speed of 80 mph fastest mile.

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

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

Respectfully submitted by:
B+T Engineering, Inc.



3-18-15

Venu Ambati
Project Engineer

Chad E. Tuttle, P.E.
President

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 560 ft. Guyed tower designed by Stainless Inc., in November of 1986 and mapped by Pinnacle Towers in 1999. The tower was originally designed for a wind speed of 50 mph per EIA-222-C. All modifications designed by GPD (dated 10/11/07) were considered in the 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 80 mph with no ice, 37.6 mph with 1 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
237.0	240.0	4	Ericsson	KRY 112 71	4	1-5/8	--
		2	Rfs Celwave	APX16DWV-16DWVS-E-A20			

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
557.0	557.0	3	Kathrein	AP19-1670/090D/DT2	1	1-5/8	1
		1	Rfs Celwave	PDS3DE-698/2700			
		1	--	Pipe Mount [PM 601-3]			
514.0	528.0	1	Telewave	ANT150F6	1 1	1-5/8 1-1/4	1
	519.0	1	Andrew	PG1NOF-0093-8			
	514.0	2	--	Side Arm Mount [SO 312-1]			
505.0	505.0	1	--	Flush Mount	--	--	4
492.0	500.0	1	Tx Rx Systems	101-68-10-0-03N	1	1-1/4	1
	492.0	1	--	Side Arm Mount [SO 308-1]			
490.0	490.0	1	Andrew	ATW25HS3-HSO-46H	1	4-1/16	1
		1	--	Standoff			
465.0	475.0	1	Telewave	ANT150F6	1	7/8	1
	465.0	1	--	Side Arm Mount [SO 312-1]			
442.0	450.0	1	Tx Rx Systems	101-68-10-0-03N	1	1-1/4	1
	442.0	1	--	Side Arm Mount [SO 308-1]			
438.0	448.0	2	--	Pipe Mounts	2	7/8	1
		2	Telewave	ANT150F6			
	438.0	1	--	Side Arm Mount [SO 308-1]			
415.0	425.0	1	Telewave	TPRD-1554	1 2	1-5/8 1/2	1
		1	Tx Rx Systems	101D-90-06-0-03			
	415.0	1	--	Side Arm Mount [SO 308-1]			
388.0	402.0	1	Sinclair	SC233	1	1-5/8	1
	388.0	1	--	Side Arm Mount [SO 306-1]			
324.0	329.0	2	Decibel	DB636-C	2	1-5/8	1

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
	324.0	2	--	Side Arm Mount [SO 601-1]			
294.0	303.0	1	Decibel	DB540K-E	1	7/8	1
	294.0	1	--	Side Arm Mount [SO 306-1]			
288.0	293.0	1	Decibel	DB636-C	1 1	1-5/8 1/2	1
	288.0	1	--	6"x1' TME			
		1	Andrew	P2F-52			
		2	--	Side Arm Mount [SO 201-1]			
		1	--	Side Arm Mount [SO 601-1]			
270.0	273.0	1	Tx Rx Systems	CC806-06	--	--	3
	270.0	1	--	Side Arm Mount [SO 306-1]			
250.0	254.0	1	Decibel	DB806-XC	--	--	3
	250.0	1	--	Side Arm Mount [SO 306-1]			
245.0	246.0	6	Decibel	844G65VTZASX	8	1-5/8	3
		2	Rfs Celwave	AP859012-42T0			
	245.0	2	--	Sector Mount [SM 502-1]			
237.0	238.0	**2**	**Ems Wireless**	**FR90-16-02DP**	**--**	**--**	**5**
		2	**Rfs Celwave**	**ATMPP1412D-1CWA**			
	237.0	2	--	Sector Mount [SM 401-1]	4	7/8	1
214.0	214.0	3	Kathrein	742 213	6	1-5/8	1
212.0	222.0	1	Telewave	ANT150F6	1	7/8	1
	212.0	1	--	Side Arm Mount [SO 306-1]			
190.0	190.0	12	Cci Antennas	HPA-65R-BUU-H8	2 3 8	3/8 5/16 3/4	2
		3	Ericsson	KRF 102 361/1			
		9	Ericsson	RRU-11			
		6	Ericsson	RRUS 12-B2			
		6	Ericsson	RRUS A2			
		3	Ericsson	RRUS E2 B29			
		3	Ericsson	RRUS-32 B30			
		4	Raycap	DC6-48-60-18-8F			
		1	--	Sector Mount [SM 502-3]			
175.0	185.0	1	Telewave	ANT150F6	1	7/8	1
	175.0	1	--	Side Arm Mount [SO 602-1]			
145.0	145.0	1	--	Side Arm Mount [SO 202-1]	1	EW52	3
138.0	138.0	1	--	6"x1' TME	1	1/2	1
		1	Radiowaves	SPD2-5.8			
		1	--	Pipe Mount [PM 601-1]	--	--	4
134.0	134.0	1	--	6"x1' TME	1	1/2	1
		1	Radiowaves	SPD2-5.8			
112.0	116.0	1	Rfs Celwave	201-8	1	3/8	1
	112.0	1	--	Flush Mount			
91.0	94.0	1	Telewave	ANT150F2	1	1/2	1
	91.0	1	--	Flush Mount			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
80.0	81.0	1	Dragonwave	A-ANT-11G-4-C	1	3/8	1
	80.0	1	--	Side Arm Mount [SO 301-1]			
76.0	76.0	1	--	Side Arm Mount [SO 301-1]	1	1/2	1
		1	Trimble	Acutime 2000			

Notes:
1) Existing Equipment
2) Reserved Equipment
3) Abandoned Equipment; Considered in This Analysis
4) Empty Mount; Considered in This Analysis
5) Equipment to be Removed

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)
560	560	1	Andrew	Ch. 18 Wavestar	1	6-1/8
		1	Harris	Ch. 18 Wavestar	1	WR1800
550	550	6	Generic	2-Way Antennas	6	7/8
490	490	1	Generic	8' Microwave Parabolic Antenna	1	EW64
480	480	6	Generic	2-Way Antennas	6	7/8
320	320	1	Generic	8' Microwave Parabolic Antenna	1	EW64
315	315	1	Generic	4' Microwave Parabolic Antenna	1	EW64
300	300	1	Generic	2-Bay FM Antenna	1	3
200	200	1	Generic	PR450	1	7/8

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Online Application	T-Mobile Co-Locate, Rev# 2	286080	CCI Sites
Tower Manufacturer Drawing	Stainless, Report No. 3290 Date: 11/05/1986	1579694	CCI Sites
Tower Member Verification	TEP; Project No. 25688.11984	Date: 02/11/2013	E-mail
Tower Mapping	Pinnacle, Date: 04/14/1999	1579694	CCI Sites
Previous Analysis	GPD (Date: 04/26/2013)	3817469	CCI Sites
Modification Drawing	GPD Project No. 2007282.88, Date: 10/11/2007	2124272	CCI Sites
Post Modification Inspection	GPD, Project No. 2007287.82, Date: 04/03/2008	2236822	CCI Sites
Foundation Mapping	Pinnacle Tower, Date: 07/30/1999	1341932	CCI Sites
Geotech Report	United Consulting, Project No. 20004476-01	1579662	CCI Sites
Antenna Configuration	Crown CAD Package	Date: 03/11/2015	CCI Sites

3.1) Analysis Method

tnxTower (version 6.1.4.1), 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) Mount areas and weights are assumed based on photographs provided.

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

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	560 - 553.75	Leg	4	1	-0.825	251.245	0.3	Pass
T2	553.75 - 547.5	Leg	4	16	-1.923	251.245	0.8	Pass
T3	547.5 - 541.25	Leg	4	31	-7.836	334.910	2.3	Pass
T4	541.25 - 535	Leg	4	43	-12.628	334.910	3.8	Pass
T5	535 - 510	Leg	4	55	-38.904	334.910	11.6	Pass
T6	510 - 485	Leg	4 1/2	94	-75.322	456.810	16.5 17.7 (b)	Pass
T7	485 - 460	Leg	4 1/2	135	-58.007	342.693	16.9	Pass
T8	460 - 435	Leg	4 3/4	174	-87.057	523.717	16.6	Pass
T9	435 - 410	Leg	4 3/4	213	-90.466	523.717	17.3	Pass
T10	410 - 385	Leg	4 3/4	252	-89.460	523.717	17.1	Pass
T11	385 - 360	Leg	4 3/4	291	-73.319	392.886	18.7	Pass
T12	360 - 335	Leg	4 3/4	330	-77.405	392.886	19.7	Pass
T13	335 - 310	Leg	5 1/4	367	-140.100	669.441	20.9	Pass
T14	310 - 285	Leg	5	408	-114.377	446.057	25.6	Pass
T15	285 - 260	Leg	4 3/4	447	-118.283	392.886	30.1	Pass
T16	260 - 235	Leg	4 3/4	485	-123.851	392.886	31.5	Pass
T17	235 - 210	Leg	4 3/4	523	-128.368	392.886	32.7	Pass
T18	210 - 185	Leg	5	563	-137.387	446.057	30.8	Pass
T19	185 - 160	Leg	5 1/4	602	-143.909	502.206	28.7	Pass
T20	160 - 135	Leg	5 1/2	640	-162.184	561.330	28.9	Pass
T21	135 - 110	Leg	5 1/4	679	-167.931	502.206	33.4	Pass
T22	110 - 85	Leg	5 1/4	718	-173.198	502.206	34.5	Pass
T23	85 - 60	Leg	5 1/4	757	-179.006	502.206	35.6	Pass
T24	60 - 35	Leg	5 1/4	796	-184.061	502.206	36.7	Pass
T25	35 - 10	Leg	5 1/4	835	-188.915	502.206	37.6	Pass
T26	10 - 0	Leg	5 1/4	874	-210.121	525.932	40.0	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	560 - 553.75	Diagonal	2L3x3x1/4x3/8	7	-0.534	48.787	1.1	Pass
T2	553.75 - 547.5	Diagonal	2L2 1/2x2x3/16x3/8	20	-1.561	19.512	8.0	Pass
T3	547.5 - 541.25	Diagonal	1	37	2.960	22.614	13.1	Pass
T4	541.25 - 535	Diagonal	1	49	3.819	22.614	16.9	Pass
T5	535 - 510	Diagonal	1	65	6.275	22.614	27.8	Pass
T6	510 - 485	Diagonal	1 1/4	101	11.121	35.334	31.5	Pass
T7	485 - 460	Diagonal	1	167	10.806	22.614	47.8	Pass
T8	460 - 435	Diagonal	3/4	206	6.917	12.720	54.4	Pass
T9	435 - 410	Diagonal	5/8	245	3.180	8.834	36.0	Pass
T10	410 - 385	Diagonal	5/8	258	4.997	8.834	56.6	Pass
T11	385 - 360	Diagonal	3/4	297	8.050	12.720	63.3	Pass
T12	360 - 335	Diagonal	1	336	11.159	22.614	49.3	Pass
T13	335 - 310	Diagonal	1 1/4	373	14.610	35.334	41.3	Pass
T14	310 - 285	Diagonal	1	439	14.827	22.614	65.6	Pass
T15	285 - 260	Diagonal	3/4	478	10.857	12.720	85.4	Pass
T16	260 - 235	Diagonal	5/8	517	7.707	8.834	87.2	Pass
T17	235 - 210	Diagonal	5/8	529	3.091	8.834	35.0	Pass
T18	210 - 185	Diagonal	7/8	568	12.239	17.314	70.7	Pass
T19	185 - 160	Diagonal	1	607	18.054	22.614	79.8	Pass
T20	160 - 135	Diagonal	1 1/4	673	17.893	35.334	50.6	Pass
T21	135 - 110	Diagonal	1	717	9.084	22.614	40.2	Pass
T22	110 - 85	Diagonal	7/8	755	6.095	17.314	35.2	Pass
T23	85 - 60	Diagonal	7/8	794	3.466	17.314	20.0	Pass
T24	60 - 35	Diagonal	7/8	802	5.670	17.314	32.8	Pass
T25	35 - 10	Diagonal	7/8	841	8.275	17.314	47.8	Pass
T26	10 - 0	Diagonal	L3x3 1/2x5/16	881	-3.145	26.824	11.7	Pass
T2	553.75 - 547.5	Horizontal	2L3x2 1/2x1/4x3/8	19	-0.859	52.775	1.6 2.1 (b)	Pass
T5	535 - 510	Horizontal	2L3x2 1/2x1/4x3/8	67	-4.640	42.892	10.8	Pass
T6	510 - 485	Horizontal	2L3x2 1/2x1/4x3/8	107	16.641	63.567	26.2 42.0 (b)	Pass
T7	485 - 460	Horizontal	2L3x2 1/2x1/4x3/8	163	-8.298	43.013	19.3	Pass
T8	460 - 435	Horizontal	2L2 1/2x2x3/16x3/8	202	-5.278	23.866	22.1	Pass
T9	435 - 410	Horizontal	2L2 1/2x2x3/16x3/8	241	-2.350	23.866	9.8	Pass
T10	410 - 385	Horizontal	2L2 1/2x2x3/16x3/8	263	-3.669	23.866	15.4	Pass
T11	385 - 360	Horizontal	2L2x2x1/4x3/8	302	-6.172	20.982	29.4	Pass
T12	360 - 335	Horizontal	2L3x2 1/2x1/4x3/8	341	-8.618	43.074	20.0	Pass
T13	335 - 310	Horizontal	2L3x2 1/2x1/4x3/8	380	19.530	63.567	30.7 49.3 (b)	Pass
T14	310 - 285	Horizontal	2L3x2 1/2x1/4x3/8	436	-11.559	43.135	26.8	Pass
T15	285 - 260	Horizontal	2L2 1/2x2x3/16x3/8	475	-8.506	23.866	35.6	Pass
T16	260 - 235	Horizontal	2L2 1/2x2x3/16x3/8	514	-5.869	23.866	24.6	Pass
T17	235 - 210	Horizontal	2L2 1/2x2x3/16x3/8	535	-2.223	17.904	12.4	Pass
T18	210 - 185	Horizontal	2L2 1/2x2x3/16x3/8	574	-7.457	23.913	31.2	Pass
T19	185 - 160	Horizontal	2L3x2 1/2x1/4x3/8	613	-14.138	43.195	32.7	Pass
T20	160 - 135	Horizontal	2L3x2 1/2x1/4x3/8	670	21.040	63.567	33.1 53.1 (b)	Pass
T21	135 - 110	Horizontal	2L3x2 1/2x1/4x3/8	711	-6.986	43.195	16.2	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T22	110 - 85	Horizontal	2L2 1/2x2x3/16x3/8	750	-4.618	23.960	19.3	Pass
T23	85 - 60	Horizontal	2L2 1/2x2x3/16x3/8	769	-3.100	17.975	17.2	Pass
T24	60 - 35	Horizontal	2L2 1/2x2x3/16x3/8	817	-3.188	17.975	17.7	Pass
T25	35 - 10	Horizontal	2L2 1/2x2x3/16x3/8	847	-5.916	23.960	24.7	Pass
T26	10 - 0	Horizontal	L3x5x1/2	886	-3.906	60.477	6.5	Pass
T1	560 - 553.75	Top Girt	C10x20	4	-0.255	87.144	0.3	Pass
T3	547.5 - 541.25	Top Girt	2C6x8.2x0.375	34	-1.198	116.164	1.0 3.5 (b)	Pass
T4	541.25 - 535	Top Girt	2L3x2 1/2x1/4x3/8	46	-2.668	42.892	6.2	Pass
T5	535 - 510	Top Girt	2L3x2 1/2x1/4x3/8	58	-3.225	42.892	7.5	Pass
T6	510 - 485	Top Girt	2L3x2 1/2x1/4x3/8	99	-5.392	42.892	12.6	Pass
T7	485 - 460	Top Girt	2L3x2 1/2x1/4x3/8	136	-8.513	43.013	19.8	Pass
T8	460 - 435	Top Girt	2L2 1/2x2x3/16x3/8	175	-6.005	23.819	25.2	Pass
T9	435 - 410	Top Girt	2L2 1/2x2x3/16x3/8	214	-3.067	23.866	12.9	Pass
T10	410 - 385	Top Girt	2L2 1/2x2x3/16x3/8	254	-1.938	23.866	8.1	Pass
T11	385 - 360	Top Girt	2L2x2x1/4x3/8	293	-4.440	20.982	21.2	Pass
T12	360 - 335	Top Girt	2L3x2 1/2x1/4x3/8	332	-6.912	43.074	16.0	Pass
T13	335 - 310	Top Girt	2L3x2 1/2x1/4x3/8	371	-9.272	43.074	21.5	Pass
T14	310 - 285	Top Girt	2L3x2 1/2x1/4x3/8	409	-11.385	43.195	26.4	Pass
T15	285 - 260	Top Girt	2L2 1/2x2x3/16x3/8	448	-9.224	23.913	38.6	Pass
T16	260 - 235	Top Girt	2L2 1/2x2x3/16x3/8	487	-6.602	23.866	27.7	Pass
T17	235 - 210	Top Girt	2L2 1/2x2x3/16x3/8	528	-1.953	23.866	8.2	Pass
T18	210 - 185	Top Girt	2L2 1/2x2x3/16x3/8	565	-3.167	23.866	13.3	Pass
T19	185 - 160	Top Girt	2L3x2 1/2x1/4x3/8	604	-10.941	43.135	25.4	Pass
T20	160 - 135	Top Girt	2L3x2 1/2x1/4x3/8	643	-13.902	43.195	32.2	Pass
T21	135 - 110	Top Girt	2L3x2 1/2x1/4x3/8	684	-7.673	43.256	17.7	Pass
T22	110 - 85	Top Girt	2L2 1/2x2x3/16x3/8	723	-5.150	23.960	21.5	Pass
T23	85 - 60	Top Girt	2L2 1/2x2x3/16x3/8	762	-3.049	23.960	12.7	Pass
T24	60 - 35	Top Girt	2L2 1/2x2x3/16x3/8	799	-2.666	23.960	11.1	Pass
T25	35 - 10	Top Girt	2L2 1/2x2x3/16x3/8	838	-4.746	23.960	19.8	Pass
T26	10 - 0	Top Girt	2L4x3x1/2	877	50.265	140.400	35.8	Pass
T1	560 - 553.75	Inner Bracing	L3x3x1/4	14	-0.004	24.780	0.2	Pass
T2	553.75 - 547.5	Inner Bracing	L3x3x1/4	28	-0.004	24.780	0.2	Pass
T26	10 - 0	Inner Bracing	L3x3x5/16	889	-0.259	27.258	1.0	Pass
T6	510 - 485	Guy A@491.25	1 3/4	900	83.949	188.000	44.7	Pass
T13	335 - 310	Guy A@316.25	1 1/2	897	67.786	138.000	49.1	Pass
T20	160 - 135	Guy A@153.75	1 1/4	894	48.893	96.000	50.9	Pass
T6	510 - 485	Guy B@491.25	1 3/4	899	82.966	188.000	44.1	Pass
T13	335 - 310	Guy B@316.25	1 1/2	896	66.910	138.000	48.5	Pass
T20	160 - 135	Guy B@153.75	1 1/4	893	48.071	96.000	50.1	Pass
T6	510 - 485	Guy C@491.25	1 3/4	898	85.476	188.000	45.5	Pass
T13	335 - 310	Guy C@316.25	1 1/2	895	69.089	138.000	50.1	Pass
T20	160 - 135	Guy C@153.75	1 1/4	892	49.837	96.000	51.9	Pass
							Summary	
						Leg (T26)	40.0	Pass
						Diagonal (T16)	87.2	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
						Horizontal (T20)	53.1	Pass
						Top Girt (T15)	38.6	Pass
						Inner Bracing (T26)	1.0	Pass
						Guy A (T20)	50.9	Pass
						Guy B (T20)	50.1	Pass
						Guy C (T20)	51.9	Pass
						Bolt Checks	63.2	Pass
						RATING =	**87.2**	**Pass**

Table 6 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Base Foundation Soil Interaction	Base	35.3	Pass
1,3	Guy Anchor Foundation	Base	51.2	Pass

Structure Rating (max from all components) =	87.2%

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.
2) Capacities up to 100% are considered acceptable based on analysis methods used.
3) Foundation capacity determined by comparing analysis reactions to original design reactions from Stainless Inc., Report No. 3290, Date: 09/11/1986.

4.1) Recommendations

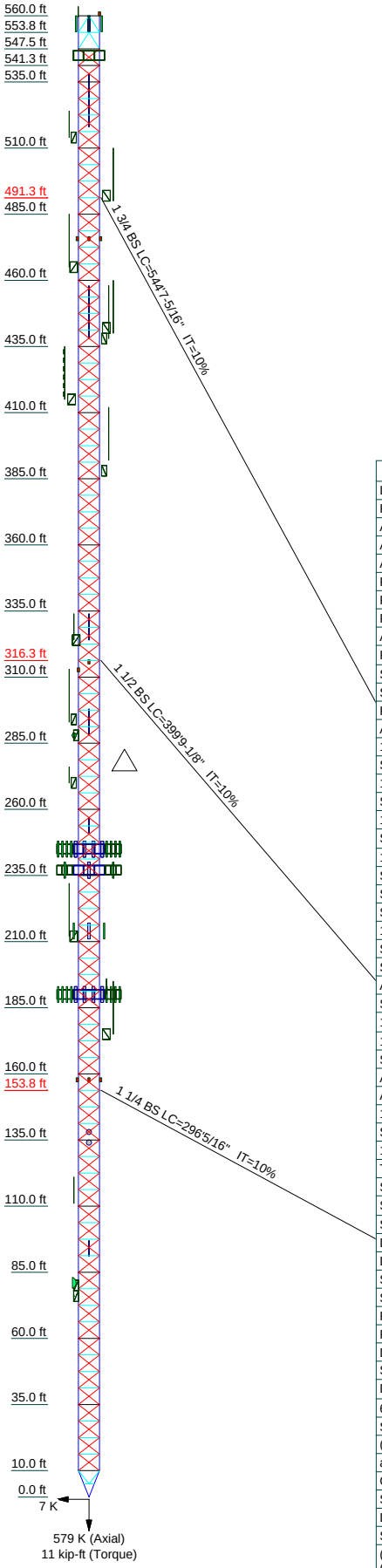
The tower and its base and anchor foundations have sufficient capacity to carry the existing, reserved, and proposed loads. No modifications are required at this time.

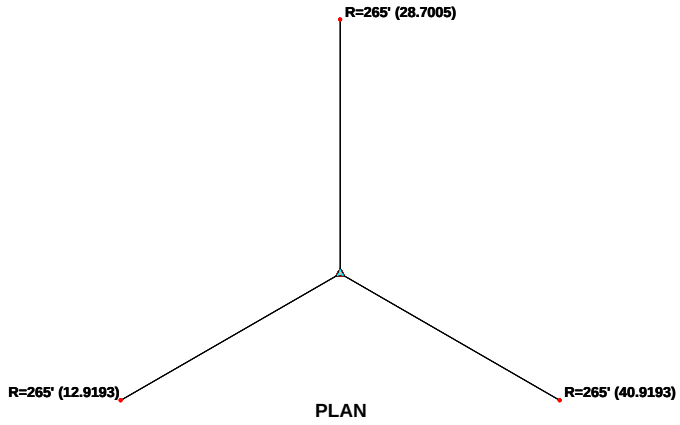
APPENDIX A

TNXTOWER OUTPUT

Section																														
Legs	SR 5 1/4																													
Leg Grade	A572-50																													
Diagonals	C	SR 7/8																												
Diagonal Grade	A36																													
Top Girts	H	2L2 1/2x2x3/16x3/8																												
Horizontals	J	2L2 1/2x2x3/16x3/8																												
Inner Bracing	L	N.A.																												
Face Width (ft)	8																													
# Panels @ (ft)	M	88 @ 6.25																												
Weight (K)	143.9																													

	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18	T19	T20	T21	T22	T23	T24	T25	T26
	1.9	1.4		1.2	5.0	6.2	5.8	5.7	5.6	5.6	5.8	6.3	7.8	6.8	5.7	5.6	5.6	6.3	7.4	8.3	7.4	6.9	6.9	6.9	6.9	3.6





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 5/8" x 3' (E)	560	Sector Mount [SM 502-1] (AB)	245
Flash Beacon Lighting (E)	560	Sector Mount [SM 502-1] (AB)	245
AP19-1670/090D/DT2 (E)	557	APX16DWV-16DWVS-E-A20 w/ Mount Pipe (P)	237
AP19-1670/090D/DT2 (E)	557		
AP19-1670/090D/DT2 (E)	557	APX16DWV-16DWVS-E-A20 w/ Mount Pipe (P)	237
PDS3DE-698/2700 (E)	557	(2) KRY 112 71 (P)	237
Pipe Mount [PM 601-3] (E)	557	(2) KRY 112 71 (P)	237
Platform w/ Handrail (E)	545	Sector Mount [SM 401-1] (E-w/ 2 M Pipes)	237
ANT150F6 (E)	514		
PG1NOF-0093-8 (E)	514	Sector Mount [SM 401-1] (E-w/ 2 M Pipes)	237
Side Arm Mount [SO 312-1] (E)	514	742 213 w/ Mount Pipe (E)	214
Side Arm Mount [SO 312-1] (E)	514	742 213 w/ Mount Pipe (E)	214
Flush Mount (EMPTY)	505	742 213 w/ Mount Pipe (E)	214
ATW25HS3-HSO-46H (E)	505 - 475	ANT150F6 (E)	212
10' x 2" Mount Pipe (E)	505	Side Arm Mount [SO 306-1] (E)	212
Side Arm Mount (E)	505	6' x 2" Mount Pipe (E)	193
10' x 2" Mount Pipe (E)	495	(4) HPA-65R-BUU-H8 w/ Mount Pipe (R)	190
Side Arm Mount (E)	495		
101-68-10-0-03N (E)	492	(4) HPA-65R-BUU-H8 w/ Mount Pipe (R)	190
Side Arm Mount [SO 308-1] (E)	492		
10' x 2" Mount Pipe (E)	485	(4) HPA-65R-BUU-H8 w/ Mount Pipe (R)	190
Side Arm Mount (E)	485		
Side Light (E)	475	(3) RRU-11 (R)	190
Side Light (E)	475	(3) RRU-11 (R)	190
10' x 2" Mount Pipe (E)	475	(3) RRU-11 (R)	190
Side Arm Mount (E)	475	RRUS E2 B29 (R)	190
Side Light (E)	475	RRUS E2 B29 (R)	190
ANT150F6 (E)	465	RRUS E2 B29 (R)	190
Side Arm Mount [SO 312-1] (E)	465	RRUS-32 B30 (R)	190
13' x 2" Pipe Mount (E)	456	RRUS-32 B30 (R)	190
101-68-10-0-03N (E)	442	RRUS-32 B30 (R)	190
Side Arm Mount [SO 308-1] (E)	442	DC6-48-60-18-8F (R)	190
ANT150F6 (E)	438	(2) DC6-48-60-18-8F (R)	190
ANT150F6 (E)	438	DC6-48-60-18-8F (R)	190
13' x 2" Pipe Mount (E)	438	(2) RRUS 12-B2 (R)	190
Side Arm Mount [SO 308-1] (E)	438	(2) RRUS 12-B2 (R)	190
101D-90-06-0-03 (E)	415	(2) RRUS 12-B2 (R)	190
TPRD-1554 (E)	415	(2) RRUS A2 (R)	190
Side Arm Mount [SO 308-1] (E)	415	(2) RRUS A2 (R)	190
SC233 (E)	388	(2) RRUS A2 (R)	190
Side Arm Mount [SO 306-1] (E)	388	KRF 102 361/1 (R)	190
DB636-C (E)	324	KRF 102 361/1 (R)	190
DB636-C (E)	324	KRF 102 361/1 (R)	190
Side Arm Mount [SO 601-1] (E)	324	Sector Mount [SM 502-3] (R)	190
Side Arm Mount [SO 601-1] (E)	324	ANT150F6 (E)	175
Flash Beacon Lighting (E)	315	Side Arm Mount [SO 602-1] (E)	175
Flash Beacon Lighting (E)	312	Side Light (E)	157
DB540K-E (E)	294	Side Light (E)	157
Side Arm Mount [SO 306-1] (E)	294	Side Light (E)	157
DB636-C (E)	288	Side Arm Mount [SO 202-1] (AB-Empty)	145
6"x1' TME (E)	288		
Side Arm Mount [SO 601-1] (E)	288	Pipe Mount [PM 601-1] (EMPTY)	138
(2) Side Arm Mount [SO 201-1] (E)	288	Side Arm Mount [SO 201-1] (EMPTY)	138
andrew P2F-52 (E)	288	6"x1' TME (E)	138
CC806-06 (AB)	270	SPD2-5.8 (E)	138
Side Arm Mount [SO 306-1] (AB)	270	6"x1' TME (E)	134
DB806-XC (AB)	250	TME (E)	134
Side Arm Mount [SO 306-1] (AB)	250	SPD2-5.8 (E)	134
(3) 844G65VTZASX w/ Mount Pipe (AB)	245	201-8 (E)	112
(3) 844G65VTZASX w/ Mount Pipe (AB)	245	Flush Mount (E)	112
		Flush Mount (E)	91
AP859012-42T0 w/ Mount Pipe (AB)	245	ANT150F2 (E)	91
AP859012-42T0 w/ Mount Pipe (AB)	245	Side Arm Mount [SO 301-1] (E)	80

B+T Group
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Tulsa, OK 74119
Phone: (918) 587-4630
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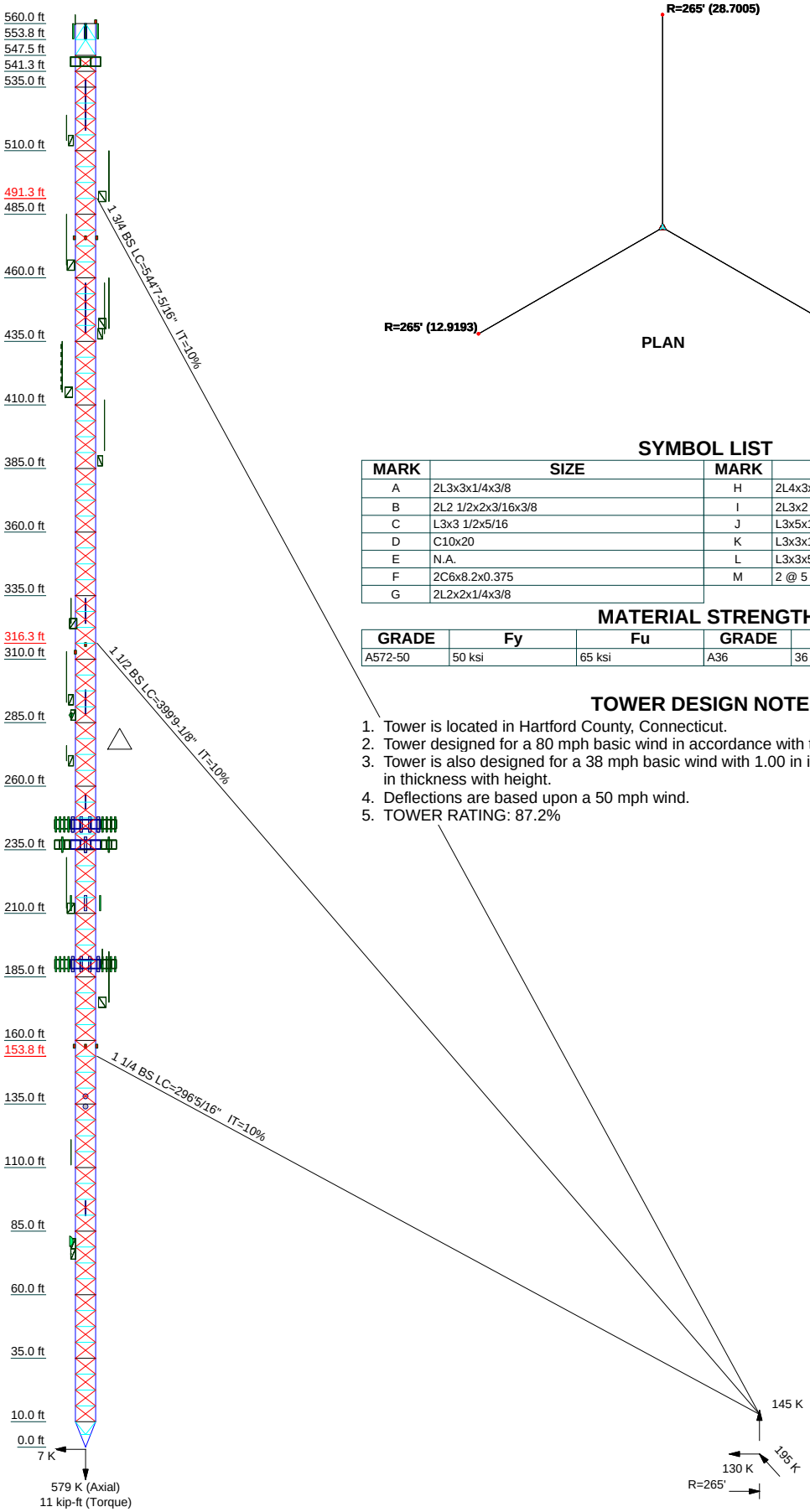
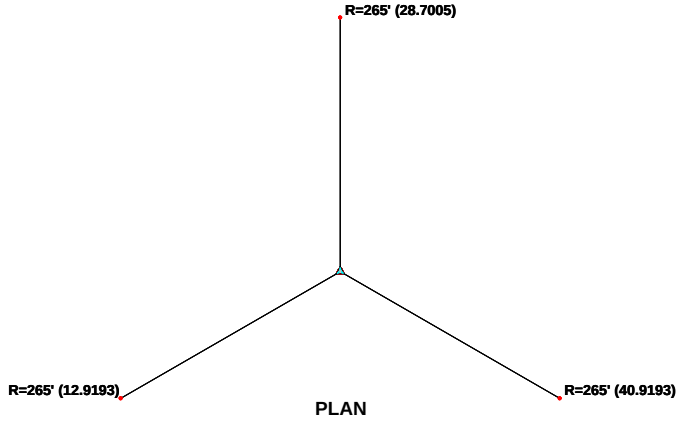
Job:	83041.005.01 - Avon (Deercliff Rd.), CT (BU# 870800		
Project:			
Client: Crown Castle		Drawn by: VA	App'd:
Code: TIA/EIA-222-F		Date: 03/18/15	Scale: NTS
Path: S:\Projects\Crown Castle\83041_870800_Avon\Engineering\tnxTower\83041_005_01_Avon (Deercliff Rd.)_CT.eri			Dwg No. E-1

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18	T19	T20	T21	T22	T23	T24	T25	T26
Legs				SR 4		SR 4 1/2			SR 4 3/4				SR 5 1/4	SR 5		SR 4 3/4		SR 5	SR 5 1/4	SR 5 1/2			SR 5 1/4			
Leg Grade															A572-50											
Diagonals	B	A			SR 1		SR 1	SR 3/4	SR 5/8		SR 3/4	SR 1	SR 1 1/4	SR 1	SR 3/4	SR 5/8		SR 7/8	SR 1	SR 1 1/4	SR 1		SR 7/8			C
Diagonal Grade															A36											
Top Girts	D	C			2L3x2 1/2x1/4x3/8			2L2 1/2x2x3/16x3/8			G		2L3x2 1/2x1/4x3/8			2L2 1/2x2x3/16x3/8			2L3x2 1/2x1/4x3/8				2L2 1/2x2x3/16x3/8			H
Horizontals	E	I	N.A.		2L3x2 1/2x1/4x3/8			2L2 1/2x2x3/16x3/8			G		2L3x2 1/2x1/4x3/8			2L2 1/2x2x3/16x3/8			2L3x2 1/2x1/4x3/8				2L2 1/2x2x3/16x3/8			J
Inner Bracing	K														N.A.											L
Face Width (ft)	8																									
# Panels @ (ft)	88 @ 6.25																									M
Weight (K)	143.9	1.9	1.4	1.2	5.0	6.2	5.8	5.7	5.6	5.6	5.8	6.3	7.8	6.8	5.7	5.6	5.6	6.3	7.4	8.3	7.4	6.9	6.9	6.9	6.9	3.6





SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	2L3x3x1/4x3/8	H	2L4x3x1/2
B	2L2 1/2x2x3/16x3/8	I	2L3x2 1/2x1/4x3/8
C	L3x3 1/2x5/16	J	L3x5x1/2
D	C10x20	K	L3x3x1/4
E	N.A.	L	L3x3x5/16
F	2C6x8.2x0.375	M	2 @ 5
G	2L2x2x1/4x3/8		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 87.2%

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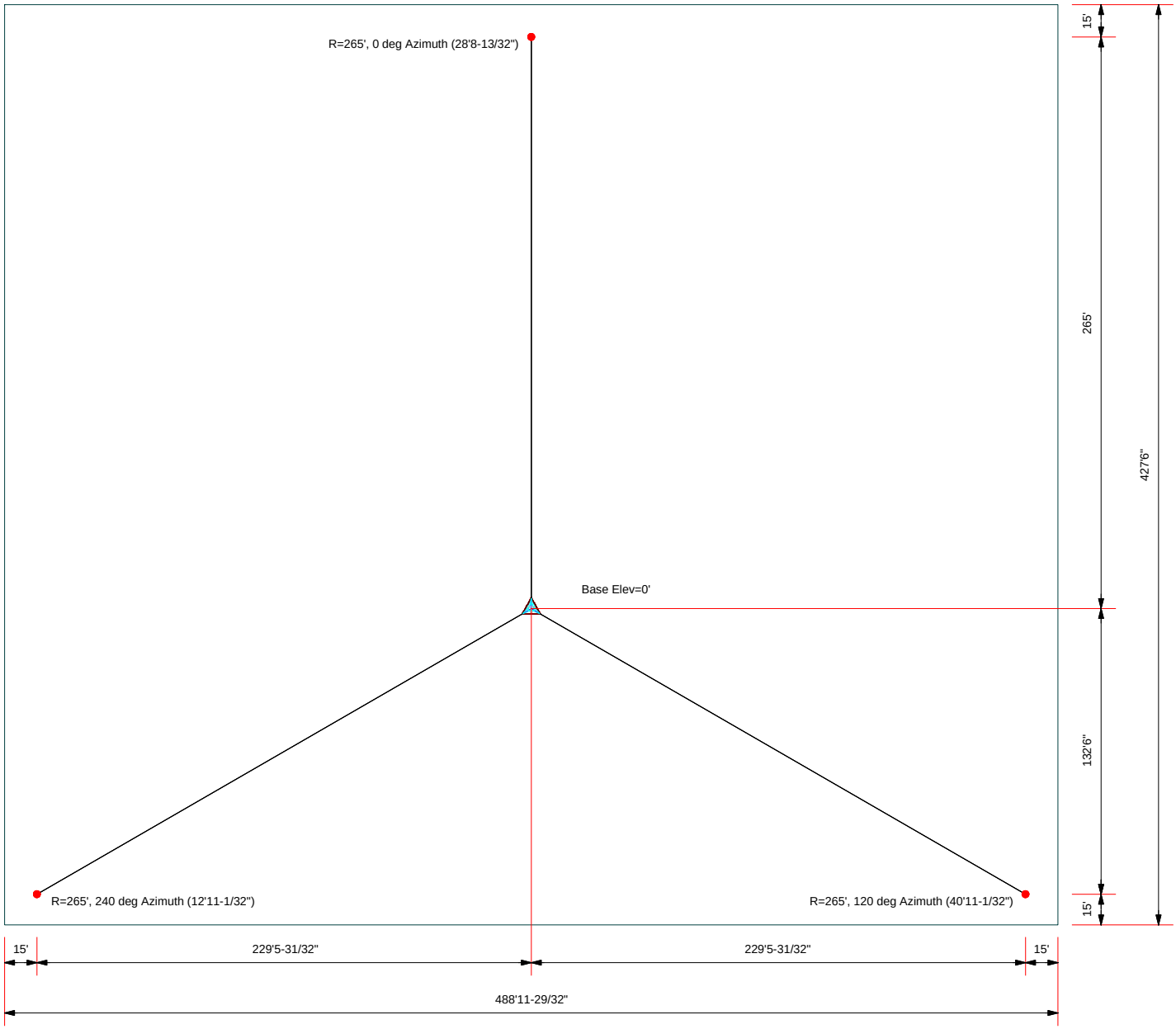
Job: 83041.005.01 - Avon (Deercliff Rd.), CT (BU# 870800			
Project:			
Client: Crown Castle	Drawn by: VA	App'd:	
Code: TIA/EIA-222-F	Date: 03/18/15	Scale: NTS	
Path: S:\Projects\Crown Castle\83041_870800_Avon\Engineering\tnxTower\83041_005_01_Avon (Deercliff Rd)_CT.eri		Dwg No. E-1	

Plot Plan
Total Area - 4.80 Acres



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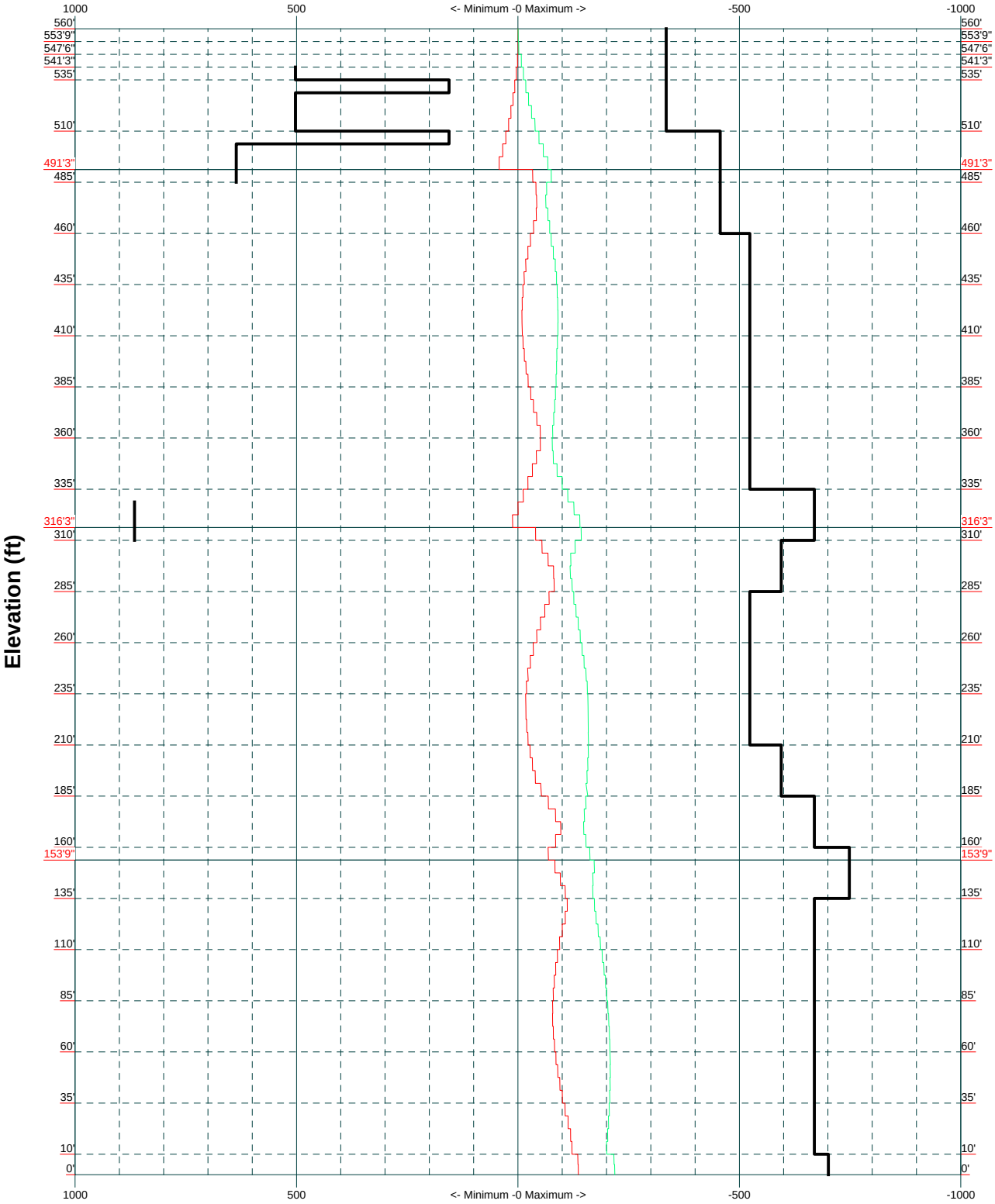
Project:		
Client: Crown Castle	Drawn by: VA	App'd:
Code: TIA/EIA-222-F	Date: 03/18/15	Scale: NTS
Path: S:\Projects\Crown Castle\83041_870800_Avon\Engineering\tnxTower\83041_005_01_Avon (Deercliff Rd)_CT.eri		Dwg No. E-2

TIA/EIA-222-F - 80 mph/38 mph 1.000 in Ice

Leg Capacity ——— **Leg Compression (K)**



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Job: ***83041.005.01 - Avon (Deercliff Rd.), CT (BU# 870800***		
Project:		
Client: Crown Castle	Drawn by: VA	App'd:
Code: TIA/EIA-222-F	Date: 03/18/15	Scale: NTS
Path: S:\Projects\Crown Castle\83041_870800_Avon\Engineering\tnxTower\83041_005_01_Avon (Deercliff Rd)_CT.eri		Dwg No. E-3

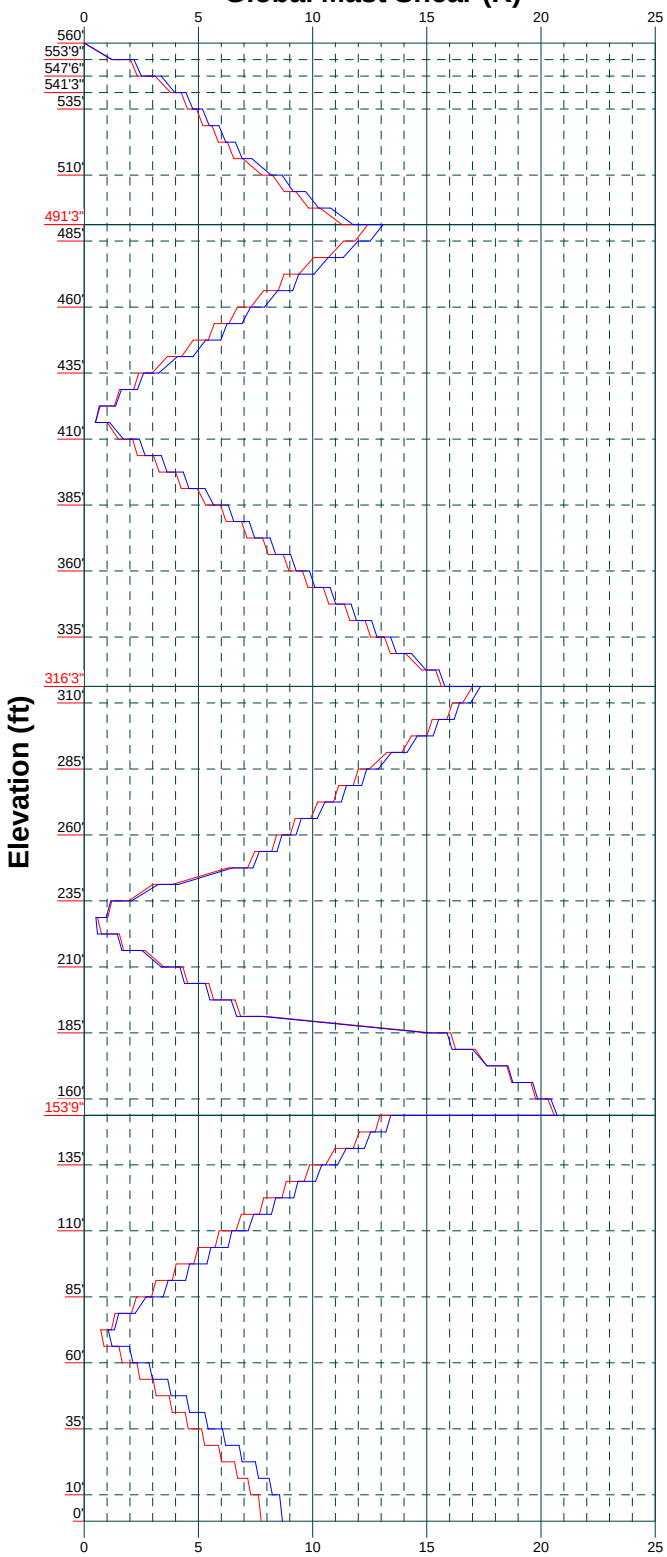
TIA/EIA-222-F - 80 mph/38 mph 1.000 in Ice

Vx Vz

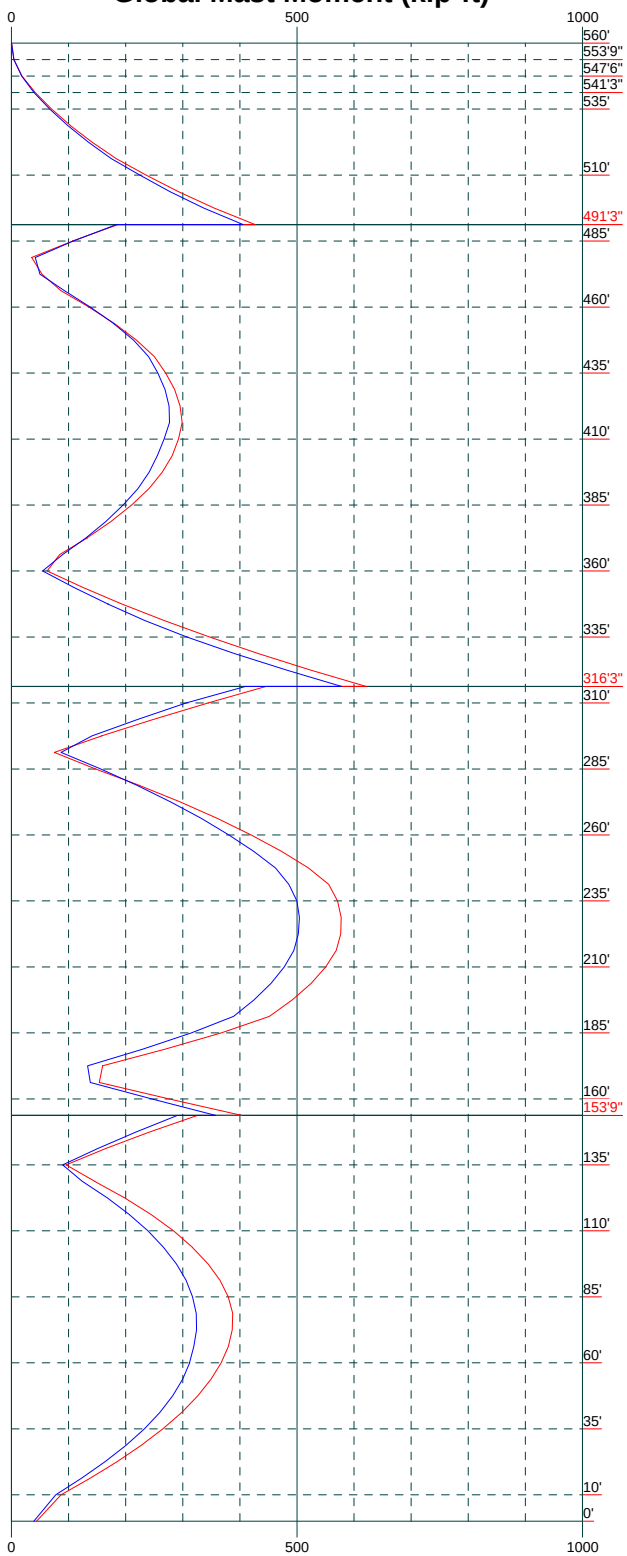
Maximum Values

Mx Mz

Global Mast Shear (K)



Global Mast Moment (kip-ft)



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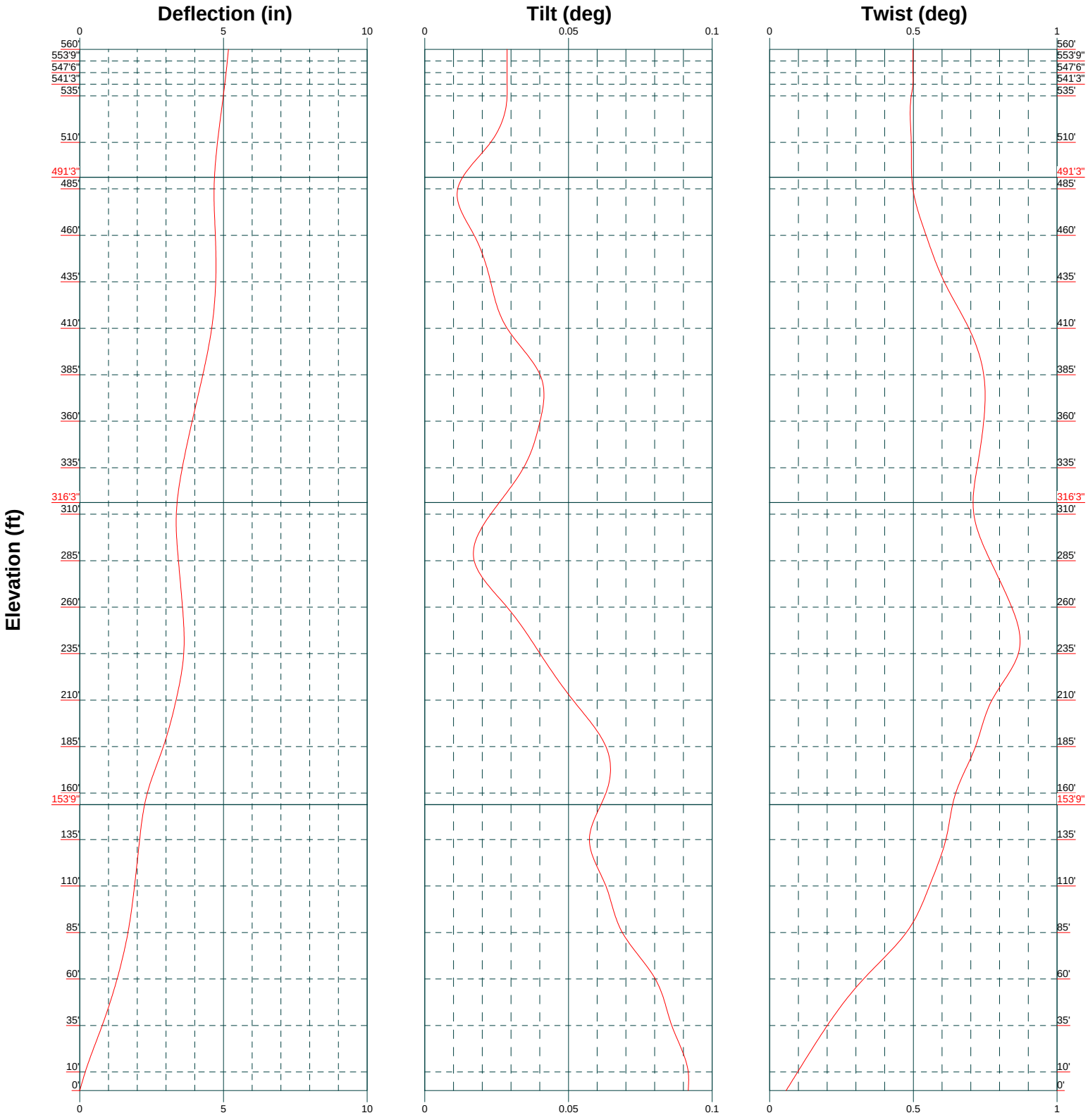
Job: 83041.005.01 - Avon (Deercliff Rd.), CT (BU# 870800		
Project:		
Client: Crown Castle	Drawn by: VA	App'd:
Code: TIA/EIA-222-F	Date: 03/18/15	Scale: NTS
Path: S:\Projects\Crown Castle\83041_870800_Avon\Engineering\tnxTower\83041_005_01_Avon (Deercliff Rd)_CT.eri		Dwg No. E-4

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

Maximum Values



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Phone: (918) 587-4630
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Job: ***83041.005.01 - Avon (Deercliff Rd.), CT (BU# 870800***		
Project:		
Client: Crown Castle	Drawn by: VA	App'd:
Code: TIA/EIA-222-F	Date: 03/18/15	Scale: NTS
Path: S:\Projects\Crown Castle\83041_870800_Avon\Engineering\tnxTower\83041_005_01_Avon (Deercliff Rd)_CT.eri		Dwg No. E-5

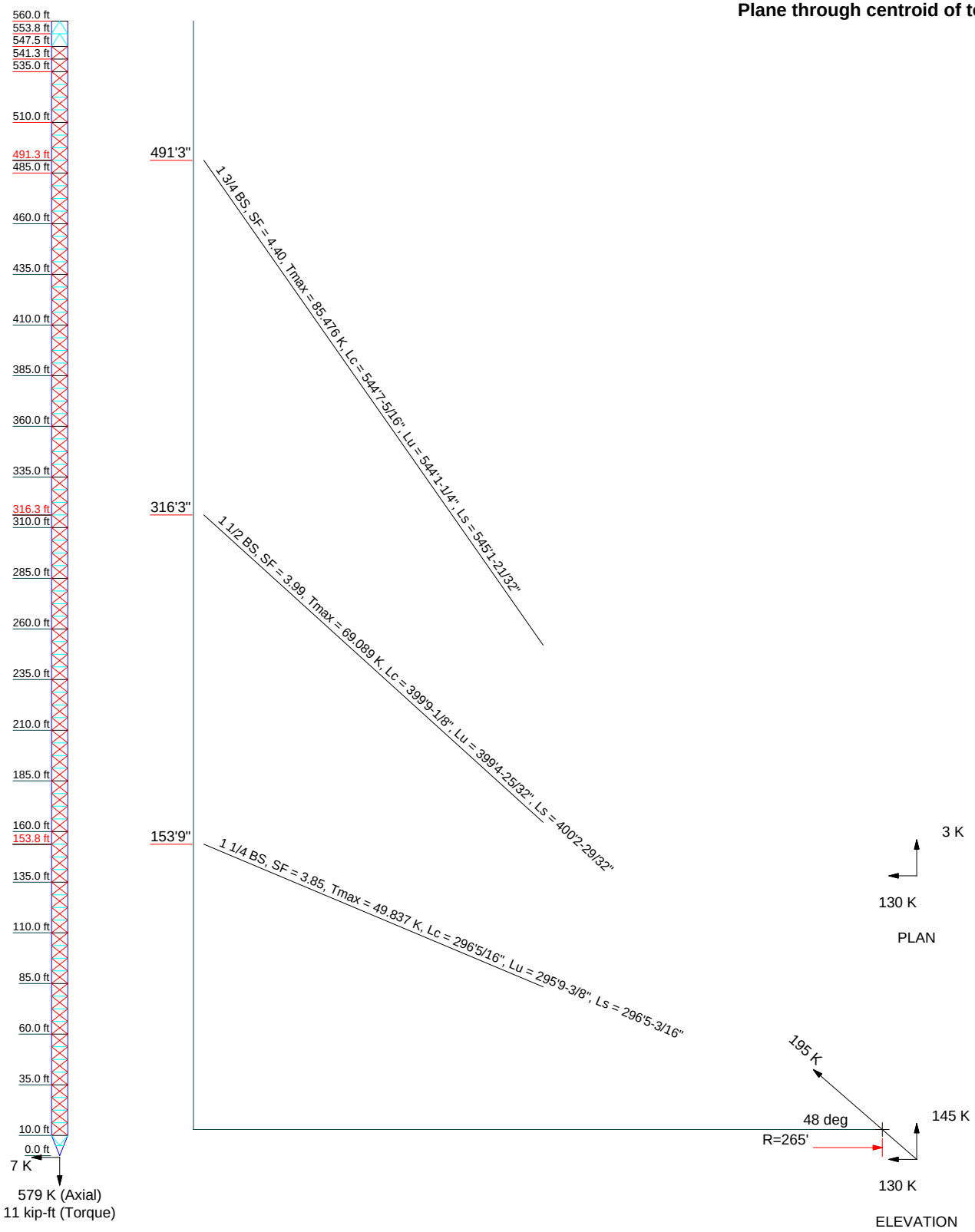
Guy Tensions and Tower Reactions

TIA/EIA-222-F - 80 mph/38 mph 1.000 in Ice

Maximum Values

Anchor 'C'@265 ft Azimuth 240 deg Elev 12.9193 ft

Plane through centroid of tower

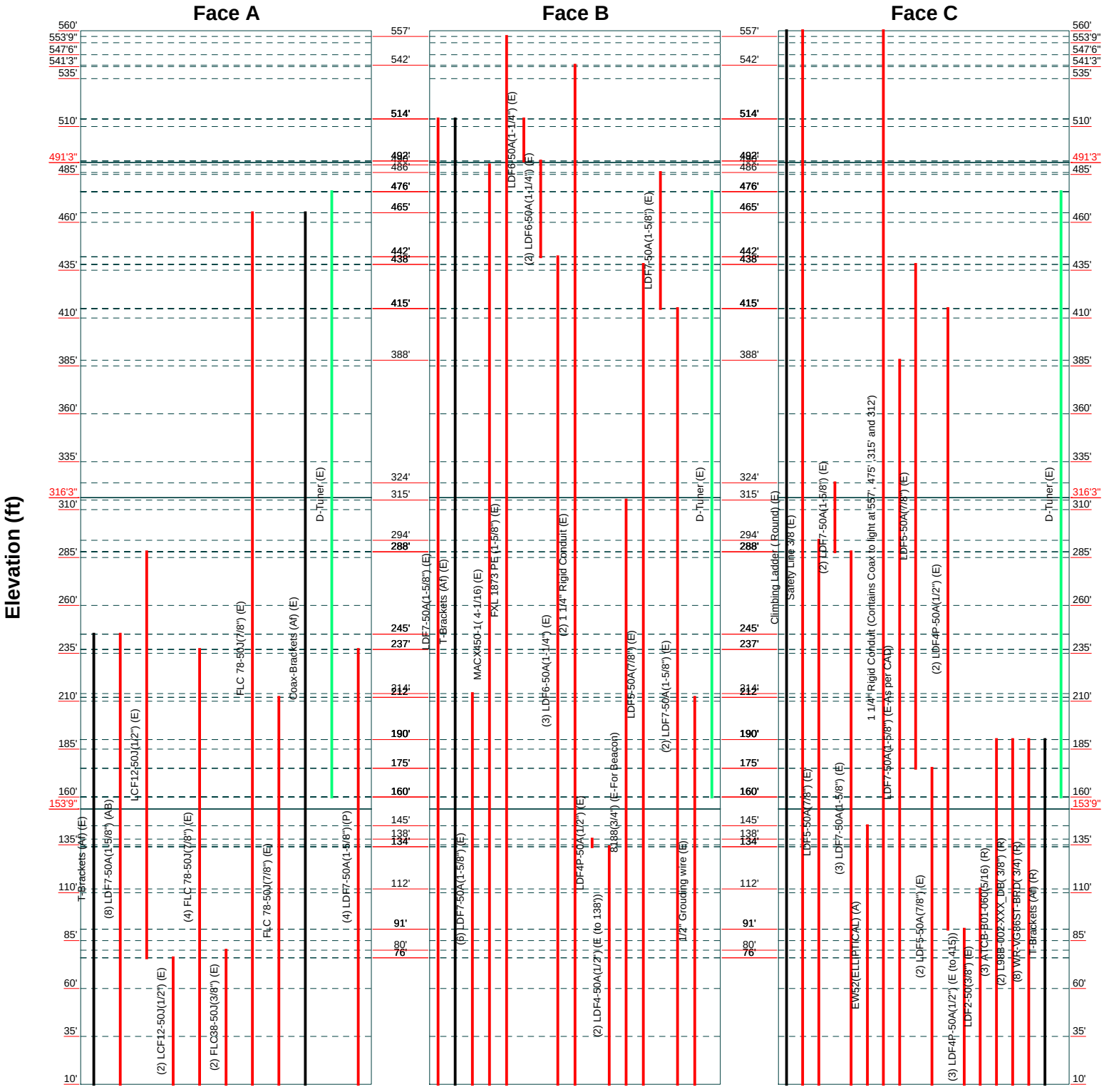


B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 83041.005.01 - Avon (Deercliff Rd.), CT (BU# 870800		
Project:		
Client: Crown Castle	Drawn by: VA	App'd:
Code: TIA/EIA-222-F	Date: 03/18/15	Scale: NTS
Path: S:\Projects\Crown Castle\83041_870800_Avon\Engineering\tnxTower\83041_005_01_Avon (Deercliff Rd.)_CT.eri		Dwg No. E-6

Feed Line Distribution Chart
10' - 560'

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



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Job: **83041.005.01 - Avon (Deercliff Rd.), CT (BU# 870800**			
Project:			
Client: Crown Castle	Drawn by: VA	App'd:	
Code: TIA/EIA-222-F	Date: 03/18/15	Scale: NTS	
Path: S:\Projects\Crown Castle\83041_870800_Avon\Engineering\tnxTower\83041_005_01_Avon (Deercliff Rd)_CT.tnx		Dwg No. E-7	

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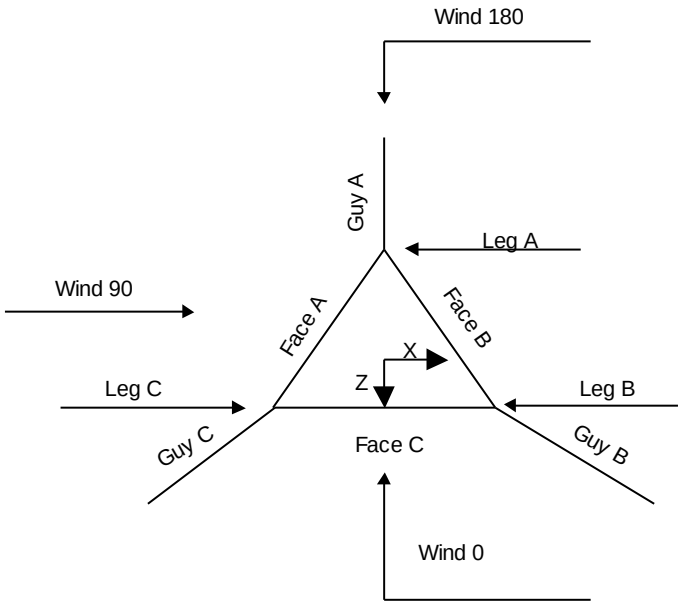
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 560' above the ground line.
The base of the tower is set at an elevation of 0' above the ground line.
The face width of the tower is 8' at the top and tapered at the base.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Hartford County, Connecticut.
Basic wind speed of 80 mph.
Nominal ice thickness of 1.000 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 38 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 50 mph.
Pressures are calculated at each section.
Safety factor used in guy design is 2.
Stress ratio used in tower member 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		Treat Feedline Bundles As Cylinder
	Consider Moments - Horizontals		Assume Legs Pinned		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Diagonals	√	Assume Rigid Index Plate	√	Calculate Redundant Bracing Forces
	Use Moment Magnification	√	Use Clear Spans For Wind Area		Ignore Redundant Members in FEA
√	Use Code Stress Ratios	√	Use Clear Spans For KL/r	√	SR Leg Bolts Resist Compression
√	Use Code Safety Factors - Guys	√	Retension Guys To Initial Tension		All Leg Panels Have Same Allowable
√	Escalate Ice		Bypass Mast Stability Checks		Offset Girt At Foundation
	Always Use Max Kz	√	Use Azimuth Dish Coefficients	√	Consider Feedline Torque
	Use Special Wind Profile	√	Project Wind Area of Appurt.	√	Include Angle Block Shear Check
√	Include Bolts In Member Capacity	√	Autocalc Torque Arm Areas		Poles
√	Leg Bolts Are At Top Of Section		SR Members Have Cut Ends		Include Shear-Torsion Interaction
√	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component		Always Use Sub-Critical Flow
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Use Top Mounted Sockets
	Add IBC .6D+W Combination		Use TIA-222-G Tension Splice Capacity Exemption		



Corner & Starmount Guyed Tower

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	560'-553'9"			8'	1	6'3"
T2	553'9"-547'6"			8'	1	6'3"
T3	547'6"-541'3"			8'	1	6'3"
T4	541'3"-535'			8'	1	6'3"
T5	535'-510'			8'	1	25'
T6	510'-485'			8'	1	25'
T7	485'-460'			8'	1	25'
T8	460'-435'			8'	1	25'
T9	435'-410'			8'	1	25'
T10	410'-385'			8'	1	25'
T11	385'-360'			8'	1	25'
T12	360'-335'			8'	1	25'
T13	335'-310'			8'	1	25'
T14	310'-285'			8'	1	25'
T15	285'-260'			8'	1	25'
T16	260'-235'			8'	1	25'
T17	235'-210'			8'	1	25'
T18	210'-185'			8'	1	25'
T19	185'-160'			8'	1	25'
T20	160'-135'			8'	1	25'
T21	135'-110'			8'	1	25'
T22	110'-85'			8'	1	25'

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T23	85'-60'			8'	1	25'
T24	60'-35'			8'	1	25'
T25	35'-10'			8'	1	25'
T26	10'-0'			8'	1	10'

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	560'-553'9"	6'3"	K Brace Down	No	Yes	0.000	0.000
T2	553'9"-547'6"	6'3"	K Brace Down	No	Yes	0.000	0.000
T3	547'6"-541'3"	6'3"	TX Brace	No	Yes	0.000	0.000
T4	541'3"-535'	6'3"	TX Brace	No	Yes	0.000	0.000
T5	535'-510'	6'3"	TX Brace	No	Yes	0.000	0.000
T6	510'-485'	6'3"	TX Brace	No	Yes	0.000	0.000
T7	485'-460'	6'3"	TX Brace	No	Yes	0.000	0.000
T8	460'-435'	6'3"	TX Brace	No	Yes	0.000	0.000
T9	435'-410'	6'3"	TX Brace	No	Yes	0.000	0.000
T10	410'-385'	6'3"	TX Brace	No	Yes	0.000	0.000
T11	385'-360'	6'3"	TX Brace	No	Yes	0.000	0.000
T12	360'-335'	6'3"	TX Brace	No	Yes	0.000	0.000
T13	335'-310'	6'3"	TX Brace	No	Yes	0.000	0.000
T14	310'-285'	6'3"	TX Brace	No	Yes	0.000	0.000
T15	285'-260'	6'3"	TX Brace	No	Yes	0.000	0.000
T16	260'-235'	6'3"	TX Brace	No	Yes	0.000	0.000
T17	235'-210'	6'3"	TX Brace	No	Yes	0.000	0.000
T18	210'-185'	6'3"	TX Brace	No	Yes	0.000	0.000
T19	185'-160'	6'3"	TX Brace	No	Yes	0.000	0.000
T20	160'-135'	6'3"	TX Brace	No	Yes	0.000	0.000
T21	135'-110'	6'3"	TX Brace	No	Yes	0.000	0.000
T22	110'-85'	6'3"	TX Brace	No	Yes	0.000	0.000
T23	85'-60'	6'3"	TX Brace	No	Yes	0.000	0.000
T24	60'-35'	6'3"	TX Brace	No	Yes	0.000	0.000
T25	35'-10'	6'3"	TX Brace	No	Yes	0.000	0.000
T26	10'-0'	5'	K Brace Up	No	Yes	0.000	0.000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 560'-553'9"	Solid Round	4	A572-50 (50 ksi)	Double Angle	2L3x3x1/4x3/8	A36 (36 ksi)
T2 553'9"-547'6"	Solid Round	4	A572-50 (50 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T3 547'6"-541'3"	Solid Round	4	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T4 541'3"-535'	Solid Round	4	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T5 535'-510'	Solid Round	4	A572-50	Solid Round	1	A36

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T6 510'-485'	Solid Round	4 1/2	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T7 485'-460'	Solid Round	4 1/2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T8 460'-435'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T9 435'-410'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T10 410'-385'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T11 385'-360'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T12 360'-335'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T13 335'-310'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T14 310'-285'	Solid Round	5	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T15 285'-260'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T16 260'-235'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T17 235'-210'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T18 210'-185'	Solid Round	5	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T19 185'-160'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T20 160'-135'	Solid Round	5 1/2	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T21 135'-110'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T22 110'-85'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T23 85'-60'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T24 60'-35'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T25 35'-10'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T26 10'-0'	Solid Round	5 1/4	A572-50 (50 ksi)	Single Angle	L3x3 1/2x5/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T3 547'6"-541'3"	Double Channel	2C6x8.2x0.375	A36 (36 ksi)	Double Equal Angle		A36 (36 ksi)
T4 541'3"-535'	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T5 535'-510'	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T6 510'-485'	Double Angle	2L3x2 1/2x1/4x3/8	A36	Double Angle		A36

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T7 485'-460'	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T8 460'-435'	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T9 435'-410'	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T10 410'-385'	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T11 385'-360'	Double Angle	2L2x2x1/4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T12 360'-335'	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T13 335'-310'	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T14 310'-285'	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T15 285'-260'	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T16 260'-235'	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T17 235'-210'	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T18 210'-185'	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T19 185'-160'	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T20 160'-135'	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T21 135'-110'	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T22 110'-85'	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T23 85'-60'	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T24 60'-35'	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T25 35'-10'	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T26 10'-0'	Double Angle	2L4x3x1/2	A36 (36 ksi)	Flat Bar	12x1/2	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 560'-553'9"	None	Flat Bar		A36 (36 ksi)	Channel	C10x20	A36 (36 ksi)
T2 553'9"-547'6"	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T3 547'6"-541'3"	None	Flat Bar		A36 (36 ksi)	Double Channel	2C6x8.2x0.375	A36 (36 ksi)
T4 541'3"-535'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T5 535'-510'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T6 510'-485'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T7 485'-460'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T8 460'-435'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T9 435'-410'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T10 410'-385'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T11 385'-360'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2x2x1/4x3/8	A36 (36 ksi)
T12 360'-335'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T13 335'-310'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T14 310'-285'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T15 285'-260'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T16 260'-235'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T17 235'-210'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T18 210'-185'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T19 185'-160'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T20 160'-135'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T21 135'-110'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T22 110'-85'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T23 85'-60'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T24 60'-35'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T25 35'-10'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T26 10'-0'	None	Flat Bar		A36 (36 ksi)	Single Angle	L3x5x1/2	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T1 560'-553'9"	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T2 553'9"-547'6"	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T3 547'6"-541'3"	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T4 541'3"-535'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T5 535'-510'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T6 510'-485'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T7 485'-460'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T8 460'-435'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T9 435'-410'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T10 410'-385'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T11 385'-360'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T12 360'-335'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T13 335'-310'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T14 310'-285'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T15 285'-260'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T16 260'-235'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T17 235'-210'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T18 210'-185'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T19 185'-160'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T20 160'-135'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T21 135'-110'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T22 110'-85'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T23 85'-60'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T24 60'-35'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T25 35'-10'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T26 10'-0'	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

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
T1 560'-553'9"	0.000	0.000	A36 (36 ksi)	1.05	1	1.05	Mid-Pt	Mid-Pt
T2 553'9"-547'6"	0.000	0.000	A36 (36 ksi)	1.05	1	1.05	Mid-Pt	Mid-Pt
T3 547'6"-541'3"	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T4 541'3"-535'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T5 535'-510'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T6 510'-485'	0.000	0.000	A36 (36 ksi)	1.2	1	1.05	0.000	Mid-Pt
T7 485'-460'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T8 460'-435'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T9 435'-410'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T10 410'-385'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T11 385'-360'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T12 360'-335'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T13 335'-310'	0.000	0.000	A36 (36 ksi)	1.2	1	1.05	0.000	Mid-Pt
T14 310'-285'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T15 285'-260'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T16 260'-235'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T17 235'-210'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T18 210'-185'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T19 185'-160'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T20 160'-135'	0.000	0.000	A36 (36 ksi)	1.2	1	1.05	0.000	Mid-Pt
T21 135'-110'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T22 110'-85'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T23 85'-60'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T24 60'-35'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T25 35'-10'	0.000	0.000	A36 (36 ksi)	1	1.05	1.05	0.000	Mid-Pt
T26 10'-0'	0.000	0.000	A36 (36 ksi)	1	1	1.05	0.000	0.000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1	Yes	Yes	1	1	1	1	1	1	1	1
560'-553'9"				1	1	1	1	1	1	1
T2	Yes	Yes	1	1	1	1	1	1	1	1
553'9"-547'6"				1	1	1	1	1	1	1
T3	Yes	Yes	1	1	1	1	1	1	1	1
547'6"-541'3"				1	1	1	0.5	0.5	1	1
T4	Yes	Yes	1	1	1	1	1	1	1	1
541'3"-535'				1	1	1	0.5	0.5	1	1
T5 535'-510'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T6 510'-485'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T7 485'-460'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T8 460'-435'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T9 435'-410'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T10 410'-385'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T11 385'-360'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T12 360'-335'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T13 335'-310'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T14 310'-285'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T15 285'-260'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T16 260'-235'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T17 235'-210'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T18 210'-185'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T19 185'-160'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T20 160'-135'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T21 135'-110'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T22 110'-85'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T23 85'-60'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T24 60'-35'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T25 35'-10'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	0.5	0.5	1	1
T26 10'-0'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 560'-553'9"	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 553'9"-547'6"	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 547'6"-541'3"	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 541'3"-535'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 535'-510'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T6 510'-485'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T7 485'-460'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T8 460'-435'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T9 435'-410'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T10 410'-385'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T11 385'-360'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T12 360'-335'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T13 335'-310'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T14 310'-285'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T15 285'-260'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T16 260'-235'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T17 235'-210'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T18 210'-185'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T19 185'-160'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T20 160'-135'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T21 135'-110'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T22 110'-85'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T23 85'-60'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T24 60'-35'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T25 35'-10'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T26 10'-0'	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 560'-553'9"	Flange	0.000 A325N	0	1.000 A325N	2	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T2 553'9"-547'6"	Flange	0.000 A325N	0	0.625 A325N	2	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.875 A325N	2	0.625 A325N	0
T3 547'6"-541'3"	Flange	0.000 A325N	0	0.875 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T4 541'3"-535'	Flange	0.000 A325N	0	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T5 535'-510'	Flange	0.750 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T6 510'-485'	Flange	0.750 A325N	6	1.000 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T7 485'-460'	Flange	0.750 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T8 460'-435'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T9 435'-410'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T10 410'-385'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T11 385'-360'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T12 360'-335'	Flange	0.750 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T13 335'-310'	Flange	1.000 A325N	6	1.000 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T14 310'-285'	Flange	1.000 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T15 285'-260'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T16 260'-235'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T17 235'-210'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T18 210'-185'	Flange	0.750 A325N	6	0.750 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T19 185'-160'	Flange	1.000 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T20 160'-135'	Flange	1.000 A325N	6	1.000 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T21 135'-110'	Flange	1.000 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T22 110'-85'	Flange	1.000 A325N	6	0.750 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T23 85'-60'	Flange	1.000 A325N	6	0.750 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T24 60'-35'	Flange	1.000 A325N	6	0.750 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T25 35'-10'	Flange	1.000 A325N	6	0.750 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T26 10'-0'	Flange	0.750 A325N	8	0.750 A325N	0	0.750 A325N	0	0.000 A325N	0	0.625 A325N	0	0.750 A325N	0	0.625 A325N	0

Guy Data

Guy Elevation ft	Guy Grade		Guy Size	Initial Tension K	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
153.75	BS	A	1 1/4	19.200	10%	24000.000	3.280	288'7-17/32"	265'	0.000	28'8-13/32"	100%
		B	1 1/4	19.200	10%	24000.000	3.280	283'6-21/32"	265'	0.000	40'11-1/32"	100%
		C	1 1/4	19.200	10%	24000.000	3.280	295'9-17/32"	265'	0.000	12'11-1/32"	100%
316.25	BS	A	1 1/2	27.600	10%	24000.000	4.730	387'7-3/8"	265'	0.000	28'8-13/32"	100%
		B	1 1/2	27.600	10%	24000.000	4.730	378'7-27/32"	265'	0.000	40'11-1/32"	100%
		C	1 1/2	27.600	10%	24000.000	4.730	399'5-5/16"	265'	0.000	12'11-1/32"	100%

491.25	BS	A	1 3/4	37.600	10%	24000.000	6.430	530'4-15/32"	265'	0.000	28'8-13/32"	100%
		B	1 3/4	37.600	10%	24000.000	6.430	519'9-7/32"	265'	0.000	40'11-1/32"	100%
		C	1 3/4	37.600	10%	24000.000	6.430	544'2-1/32"	265'	0.000	12'11-1/32"	100%

Guy Data*(cont'd)*

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
153.75	Corner						
316.25	Corner						
491.25	Corner						

Guy Data *(cont'd)*

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
153'9"	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Equal Angle	
316'3"	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Equal Angle	
491'3"	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Equal Angle	

Guy Data *(cont'd)*

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
153.75	0.947	0.930	0.970		7'9/16" 4.6 sec/pulse	6'9-23/32" 4.5 sec/pulse	7'4-23/32" 4.7 sec/pulse	
316.25	1.833	1.791	1.889		12'6-15/16" 6.1 sec/pulse	12'3/16" 6.0 sec/pulse	13'4-3/32" 6.3 sec/pulse	
491.25	3.410	3.342	3.499		23'1-15/16" 8.3 sec/pulse	22'3-7/32" 8.1 sec/pulse	24'4-7/32" 8.5 sec/pulse	

Guy Data *(cont'd)*

			Torque Arm		Pull Off		Diagonal	
Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K_x	K_y	K_x	K_y	K_x	K_y
153.75	No	No			1	1	1	1

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm K_x	Torque Arm K_y	Pull Off K_x	Pull Off K_y	Diagonal K_x	Diagonal K_y
316.25	No	No			1	1	1	1
491.25	No	No			1	1	1	1

Guy Data *(cont'd)*

Guy Elevation ft	Torque-Arm Bolt Size in	Torque-Arm Number	Torque-Arm Net Width Deduct in	Torque-Arm U	Pull Off Bolt Size in	Pull Off Number	Pull Off Net Width Deduct in	Pull Off U	Diagonal Bolt Size in	Diagonal Number	Diagonal Net Width Deduct in	Diagonal U
153.75	0.625 A325N	0	0.000	0.75	0.000 A325N	0	0.000	0.75	0.000 A325N	0	0.000	1
316.25	0.625 A325N	0	0.000	0.75	0.000 A325N	0	0.000	0.75	0.000 A325N	0	0.000	1
491.25	0.625 A325N	0	0.000	0.75	0.000 A325N	0	0.000	0.75	0.000 A325N	0	0.000	1

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q_z ksf	q_z Ice ksf	Ice Thickness in
153.75	A	91'2-11/16"	0.022	0.005	1.130
	B	97'4-1/32"	0.022	0.005	1.139
	C	83'4-1/32"	0.021	0.005	1.118
316.25	A	172'5-11/16"	0.026	0.006	1.220
	B	178'7-1/32"	0.027	0.006	1.225
	C	164'7-1/32"	0.026	0.006	1.213
491.25	A	259'11-11/16"	0.030	0.007	1.281
	B	266'1-1/32"	0.030	0.007	1.285
	C	252'1-1/32"	0.029	0.006	1.276

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
T-Brackets (Af) (E)	A	No	Af (Leg)	245' - 8'	0.000	0.1	1	1	1.000	1.000	4.000	0.008
LDF7-50A(1-5/8") (AB) *$$$*	A	No	Ar (Leg)	245' - 8'	0.000	0.1	8	4	0.500 2.000	1.980		0.001
LDF7-50A(1-5/8") (E)	B	Yes	Ar (CfAe)	514' - 8'	-12.000	0.2	1	1	1.980	1.980		0.001
T-Brackets (Af)	B	No	Af (Leg)	514' - 8'	0.000	0.1	1	1	1.000	1.000	4.000	0.008

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
(E) LDF7-50A(1-5/8")	B	Yes	Ar (CfAe)	214' - 8'	-4.000	0.43	6	3	0.500	1.980		0.001
(E) MACX450-1(4-1/16)	B	Yes	Ar (CfAe)	490' - 8'	-3.000	-0.2	1	1	1.000	4.062		0.004
(E) FXL 1873 PE (1-5/8")	B	Yes	Ar (CfAe)	557' - 8'	-1.000	0.35	1	1	1.000	1.980		0.001
(E) *$$$* Climbing Ladder (Round)	C	No	Af (Leg)	560' - 8'	0.000	0.1	1	1	0.500	2.340	7.351	0.005
(E) Safety Line 3/8	C	No	Ar (Leg)	560' - 8'	0.000	0.1	1	1	0.500	0.375		0.000
(E) LDF6-50A(1-1/4")	B	Yes	Ar (CfAe)	514' - 492'	-6.000	0.43	1	1	0.500	1.550		0.001
(E) LDF6-50A(1-1/4")	B	Yes	Ar (CfAe)	492' - 442'	-6.000	0.43	2	2	0.500	1.550		0.001
(E) LDF6-50A(1-1/4")	B	Yes	Ar (CfAe)	442' - 8'	-6.000	0.43	3	3	0.500	1.550		0.001
(E) 1 1/4" Rigid Conduit	B	Yes	Ar (CfAe)	542' - 8'	-10.000	0.2	2	1	0.500	1.250		0.001
(E) LDF4P-50A(1/2")	B	Yes	Ar (CfAe)	138' - 134'	-7.500	0.43	1	1	0.500	0.630		0.000
(E) LDF4-50A(1/2") (E (to 138'))	B	Yes	Ar (CfAe)	134' - 8'	-7.500	0.43	2	2	0.500	0.630		0.000
$$$ 8188(3/4") (E-For Beacon)	B	Yes	Ar (CfAe)	315' - 8'	-7.000	0.2	1	1	0.750	0.750		0.000
LDF5-50A(7/8")	B	Yes	Ar (CfAe)	438' - 8'	-15.000	0.2	1	1	0.500	1.090		0.000
(E) LDF7-50A(1-5/8")	B	Yes	Ar (CfAe)	486' - 415'	-21.000	0.2	1	1	0.500	1.980		0.001
(E) LDF7-50A(1-5/8")	B	Yes	Ar (CfAe)	415' - 8'	-21.000	0.2	2	2	0.500	1.980		0.001
(E) *$$$* LDF5-50A(7/8")	C	Yes	Ar (CfAe)	294' - 8'	-1.500	-0.32	1	1	0.500	1.090		0.000
(E) LDF7-50A(1-5/8")	C	Yes	Ar (CfAe)	324' - 288'	-1.000	-0.32	2	2	0.500	1.980		0.001
(E) LDF7-50A(1-5/8")	C	Yes	Ar (CfAe)	288' - 8'	-1.000	-0.32	3	3	0.500	1.980		0.001
(E) EW52(ELLIPTICAL)	C	Yes	Ar (CfAe)	145' - 8'	-5.000	0.2	1	1	2.250	0.870		0.001

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
(A) 1 1/4" Rigid Conduit (Contains Coax to light at 557', 475' ,315' and 312')	C	Yes	Ar (CfAe)	560' - 8'	-1.000	0.15	1	1	0.500	1.250		0.001
LDF7-50A(1-5/8") (E-As per CAD) *$$$*	C	Yes	Ar (CfAe)	388' - 8'	-1.000	-0.2	1	1	0.500	1.980		0.001
LDF5-50A(7/8") (E)	C	Yes	Ar (CfAe)	438' - 175'	-15.000	0.18	1	1	0.500	1.090		0.000
LDF5-50A(7/8") (E)	C	Yes	Ar (CfAe)	175' - 8'	-2.000	0.18	2	2	0.500	1.090		0.000
LDF4P-50A(1/2") (E)	C	Yes	Ar (CfAe)	415' - 91'	-1.000	0.18	2	2	0.500	0.630		0.000
LDF4P-50A(1/2") (E to 415))	C	Yes	Ar (CfAe)	91' - 8'	-1.000	0.18	3	3	0.500	0.630		0.000
LDF2-50(3/8") (E) *$$$*	C	Yes	Ar (CfAe)	112' - 8'	-1.000	0.18	1	1	0.440	0.440		0.000
LCF12-50J(1/2") (E)	A	Yes	Ar (CfAe)	288' - 76'	-1.000	-0.28	1	1	1.500	0.640		0.000
LCF12-50J(1/2") (E)	A	Yes	Ar (CfAe)	76' - 8'	-1.000	-0.28	2	2	1.500	0.640		0.000
FLC 78-50J(7/8") (E)	A	Yes	Ar (CfAe)	237' - 8'	-1.000	-0.35	4	4	1.500	1.112		0.000
FLC38-50J(3/8") (E)	A	Yes	Ar (CfAe)	80' - 8'	-1.000	-0.42	2	2	1.500	0.440		0.000
FLC 78-50J(7/8") (E)	A	Yes	Ar (CfAe)	465' - 8'	-1.000	-0.46	1	1	1.500	1.112		0.000
FLC 78-50J(7/8") (E)	A	Yes	Ar (CfAe)	212' - 8'	-1.000	-0.48	1	1	1.112	1.112		0.000
1/2" Grouding wire (E)	B	No	Ar (Leg)	212' - 0'	0.000	0	1	1	0.630	0.630		0.000
Coax-Brackets (Af) (E) *$$$*	A	Yes	Af (CfAe)	465' - 8'	-1.000	-0.35	1	1	1.000	1.000	4.000	0.008
ATCB-B01-060(5/16) (R)	C	No	Ar (Leg)	190' - 8'	0.000	0.08	3	1	0.500	0.315		0.000
L98B-002-XXX_DB(3/8") (R)	C	No	Ar (Leg)	190' - 8'	0.000	0.07	2	1	0.500	0.394		0.000
WR-VG86ST-BRD(3/4) (R)	C	No	Ar (Leg)	190' - 8'	0.000	0.04	8	4	0.500	0.774		0.001

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
T-Brackets (Af) (R) *$$$*	C	No	Af (Leg)	190' - 8'	0.000	0.04	1	1	1.000	1.000	4.000	0.008
LDF7-50A(1-5/8") (P) *$$$*	A	Yes	Ar (CfAe)	237' - 0'	-2.500	-0.34	4	4	0.850 0.750	1.980		0.001

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C_AA_A ft^2/ft	Weight klf
$$$										
D-Tuner (E)	A	No	CaAa (Out Of Face)	476' - 160'	12.000	0	1	No Ice	0.037	0.000
								1/2" Ice	0.137	0.001
								1" Ice	0.238	0.001
								2" Ice	0.437	0.002
								4" Ice	0.838	0.004
D-Tuner (E)	B	No	CaAa (Out Of Face)	476' - 160'	12.000	0	1	No Ice	0.037	0.000
								1/2" Ice	0.137	0.001
								1" Ice	0.238	0.001
								2" Ice	0.437	0.002
								4" Ice	0.838	0.004
D-Tuner (E)	C	No	CaAa (Out Of Face)	476' - 160'	12.000	0	1	No Ice	0.037	0.000
								1/2" Ice	0.137	0.001
								1" Ice	0.238	0.001
								2" Ice	0.437	0.002
								4" Ice	0.838	0.004
$$$										

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	560'-553'9"	A	0.195	1.219	0.000	0.000	0.000
		B	0.536	0.000	0.000	0.000	0.002
		C	0.846	1.219	0.000	0.000	0.039
T2	553'9"-547'6"	A	0.195	1.219	0.000	0.000	0.000
		B	1.031	0.000	0.000	0.000	0.004
		C	0.846	1.219	0.000	0.000	0.039
T3	547'6"-541'3"	A	0.195	1.219	0.000	0.000	0.000
		B	1.109	0.000	0.000	0.000	0.005
		C	0.846	1.219	0.000	0.000	0.039
T4	541'3"-535'	A	0.195	1.219	0.000	0.000	0.000
		B	1.682	0.000	0.000	0.000	0.013
		C	0.846	1.219	0.000	0.000	0.039
T5	535'-510'	A	0.781	4.875	0.000	0.000	0.000
		B	7.906	0.333	0.000	0.000	0.091
		C	3.385	5.208	0.000	0.000	0.155
T6	510'-485'	A	0.781	4.875	0.000	0.000	0.000
		B	16.845	2.083	0.000	0.000	0.325

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	3.385	6.958	0.000	0.000	0.155
T7	485'-460'	A	1.245	5.292	0.000	0.600	0.048
		B	29.900	2.083	0.000	0.600	0.443
		C	3.385	6.958	0.000	0.600	0.158
T8	460'-435'	A	3.098	6.958	0.000	0.938	0.226
		B	31.077	2.083	0.000	0.938	0.451
		C	3.658	6.958	0.000	0.938	0.161
T9	435'-410'	A	3.098	6.958	0.000	0.938	0.226
		B	36.225	2.083	0.000	0.938	0.474
		C	6.181	6.958	0.000	0.938	0.170
T10	410'-385'	A	3.098	6.958	0.000	0.938	0.226
		B	39.525	2.083	0.000	0.938	0.490
		C	8.776	6.958	0.000	0.938	0.178
T11	385'-360'	A	3.098	6.958	0.000	0.938	0.226
		B	39.525	2.083	0.000	0.938	0.490
		C	12.406	6.958	0.000	0.938	0.196
T12	360'-335'	A	3.098	6.958	0.000	0.938	0.226
		B	39.525	2.083	0.000	0.938	0.490
		C	12.406	6.958	0.000	0.938	0.196
T13	335'-310'	A	3.098	6.958	0.000	0.938	0.226
		B	39.837	2.083	0.000	0.938	0.492
		C	17.026	6.958	0.000	0.938	0.219
T14	310'-285'	A	3.258	6.958	0.000	0.938	0.226
		B	41.087	2.083	0.000	0.938	0.499
		C	21.969	6.958	0.000	0.938	0.243
T15	285'-260'	A	4.431	6.958	0.000	0.938	0.229
		B	41.087	2.083	0.000	0.938	0.499
		C	27.052	6.958	0.000	0.938	0.266
T16	260'-235'	A	13.093	7.792	0.000	0.938	0.389
		B	47.688	2.917	0.000	0.938	0.499
		C	27.052	6.958	0.000	0.938	0.266
T17	235'-210'	A	46.883	9.042	0.000	0.938	0.726
		B	59.672	4.167	0.000	0.938	0.519
		C	27.157	6.958	0.000	0.938	0.266
T18	210'-185'	A	50.600	9.458	0.000	0.938	0.735
		B	71.275	4.167	0.000	0.938	0.626
		C	29.950	7.375	0.000	0.938	0.333
T19	185'-160'	A	56.941	11.125	0.000	0.938	0.735
		B	71.275	4.167	0.000	0.938	0.626
		C	37.654	9.042	0.000	0.938	0.608
T20	160'-135'	A	56.941	11.125	0.000	0.000	0.730
		B	71.433	4.167	0.000	0.000	0.621
		C	39.287	9.042	0.000	0.000	0.611
T21	135'-110'	A	56.941	11.125	0.000	0.000	0.730
		B	73.847	4.167	0.000	0.000	0.628
		C	40.448	9.042	0.000	0.000	0.620
T22	110'-85'	A	56.941	11.125	0.000	0.000	0.730
		B	73.900	4.167	0.000	0.000	0.628
		C	41.606	9.042	0.000	0.000	0.623
T23	85'-60'	A	59.261	11.125	0.000	0.000	0.735
		B	73.900	4.167	0.000	0.000	0.628
		C	42.604	9.042	0.000	0.000	0.626
T24	60'-35'	A	60.108	11.125	0.000	0.000	0.738
		B	73.900	4.167	0.000	0.000	0.628
		C	42.604	9.042	0.000	0.000	0.626
T25	35'-10'	A	60.108	11.125	0.000	0.000	0.738
		B	73.900	4.167	0.000	0.000	0.628
		C	42.604	9.042	0.000	0.000	0.626
T26	10'-0'	A	10.089	0.890	0.000	0.000	0.085
		B	6.332	0.333	0.000	0.000	0.051
		C	3.828	0.723	0.000	0.000	0.050

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
T1	560'-553'9"	A	1.404	1.657	2.194	0.000	0.000	0.000
		B		1.297	0.000	0.000	0.000	0.021
		C		3.771	2.194	0.000	0.000	0.129
T2	553'9"-547'6"	A	1.402	1.656	2.192	0.000	0.000	0.000
		B		2.491	0.000	0.000	0.000	0.040
		C		3.767	2.192	0.000	0.000	0.129
T3	547'6"-541'3"	A	1.400	1.654	2.191	0.000	0.000	0.000
		B		2.743	0.000	0.000	0.000	0.048
		C		3.763	2.191	0.000	0.000	0.129
T4	541'3"-535'	A	1.398	1.651	2.190	0.000	0.000	0.000
		B		4.595	0.000	0.000	0.000	0.106
		C		3.759	2.190	0.000	0.000	0.129
T5	535'-510'	A	1.393	6.585	8.744	0.000	0.000	0.000
		B		21.371	0.952	0.000	0.000	0.523
		C		14.994	9.697	0.000	0.000	0.513
T6	510'-485'	A	1.385	6.551	8.722	0.000	0.000	0.000
		B		40.406	7.126	0.000	0.000	1.152
		C		14.926	14.652	0.000	0.000	0.510
T7	485'-460'	A	1.376	8.126	9.879	0.000	5.004	0.116
		B		61.078	10.177	0.000	5.004	1.653
		C		14.854	14.604	0.000	5.004	0.533
T8	460'-435'	A	1.367	14.492	14.555	0.000	7.774	0.487
		B		61.810	11.348	0.000	7.774	1.694
		C		15.736	14.555	0.000	7.774	0.558
T9	435'-410'	A	1.358	14.414	14.502	0.000	7.727	0.485
		B		68.548	15.430	0.000	7.727	1.859
		C		24.024	14.973	0.000	7.727	0.675
T10	410'-385'	A	1.348	14.331	14.447	0.000	7.678	0.482
		B		68.259	19.536	0.000	7.678	1.928
		C		30.605	16.802	0.000	7.678	0.787
T11	385'-360'	A	1.338	14.244	14.389	0.000	7.625	0.479
		B		67.954	19.507	0.000	7.625	1.914
		C		38.960	16.743	0.000	7.625	0.917
T12	360'-335'	A	1.326	14.152	14.328	0.000	7.570	0.476
		B		67.630	19.476	0.000	7.570	1.898
		C		38.728	16.682	0.000	7.570	0.908
T13	335'-310'	A	1.315	14.053	14.262	0.000	7.511	0.473
		B		68.693	19.443	0.000	7.511	1.900
		C		43.859	19.509	0.000	7.511	1.042
T14	310'-285'	A	1.302	14.759	14.191	0.000	7.447	0.479
		B		73.903	19.408	0.000	7.447	1.954
		C		50.538	22.332	0.000	7.447	1.191
T15	285'-260'	A	1.288	20.535	14.116	0.000	7.379	0.545
		B		73.448	19.370	0.000	7.379	1.934
		C		55.065	26.803	0.000	7.379	1.331
T16	260'-235'	A	1.274	25.487	25.203	0.000	7.305	1.086
		B		76.728	27.778	0.000	7.305	1.912
		C		54.634	26.721	0.000	7.305	1.314
T17	235'-210'	A	1.257	47.036	69.032	0.000	7.224	2.591
		B		83.802	42.014	0.000	7.224	1.981
		C		54.687	26.631	0.000	7.224	1.296
T18	210'-185'	A	1.239	57.183	71.581	0.000	7.135	2.656
		B		96.877	50.594	0.000	7.135	2.474
		C		63.835	29.230	0.000	7.135	1.475
T19	185'-160'	A	1.220	71.217	82.150	0.000	7.035	2.626

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		95.962	50.484	0.000	7.035	2.438
		C		77.786	41.842	0.000	7.035	2.266
T20	160'-135'	A	1.197	70.272	81.898	0.000	0.000	2.555
		B		95.677	50.357	0.000	0.000	2.368
		C		79.466	42.978	0.000	0.000	2.244
T21	135'-110'	A	1.170	69.172	81.605	0.000	0.000	2.516
		B		99.902	52.471	0.000	0.000	2.413
		C		82.690	42.758	0.000	0.000	2.253
T22	110'-85'	A	1.139	67.855	81.254	0.000	0.000	2.470
		B		98.321	52.389	0.000	0.000	2.356
		C		86.307	43.059	0.000	0.000	2.254
T23	85'-60'	A	1.099	70.594	86.898	0.000	0.000	2.534
		B		96.332	52.168	0.000	0.000	2.284
		C		84.152	44.517	0.000	0.000	2.201
T24	60'-35'	A	1.045	69.201	88.708	0.000	0.000	2.491
		B		93.613	51.866	0.000	0.000	2.187
		C		81.207	44.064	0.000	0.000	2.098
T25	35'-10'	A	1.000	67.154	88.211	0.000	0.000	2.390
		B		91.379	51.618	0.000	0.000	2.109
		C		78.787	43.692	0.000	0.000	2.016
T26	10'-0'	A	1.000	8.026	12.717	0.000	0.000	0.323
		B		9.064	4.129	0.000	0.000	0.186
		C		8.056	3.495	0.000	0.000	0.161

Feed Line Shielding

Section	Elevation ft	Face	A_R ft^2	A_R Ice ft^2	A_F ft^2	A_F Ice ft^2
T1	560'-553'9"	A	0.000	0.000	0.000	0.000
		B	0.000	0.139	0.111	0.269
		C	0.000	0.226	0.135	0.439
T2	553'9"-547'6"	A	0.000	0.000	0.000	0.000
		B	0.000	0.266	0.105	0.254
		C	0.000	0.225	0.066	0.215
T3	547'6"-541'3"	A	0.000	0.000	0.000	0.000
		B	0.038	0.455	0.089	0.219
		C	0.022	0.350	0.052	0.169
T4	541'3"-535'	A	0.000	0.000	0.000	0.000
		B	0.057	0.761	0.067	0.184
		C	0.022	0.349	0.026	0.084
T5	535'-510'	A	0.000	0.000	0.000	0.000
		B	0.268	3.532	0.316	0.855
		C	0.088	1.390	0.104	0.336
T6	510'-485'	A	0.000	0.000	0.000	0.000
		B	0.713	7.195	0.674	1.664
		C	0.110	1.448	0.104	0.335
T7	485'-460'	A	0.030	0.520	0.035	0.127
		B	1.012	10.697	1.196	2.614
		C	0.088	1.365	0.104	0.334
T8	460'-435'	A	0.112	2.438	0.147	0.526
		B	0.789	10.386	1.036	2.243
		C	0.073	1.429	0.096	0.309
T9	435'-410'	A	0.093	2.346	0.147	0.524
		B	0.766	11.661	1.208	2.604
		C	0.114	2.695	0.180	0.602
T10	410'-385'	A	0.093	2.319	0.147	0.521

Section	Elevation ft	Face	A_R ft^2	A_R Ice ft^2	A_F ft^2	A_F Ice ft^2
		B	0.836	12.158	1.317	2.732
		C	0.169	3.940	0.267	0.885
T11	385'-360'	A	0.112	2.356	0.117	0.415
		B	1.003	12.378	1.054	2.178
		C	0.295	5.299	0.310	0.932
T12	360'-335'	A	0.149	2.457	0.176	0.618
		B	1.338	12.932	1.581	3.254
		C	0.393	5.529	0.465	1.391
T13	335'-310'	A	0.186	2.554	0.176	0.614
		B	1.685	13.706	1.593	3.296
		C	0.687	7.127	0.650	1.714
T14	310'-285'	A	0.154	2.516	0.182	0.642
		B	1.390	13.726	1.644	3.504
		C	0.717	8.221	0.848	2.099
T15	285'-260'	A	0.146	3.209	0.191	0.728
		B	1.043	12.806	1.370	2.905
		C	0.667	9.051	0.876	2.053
T16	260'-235'	A	0.165	3.637	0.260	0.858
		B	0.869	12.246	1.370	2.889
		C	0.556	8.653	0.876	2.041
T17	235'-210'	A	0.670	10.202	1.056	2.433
		B	0.911	12.479	1.436	2.976
		C	0.556	8.503	0.876	2.028
T18	210'-185'	A	1.001	11.650	1.127	2.650
		B	1.583	15.410	1.782	3.505
		C	0.778	8.849	0.876	2.013
T19	185'-160'	A	1.144	11.762	1.353	3.160
		B	1.809	15.545	2.139	4.176
		C	0.935	9.213	1.105	2.475
T20	160'-135'	A	1.430	12.173	1.353	3.137
		B	2.268	16.190	2.145	4.172
		C	1.238	10.143	1.171	2.614
T21	135'-110'	A	1.144	11.219	1.353	3.111
		B	1.896	16.016	2.241	4.440
		C	1.030	9.972	1.217	2.765
T22	110'-85'	A	1.001	10.550	1.127	2.566
		B	1.661	15.047	1.870	3.660
		C	0.935	10.137	1.053	2.465
T23	85'-60'	A	1.070	11.526	1.205	2.882
		B	1.661	14.414	1.870	3.604
		C	0.965	9.921	1.086	2.481
T24	60'-35'	A	1.095	11.329	1.233	2.946
		B	1.661	13.569	1.870	3.529
		C	0.965	9.307	1.086	2.420
T25	35'-10'	A	1.095	10.795	1.233	2.903
		B	1.661	12.892	1.870	3.467
		C	0.965	8.816	1.086	2.371
T26	10'-0'	A	0.000	0.907	0.802	1.488
		B	0.000	0.494	0.437	0.810
		C	0.000	0.338	0.254	0.554

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	560'-553'9"	-0.986	1.109	-1.782	1.801

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T2	553'9"-547'6"	-0.880	1.946	-1.575	2.587
T3	547'6"-541'3"	-0.791	1.841	-1.386	2.301
T4	541'3"-535'	-0.425	2.356	-0.866	2.672
T5	535'-510'	-0.032	2.536	-0.439	2.862
T6	510'-485'	1.991	2.895	1.401	3.302
T7	485'-460'	2.891	2.295	1.006	2.071
T8	460'-435'	2.221	2.867	0.167	2.446
T9	435'-410'	2.737	3.534	0.396	2.798
T10	410'-385'	2.766	4.051	0.268	2.684
T11	385'-360'	3.122	4.518	0.579	3.067
T12	360'-335'	2.842	4.161	0.520	2.920
T13	335'-310'	3.283	4.367	0.638	2.895
T14	310'-285'	4.198	5.084	1.110	3.146
T15	285'-260'	4.949	5.989	1.304	3.731
T16	260'-235'	4.264	4.090	1.109	2.846
T17	235'-210'	0.404	2.947	-0.511	2.187
T18	210'-185'	1.367	3.956	-0.400	2.910
T19	185'-160'	-0.003	4.389	-1.596	3.310
T20	160'-135'	-0.091	4.540	-1.793	3.788
T21	135'-110'	0.139	4.927	-1.856	3.956
T22	110'-85'	0.106	5.167	-1.989	4.251
T23	85'-60'	-0.246	5.323	-2.048	4.307
T24	60'-35'	-0.350	5.349	-2.038	4.319
T25	35'-10'	-0.350	5.349	-2.049	4.343
T26	10'-0'	-1.215	2.042	-1.016	2.044

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lightning Rod 5/8" x 3' (E)	C	From Leg	0.000 0' 1'6"	0.000	560'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.188 0.480 0.669 1.075 2.108	0.188 0.480 0.669 1.075 2.108	0.025 0.027 0.031 0.046 0.108
Flash Beacon Lighting (E)	B	From Leg	0.000 0' 0'	0.000	560'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.700 3.100 3.500 4.300 5.900	2.700 3.100 3.500 4.300 5.900	0.050 0.070 0.090 0.130 0.210
Side Light (E)	A	From Leg	0.500 0' 0'	0.000	475'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.790 1.040 1.320 1.980 3.590	0.790 1.040 1.320 1.980 3.590	0.029 0.039 0.053 0.090 0.213
Side Light (E)	B	From Leg	0.500 0' 0'	0.000	475'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.790 1.040 1.320 1.980 3.590	0.790 1.040 1.320 1.980 3.590	0.029 0.039 0.053 0.090 0.213
Side Light	C	From Leg	0.500	0.000	475'	No Ice	0.790	0.790	0.029

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(E)			0'			1/2" Ice	1.040	1.040	0.039
			0'			1" Ice	1.320	1.320	0.053
						2" Ice	1.980	1.980	0.090
						4" Ice	3.590	3.590	0.213
Flash Beacon Lighting	A	From Leg	0.000	0.000	315'	No Ice	2.700	2.700	0.050
(E)			0'			1/2" Ice	3.100	3.100	0.070
			0'			1" Ice	3.500	3.500	0.090
						2" Ice	4.300	4.300	0.130
						4" Ice	5.900	5.900	0.210
Flash Beacon Lighting	C	From Leg	0.000	0.000	312'	No Ice	2.700	2.700	0.050
(E)			0'			1/2" Ice	3.100	3.100	0.070
			0'			1" Ice	3.500	3.500	0.090
						2" Ice	4.300	4.300	0.130
						4" Ice	5.900	5.900	0.210
Side Light	A	From Leg	0.500	0.000	157'	No Ice	0.790	0.790	0.029
(E)			0'			1/2" Ice	1.040	1.040	0.039
			0'			1" Ice	1.320	1.320	0.053
						2" Ice	1.980	1.980	0.090
						4" Ice	3.590	3.590	0.213
Side Light	B	From Leg	0.500	0.000	157'	No Ice	0.790	0.790	0.029
(E)			0'			1/2" Ice	1.040	1.040	0.039
			0'			1" Ice	1.320	1.320	0.053
						2" Ice	1.980	1.980	0.090
						4" Ice	3.590	3.590	0.213
Side Light	C	From Leg	0.500	0.000	157'	No Ice	0.790	0.790	0.029
(E)			0'			1/2" Ice	1.040	1.040	0.039
			0'			1" Ice	1.320	1.320	0.053
						2" Ice	1.980	1.980	0.090
						4" Ice	3.590	3.590	0.213
$$$									
AP19-1670/090D/DT2	A	From Leg	1.000	0.000	557'	No Ice	7.440	3.184	0.020
(E)			0'			1/2" Ice	8.058	4.155	0.052
			0'			1" Ice	8.684	5.138	0.091
						2" Ice	9.958	6.696	0.191
						4" Ice	12.595	9.250	0.489
AP19-1670/090D/DT2	B	From Leg	1.000	0.000	557'	No Ice	7.440	3.184	0.020
(E)			0'			1/2" Ice	8.058	4.155	0.052
			0'			1" Ice	8.684	5.138	0.091
						2" Ice	9.958	6.696	0.191
						4" Ice	12.595	9.250	0.489
AP19-1670/090D/DT2	C	From Leg	1.000	0.000	557'	No Ice	7.440	3.184	0.020
(E)			0'			1/2" Ice	8.058	4.155	0.052
			0'			1" Ice	8.684	5.138	0.091
						2" Ice	9.958	6.696	0.191
						4" Ice	12.595	9.250	0.489
PDS3DE-698/2700	A	From Leg	1.000	0.000	557'	No Ice	0.241	0.109	0.001
(E)			0'			1/2" Ice	0.324	0.179	0.003
			0'			1" Ice	0.415	0.261	0.005
						2" Ice	0.624	0.451	0.015
						4" Ice	1.146	0.935	0.055
Pipe Mount [PM 601-3]	C	None		0.000	557'	No Ice	4.390	4.390	0.195
(E)						1/2" Ice	5.480	5.480	0.237
						1" Ice	6.570	6.570	0.280
						2" Ice	8.750	8.750	0.365
						4" Ice	13.110	13.110	0.534
$$$									
Platform w/ Handrail	B	From Face	0.000	0.000	545'	No Ice	12.000	6.000	0.050

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
(E)			0' 0'			1/2" Ice 1" Ice 2" Ice 4" Ice	17.000 22.000 32.000 52.000	7.500 9.000 12.000 18.000	0.080 0.110 0.170 0.290
$$$									
ANT150F6 (E)	A	From Leg	4.000 0' 14'	0.000	514'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	4.800 6.828 8.873 13.013 21.034	4.800 6.828 8.873 13.013 21.034	0.030 0.066 0.114 0.249 0.678
PG1NOF-0093-8 (E)	C	From Leg	4.000 0' 5'	0.000	514'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.985 4.013 4.991 6.216 8.776	2.985 4.013 4.991 6.216 8.776	0.028 0.050 0.078 0.155 0.393
Side Arm Mount [SO 312-1] (E)	A	From Leg	2.000 0' 0'	0.000	514'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.970 4.390 5.810 8.650 14.330	4.030 6.120 8.210 12.390 20.750	0.070 0.106 0.143 0.216 0.361
Side Arm Mount [SO 312-1] (E)	C	From Leg	2.000 0' 0'	0.000	514'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.970 4.390 5.810 8.650 14.330	4.030 6.120 8.210 12.390 20.750	0.070 0.106 0.143 0.216 0.361
$$$									
Flush Mount (EMPTY)	A	From Leg	2.000 0' 0'	0.000	505'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.000 2.000 3.000 5.000 9.000	1.000 2.000 3.000 5.000 9.000	0.100 0.150 0.200 0.300 0.500
$$$									
101-68-10-0-03N (E)	B	From Leg	6.000 0' 8'	0.000	492'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.483 7.088 8.708 12.000 16.016	5.483 7.088 8.708 12.000 16.016	0.070 0.109 0.158 0.286 0.671
Side Arm Mount [SO 308-1] (E)	B	From Leg	3.000 0' 0'	0.000	492'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.980 1.700 2.420 3.860 6.740	3.030 5.220 7.410 11.790 20.550	0.053 0.079 0.105 0.156 0.259
$$$									
ATW25HS3-HSO-46H (E)	A	From Leg	1.000 0' 0'	0.000	505' - 475'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	36.157 40.417 44.694 53.299 70.707	36.157 40.417 44.694 53.299 70.707	0.480 0.716 0.979 1.584 3.121
10' x 2" Mount Pipe (E)	B	From Face	1.000 0' 0'	0.000	505'	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.000 3.025 4.067 5.702 8.257	2.000 3.025 4.067 5.702 8.257	0.080 0.096 0.117 0.181 0.394
10' x 2" Mount Pipe (E)	B	From Face	1.000 0' 0'	0.000	495'	No Ice 1/2" Ice 1" Ice 2" Ice	2.000 3.025 4.067 5.702	2.000 3.025 4.067 5.702	0.080 0.096 0.117 0.181

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	8.257	8.257	0.394
10' x 2" Mount Pipe	B	From Face	1.000	0.000	485'	No Ice	2.000	2.000	0.080
(E)			0'			1/2" Ice	3.025	3.025	0.096
			0'			1" Ice	4.067	4.067	0.117
						2" Ice	5.702	5.702	0.181
						4" Ice	8.257	8.257	0.394
10' x 2" Mount Pipe	B	From Face	1.000	0.000	475'	No Ice	2.000	2.000	0.080
(E)			0'			1/2" Ice	3.025	3.025	0.096
			0'			1" Ice	4.067	4.067	0.117
						2" Ice	5.702	5.702	0.181
						4" Ice	8.257	8.257	0.394
Side Arm Mount	A	From Leg	0.500	0.000	475'	No Ice	0.850	1.670	0.065
(E)			0'			1/2" Ice	1.140	2.340	0.079
			0'			1" Ice	1.430	3.010	0.093
						2" Ice	2.010	4.350	0.121
						4" Ice	3.170	7.030	0.177
Side Arm Mount	A	From Leg	0.500	0.000	485'	No Ice	0.850	1.670	0.065
(E)			0'			1/2" Ice	1.140	2.340	0.079
			0'			1" Ice	1.430	3.010	0.093
						2" Ice	2.010	4.350	0.121
						4" Ice	3.170	7.030	0.177
Side Arm Mount	A	From Leg	0.500	0.000	495'	No Ice	0.850	1.670	0.065
(E)			0'			1/2" Ice	1.140	2.340	0.079
			0'			1" Ice	1.430	3.010	0.093
						2" Ice	2.010	4.350	0.121
						4" Ice	3.170	7.030	0.177
Side Arm Mount	A	From Leg	0.500	0.000	505'	No Ice	0.850	1.670	0.065
(E)			0'			1/2" Ice	1.140	2.340	0.079
			0'			1" Ice	1.430	3.010	0.093
						2" Ice	2.010	4.350	0.121
						4" Ice	3.170	7.030	0.177
$$$									
ANT150F6	C	From Leg	4.000	0.000	465'	No Ice	4.800	4.800	0.030
(E)			0'			1/2" Ice	6.828	6.828	0.066
			10'			1" Ice	8.873	8.873	0.114
						2" Ice	13.013	13.013	0.249
						4" Ice	21.034	21.034	0.678
Side Arm Mount [SO 312-1]	C	From Leg	2.000	0.000	465'	No Ice	2.970	4.030	0.070
(E)			0'			1/2" Ice	4.390	6.120	0.106
			0'			1" Ice	5.810	8.210	0.143
						2" Ice	8.650	12.390	0.216
						4" Ice	14.330	20.750	0.361
$$$									
101-68-10-0-03N	B	From Leg	6.000	0.000	442'	No Ice	5.483	5.483	0.070
(E)			0'			1/2" Ice	7.088	7.088	0.109
			8'			1" Ice	8.708	8.708	0.158
						2" Ice	12.000	12.000	0.286
						4" Ice	16.016	16.016	0.671
Side Arm Mount [SO 308-1]	B	From Leg	3.000	0.000	442'	No Ice	0.980	3.030	0.053
(E)			0'			1/2" Ice	1.700	5.220	0.079
			0'			1" Ice	2.420	7.410	0.105
						2" Ice	3.860	11.790	0.156
						4" Ice	6.740	20.550	0.259
$$$									
ANT150F6	A	From Leg	4.000	0.000	438'	No Ice	4.800	4.800	0.030
(E)			0'			1/2" Ice	6.828	6.828	0.066
			10'			1" Ice	8.873	8.873	0.114

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	13.013	13.013	0.249
						4" Ice	21.034	21.034	0.678
ANT150F6	B	From Leg	4.000	0.000	438'	No Ice	4.800	4.800	0.030
(E)			0'			1/2" Ice	6.828	6.828	0.066
			10'			1" Ice	8.873	8.873	0.114
						2" Ice	13.013	13.013	0.249
						4" Ice	21.034	21.034	0.678
13' x 2" Pipe Mount	A	From Face	0.500	0.000	438'	No Ice	3.087	3.087	0.048
(E)			0'			1/2" Ice	4.416	4.416	0.071
			0'			1" Ice	5.760	5.760	0.102
						2" Ice	8.500	8.500	0.191
						4" Ice	11.765	11.765	0.474
13' x 2" Pipe Mount	A	From Face	0.500	0.000	456'	No Ice	3.087	3.087	0.048
(E)			0'			1/2" Ice	4.416	4.416	0.071
			0'			1" Ice	5.760	5.760	0.102
						2" Ice	8.500	8.500	0.191
						4" Ice	11.765	11.765	0.474
Side Arm Mount [SO 308-1]	B	From Leg	2.000	0.000	438'	No Ice	0.980	3.030	0.053
(E)			0'			1/2" Ice	1.700	5.220	0.079
			0'			1" Ice	2.420	7.410	0.105
						2" Ice	3.860	11.790	0.156
						4" Ice	6.740	20.550	0.259
$$$									
101D-90-06-0-03	C	From Leg	6.000	0.000	415'	No Ice	3.500	3.500	0.043
(E)			0'			1/2" Ice	4.537	4.537	0.068
			10'			1" Ice	5.300	5.300	0.100
						2" Ice	6.535	6.535	0.183
						4" Ice	9.116	9.116	0.436
TPRD-1554	B	From Leg	6.000	0.000	415'	No Ice	5.172	2.994	0.020
(E)			0'			1/2" Ice	5.481	3.252	0.056
			10'			1" Ice	5.799	3.517	0.096
						2" Ice	6.460	4.075	0.188
						4" Ice	7.886	5.293	0.429
Side Arm Mount [SO 308-1]	C	From Leg	3.000	0.000	415'	No Ice	0.980	3.030	0.053
(E)			0'			1/2" Ice	1.700	5.220	0.079
			0'			1" Ice	2.420	7.410	0.105
						2" Ice	3.860	11.790	0.156
						4" Ice	6.740	20.550	0.259
$$$									
SC233	B	From Leg	4.000	0.000	388'	No Ice	1.813	1.813	0.004
(E)			0'			1/2" Ice	3.042	3.042	0.018
			14'			1" Ice	4.287	4.287	0.041
						2" Ice	6.829	6.829	0.110
						4" Ice	10.117	10.117	0.347
Side Arm Mount [SO 306-1]	B	From Leg	2.000	0.000	388'	No Ice	0.980	2.180	0.042
(E)			0'			1/2" Ice	1.700	3.800	0.062
			0'			1" Ice	2.420	5.420	0.083
						2" Ice	3.860	8.660	0.123
						4" Ice	6.740	15.140	0.205
$$$									
DB636-C	A	From Leg	2.000	0.000	324'	No Ice	2.512	2.512	0.030
(E)			0'			1/2" Ice	3.587	3.587	0.049
			5'			1" Ice	4.679	4.679	0.074
						2" Ice	6.304	6.304	0.147
						4" Ice	8.973	8.973	0.379
DB636-C	C	From Leg	2.000	0.000	324'	No Ice	2.512	2.512	0.030
(E)			0'			1/2" Ice	3.587	3.587	0.049

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
			5'			1" Ice	4.679	4.679	0.074
						2" Ice	6.304	6.304	0.147
						4" Ice	8.973	8.973	0.379
Side Arm Mount [SO 601-1]	A	From Leg	1.000	0.000	324'	No Ice	1.220	6.300	0.159
(E)			0'			1/2" Ice	1.850	8.610	0.197
			0'			1" Ice	2.480	10.920	0.234
						2" Ice	3.740	15.540	0.310
						4" Ice	6.260	24.780	0.461
Side Arm Mount [SO 601-1]	C	From Leg	1.000	0.000	324'	No Ice	1.220	6.300	0.159
(E)			0'			1/2" Ice	1.850	8.610	0.197
			0'			1" Ice	2.480	10.920	0.234
						2" Ice	3.740	15.540	0.310
						4" Ice	6.260	24.780	0.461
$$$									
DB540K-E	C	From Leg	4.000	0.000	294'	No Ice	4.500	4.500	0.066
(E)			0'			1/2" Ice	6.329	6.329	0.099
			9'			1" Ice	8.175	8.175	0.144
						2" Ice	11.917	11.917	0.268
						4" Ice	18.269	18.269	0.660
Side Arm Mount [SO 306-1]	C	From Leg	2.000	0.000	294'	No Ice	0.980	2.180	0.042
(E)			0'			1/2" Ice	1.700	3.800	0.062
			0'			1" Ice	2.420	5.420	0.083
						2" Ice	3.860	8.660	0.123
						4" Ice	6.740	15.140	0.205
$$$									
DB636-C	A	From Leg	3.000	0.000	288'	No Ice	2.512	2.512	0.030
(E)			0'			1/2" Ice	3.587	3.587	0.049
			5'			1" Ice	4.679	4.679	0.074
						2" Ice	6.304	6.304	0.147
						4" Ice	8.973	8.973	0.379
6"x1' TME	C	From Leg	1.000	0.000	288'	No Ice	0.400	0.400	0.010
(E)			0'			1/2" Ice	0.506	0.506	0.015
			0'			1" Ice	0.622	0.622	0.022
						2" Ice	0.889	0.889	0.040
						4" Ice	1.556	1.556	0.099
Side Arm Mount [SO 601-1]	A	From Leg	1.500	0.000	288'	No Ice	1.220	6.300	0.159
(E)			0'			1/2" Ice	1.850	8.610	0.197
			0'			1" Ice	2.480	10.920	0.234
						2" Ice	3.740	15.540	0.310
						4" Ice	6.260	24.780	0.461
(2) Side Arm Mount [SO 201-1]	C	From Leg	1.000	0.000	288'	No Ice	2.960	2.110	0.096
			0'			1/2" Ice	4.100	2.930	0.117
(E)			0'			1" Ice	5.240	3.750	0.138
						2" Ice	7.520	5.390	0.180
						4" Ice	12.080	8.670	0.264
$$$									
CC806-06	C	From Leg	4.000	0.000	270'	No Ice	1.802	1.802	0.016
(AB)			0'			1/2" Ice	2.170	2.170	0.029
			3'			1" Ice	2.546	2.546	0.047
						2" Ice	3.327	3.327	0.095
						4" Ice	5.000	5.000	0.249
Side Arm Mount [SO 306-1]	C	From Leg	2.000	0.000	270'	No Ice	0.980	2.180	0.042
(AB)			0'			1/2" Ice	1.700	3.800	0.062
			0'			1" Ice	2.420	5.420	0.083
						2" Ice	3.860	8.660	0.123
						4" Ice	6.740	15.140	0.205
$$$									

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
DB806-XC	A	From Leg	4.000	0.000	250'	No Ice	1.140	1.140	0.021
(AB)			0'			1/2" Ice	1.675	1.675	0.030
			4'			1" Ice	2.025	2.025	0.043
						2" Ice	2.753	2.753	0.080
						4" Ice	4.320	4.320	0.208
Side Arm Mount [SO 306-1]	A	From Leg	2.000	0.000	250'	No Ice	0.980	2.180	0.042
(AB)			0'			1/2" Ice	1.700	3.800	0.062
			0'			1" Ice	2.420	5.420	0.083
						2" Ice	3.860	8.660	0.123
						4" Ice	6.740	15.140	0.205
$$$									
(3) 844G65VTZASX w/ Mount Pipe	B	From Leg	4.000	10.000	245'	No Ice	6.132	5.205	0.034
(AB)			0'			1/2" Ice	6.594	5.894	0.087
			1'			1" Ice	7.064	6.591	0.145
						2" Ice	8.037	8.037	0.283
						4" Ice	10.117	11.188	0.672
(3) 844G65VTZASX w/ Mount Pipe	C	From Leg	4.000	10.000	245'	No Ice	6.132	5.205	0.034
(AB)			0'			1/2" Ice	6.594	5.894	0.087
			1'			1" Ice	7.064	6.591	0.145
						2" Ice	8.037	8.037	0.283
						4" Ice	10.117	11.188	0.672
AP859012-42T0 w/ Mount Pipe	B	From Leg	4.000	10.000	245'	No Ice	3.104	4.921	0.025
(AB)			0'			1/2" Ice	3.476	5.596	0.064
			1'			1" Ice	3.879	6.284	0.108
						2" Ice	4.761	7.712	0.217
						4" Ice	6.660	10.833	0.541
AP859012-42T0 w/ Mount Pipe	C	From Leg	4.000	10.000	245'	No Ice	3.104	4.921	0.025
(AB)			0'			1/2" Ice	3.476	5.596	0.064
			1'			1" Ice	3.879	6.284	0.108
						2" Ice	4.761	7.712	0.217
						4" Ice	6.660	10.833	0.541
Sector Mount [SM 502-1]	B	From Leg	2.000	0.000	245'	No Ice	15.350	14.000	0.558
(AB)			0'			1/2" Ice	21.290	20.810	0.741
			0'			1" Ice	27.230	27.620	0.925
						2" Ice	39.110	41.240	1.292
						4" Ice	62.870	68.480	2.027
Sector Mount [SM 502-1]	C	From Leg	2.000	0.000	245'	No Ice	15.350	14.000	0.558
(AB)			0'			1/2" Ice	21.290	20.810	0.741
			0'			1" Ice	27.230	27.620	0.925
						2" Ice	39.110	41.240	1.292
						4" Ice	62.870	68.480	2.027
$$$									
APX16DWV-16DWVS-E-A20 w/ Mount Pipe	A	From Leg	2.000	0.000	237'	No Ice	7.808	3.782	0.064
(P)			0'			1/2" Ice	8.368	4.643	0.115
			3'			1" Ice	8.915	5.382	0.173
						2" Ice	10.040	6.909	0.312
						4" Ice	12.411	10.164	0.716
APX16DWV-16DWVS-E-A20 w/ Mount Pipe	C	From Leg	2.000	0.000	237'	No Ice	7.808	3.782	0.064
(P)			0'			1/2" Ice	8.368	4.643	0.115
			3'			1" Ice	8.915	5.382	0.173
						2" Ice	10.040	6.909	0.312
						4" Ice	12.411	10.164	0.716
(2) KRY 112 71	A	From Leg	2.000	0.000	237'	No Ice	0.681	0.450	0.013
(P)			0'			1/2" Ice	0.802	0.559	0.018
			3'			1" Ice	0.932	0.677	0.025
						2" Ice	1.219	0.939	0.044
						4" Ice	1.896	1.566	0.111

Description	Face or Leg	Offset Type	Offsets: Horz Lateral (ft) / Vert (ft)	Azimuth Adjustment (°)	Placement (ft)		C_AA_A Front (ft^2)	C_AA_A Side (ft^2)	Weight (K)
(2) KRY 112 71	C	From Leg	2.000	0.000	237'	No Ice	0.681	0.450	0.013
(P)			0'			1/2" Ice	0.802	0.559	0.018
			3'			1" Ice	0.932	0.677	0.025
						2" Ice	1.219	0.939	0.044
						4" Ice	1.896	1.566	0.111
Sector Mount [SM 401-1]	A	From Leg	1.000	0.000	237'	No Ice	8.830	7.050	0.268
(E-w/ 2 M Pipes)			0'			1/2" Ice	12.370	10.130	0.388
			0'			1" Ice	15.910	13.210	0.508
						2" Ice	22.990	19.370	0.748
						4" Ice	37.150	31.690	1.228
Sector Mount [SM 401-1]	C	From Leg	1.000	0.000	237'	No Ice	8.830	7.050	0.268
(E-w/ 2 M Pipes)			0'			1/2" Ice	12.370	10.130	0.388
			0'			1" Ice	15.910	13.210	0.508
						2" Ice	22.990	19.370	0.748
						4" Ice	37.150	31.690	1.228
$$$									
742 213 w/ Mount Pipe	A	From Leg	2.000	0.000	214'	No Ice	5.373	4.620	0.049
(E)			0'			1/2" Ice	5.950	6.000	0.094
			0'			1" Ice	6.501	6.982	0.146
						2" Ice	7.611	8.852	0.277
						4" Ice	9.933	12.794	0.683
742 213 w/ Mount Pipe	B	From Leg	2.000	0.000	214'	No Ice	5.373	4.620	0.049
(E)			0'			1/2" Ice	5.950	6.000	0.094
			0'			1" Ice	6.501	6.982	0.146
						2" Ice	7.611	8.852	0.277
						4" Ice	9.933	12.794	0.683
742 213 w/ Mount Pipe	C	From Leg	2.000	0.000	214'	No Ice	5.373	4.620	0.049
(E)			0'			1/2" Ice	5.950	6.000	0.094
			0'			1" Ice	6.501	6.982	0.146
						2" Ice	7.611	8.852	0.277
						4" Ice	9.933	12.794	0.683
$$$									
ANT150F6	C	From Leg	4.000	0.000	212'	No Ice	4.800	4.800	0.030
(E)			0'			1/2" Ice	6.828	6.828	0.066
			10'			1" Ice	8.873	8.873	0.114
						2" Ice	13.013	13.013	0.249
						4" Ice	21.034	21.034	0.678
Side Arm Mount [SO 306-1]	C	From Leg	2.000	0.000	212'	No Ice	0.980	2.180	0.042
(E)			0'			1/2" Ice	1.700	3.800	0.062
			0'			1" Ice	2.420	5.420	0.083
						2" Ice	3.860	8.660	0.123
						4" Ice	6.740	15.140	0.205
$$$									
(4) HPA-65R-BUU-H8 w/	A	From Leg	4.000	0.000	190'	No Ice	13.533	9.582	0.100
Mount Pipe			0'			1/2" Ice	14.335	11.052	0.196
(R)			0'			1" Ice	15.143	12.496	0.303
						2" Ice	16.708	14.752	0.550
						4" Ice	19.954	19.462	1.219
(4) HPA-65R-BUU-H8 w/	B	From Leg	4.000	0.000	190'	No Ice	13.533	9.582	0.100
Mount Pipe			0'			1/2" Ice	14.335	11.052	0.196
(R)			0'			1" Ice	15.143	12.496	0.303
						2" Ice	16.708	14.752	0.550
						4" Ice	19.954	19.462	1.219
(4) HPA-65R-BUU-H8 w/	C	From Leg	4.000	0.000	190'	No Ice	13.533	9.582	0.100
Mount Pipe			0'			1/2" Ice	14.335	11.052	0.196
(R)			0'			1" Ice	15.143	12.496	0.303
						2" Ice	16.708	14.752	0.550

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						4" Ice	19.954	19.462	1.219
(3) RRU-11	A	From Leg	4.000	0.000	190'	No Ice	1.912	1.472	0.044
(R)			0'			1/2" Ice	2.102	1.645	0.060
			0'			1" Ice	2.301	1.827	0.078
						2" Ice	2.725	2.218	0.123
						4" Ice	3.676	3.102	0.254
(3) RRU-11	B	From Leg	4.000	0.000	190'	No Ice	1.912	1.472	0.044
(R)			0'			1/2" Ice	2.102	1.645	0.060
			0'			1" Ice	2.301	1.827	0.078
						2" Ice	2.725	2.218	0.123
						4" Ice	3.676	3.102	0.254
(3) RRU-11	C	From Leg	4.000	0.000	190'	No Ice	1.912	1.472	0.044
(R)			0'			1/2" Ice	2.102	1.645	0.060
			0'			1" Ice	2.301	1.827	0.078
						2" Ice	2.725	2.218	0.123
						4" Ice	3.676	3.102	0.254
RRUS E2 B29	A	From Leg	4.000	0.000	190'	No Ice	3.669	1.488	0.060
(R)			0'			1/2" Ice	3.926	1.673	0.083
			0'			1" Ice	4.191	1.866	0.110
						2" Ice	4.747	2.280	0.173
						4" Ice	5.963	3.211	0.346
RRUS E2 B29	B	From Leg	4.000	0.000	190'	No Ice	3.669	1.488	0.060
(R)			0'			1/2" Ice	3.926	1.673	0.083
			0'			1" Ice	4.191	1.866	0.110
						2" Ice	4.747	2.280	0.173
						4" Ice	5.963	3.211	0.346
RRUS E2 B29	C	From Leg	4.000	0.000	190'	No Ice	3.669	1.488	0.060
(R)			0'			1/2" Ice	3.926	1.673	0.083
			0'			1" Ice	4.191	1.866	0.110
						2" Ice	4.747	2.280	0.173
						4" Ice	5.963	3.211	0.346
RRUS-32 B30	A	From Leg	4.000	0.000	190'	No Ice	3.866	2.762	0.077
(R)			0'			1/2" Ice	4.151	3.021	0.105
			0'			1" Ice	4.444	3.290	0.136
						2" Ice	5.055	3.852	0.211
						4" Ice	6.383	5.081	0.412
RRUS-32 B30	B	From Leg	4.000	0.000	190'	No Ice	3.866	2.762	0.077
(R)			0'			1/2" Ice	4.151	3.021	0.105
			0'			1" Ice	4.444	3.290	0.136
						2" Ice	5.055	3.852	0.211
						4" Ice	6.383	5.081	0.412
RRUS-32 B30	C	From Leg	4.000	0.000	190'	No Ice	3.866	2.762	0.077
(R)			0'			1/2" Ice	4.151	3.021	0.105
			0'			1" Ice	4.444	3.290	0.136
						2" Ice	5.055	3.852	0.211
						4" Ice	6.383	5.081	0.412
DC6-48-60-18-8F	A	From Leg	4.000	0.000	190'	No Ice	2.567	4.317	0.019
(R)			0'			1/2" Ice	2.798	4.596	0.050
			0'			1" Ice	3.038	4.885	0.085
						2" Ice	3.543	5.488	0.167
						4" Ice	4.658	6.797	0.383
(2) DC6-48-60-18-8F	B	From Leg	4.000	0.000	190'	No Ice	2.567	4.317	0.019
(R)			0'			1/2" Ice	2.798	4.596	0.050
			0'			1" Ice	3.038	4.885	0.085
						2" Ice	3.543	5.488	0.167
						4" Ice	4.658	6.797	0.383
DC6-48-60-18-8F	C	From Leg	4.000	0.000	190'	No Ice	2.567	4.317	0.019

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(R)			0'			1/2" Ice	2.798	4.596	0.050
			0'			1" Ice	3.038	4.885	0.085
						2" Ice	3.543	5.488	0.167
						4" Ice	4.658	6.797	0.383
(2) RRUS 12-B2	A	From Leg	4.000	0.000	190'	No Ice	3.667	1.483	0.058
(R)			0'			1/2" Ice	3.924	1.668	0.081
			0'			1" Ice	4.189	1.861	0.108
						2" Ice	4.745	2.274	0.171
						4" Ice	5.960	3.204	0.344
(2) RRUS 12-B2	B	From Leg	4.000	0.000	190'	No Ice	3.667	1.483	0.058
(R)			0'			1/2" Ice	3.924	1.668	0.081
			0'			1" Ice	4.189	1.861	0.108
						2" Ice	4.745	2.274	0.171
						4" Ice	5.960	3.204	0.344
(2) RRUS 12-B2	C	From Leg	4.000	0.000	190'	No Ice	3.667	1.483	0.058
(R)			0'			1/2" Ice	3.924	1.668	0.081
			0'			1" Ice	4.189	1.861	0.108
						2" Ice	4.745	2.274	0.171
						4" Ice	5.960	3.204	0.344
(2) RRUS A2	A	From Leg	4.000	0.000	190'	No Ice	2.411	0.533	0.022
(R)			0'			1/2" Ice	2.619	0.665	0.035
			0'			1" Ice	2.837	0.806	0.050
						2" Ice	3.297	1.114	0.088
						4" Ice	4.322	1.833	0.203
(2) RRUS A2	B	From Leg	4.000	0.000	190'	No Ice	2.411	0.533	0.022
(R)			0'			1/2" Ice	2.619	0.665	0.035
			0'			1" Ice	2.837	0.806	0.050
						2" Ice	3.297	1.114	0.088
						4" Ice	4.322	1.833	0.203
(2) RRUS A2	C	From Leg	4.000	0.000	190'	No Ice	2.411	0.533	0.022
(R)			0'			1/2" Ice	2.619	0.665	0.035
			0'			1" Ice	2.837	0.806	0.050
						2" Ice	3.297	1.114	0.088
						4" Ice	4.322	1.833	0.203
KRF 102 361/1	A	From Leg	4.000	0.000	190'	No Ice	2.262	0.631	0.026
(R)			0'			1/2" Ice	2.465	0.756	0.039
			0'			1" Ice	2.676	0.890	0.055
						2" Ice	3.124	1.185	0.095
						4" Ice	4.125	1.877	0.212
KRF 102 361/1	B	From Leg	4.000	0.000	190'	No Ice	2.262	0.631	0.026
(R)			0'			1/2" Ice	2.465	0.756	0.039
			0'			1" Ice	2.676	0.890	0.055
						2" Ice	3.124	1.185	0.095
						4" Ice	4.125	1.877	0.212
KRF 102 361/1	C	From Leg	4.000	0.000	190'	No Ice	2.262	0.631	0.026
(R)			0'			1/2" Ice	2.465	0.756	0.039
			0'			1" Ice	2.676	0.890	0.055
						2" Ice	3.124	1.185	0.095
						4" Ice	4.125	1.877	0.212
Sector Mount [SM 502-3]	C	None		0.000	190'	No Ice	33.020	33.020	1.673
(R)						1/2" Ice	47.360	47.360	2.224
						1" Ice	61.700	61.700	2.775
						2" Ice	90.380	90.380	3.876
						4" Ice	147.740	147.740	6.080
$$$									
ANT150F6	B	From Leg	6.000	0.000	175'	No Ice	4.800	4.800	0.030
(E)			0'			1/2" Ice	6.828	6.828	0.066

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
			10'			1" Ice	8.873	8.873	0.114
						2" Ice	13.013	13.013	0.249
						4" Ice	21.034	21.034	0.678
Side Arm Mount [SO 602-1]	B	From Leg	3.000	0.000	175'	No Ice	2.720	12.930	0.146
(E)			0'			1/2" Ice	4.110	17.820	0.223
			0'			1" Ice	5.500	22.710	0.301
						2" Ice	8.280	32.490	0.456
						4" Ice	13.840	52.050	0.766
6' x 2" Mount Pipe	B	From Leg	3.000	0.000	193'	No Ice	1.425	1.425	0.022
(E)			0'			1/2" Ice	1.925	1.925	0.033
			0'			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
$$$									
Side Arm Mount [SO 202-1]	C	From Face	1.000	0.000	145'	No Ice	2.960	2.530	0.110
(AB-Empty)			0'			1/2" Ice	4.100	3.510	0.134
			0'			1" Ice	5.240	4.490	0.157
						2" Ice	7.520	6.450	0.204
						4" Ice	12.080	10.370	0.298
$$$									
6"x1' TME	B	From Leg	1.000	0.000	138'	No Ice	0.400	0.400	0.010
(E)			0'			1/2" Ice	0.506	0.506	0.015
			0'			1" Ice	0.622	0.622	0.022
						2" Ice	0.889	0.889	0.040
						4" Ice	1.556	1.556	0.099
Pipe Mount [PM 601-1]	B	From Leg	1.000	0.000	138'	No Ice	3.000	0.900	0.065
(EMPTY)			0'			1/2" Ice	3.740	1.120	0.079
			0'			1" Ice	4.480	1.340	0.093
						2" Ice	5.960	1.780	0.122
						4" Ice	8.920	2.660	0.178
Side Arm Mount [SO 201-1]	B	From Leg	1.000	0.000	138'	No Ice	2.960	2.110	0.096
(EMPTY)			0'			1/2" Ice	4.100	2.930	0.117
			0'			1" Ice	5.240	3.750	0.138
						2" Ice	7.520	5.390	0.180
						4" Ice	12.080	8.670	0.264
$$$									
6"x1' TME	B	From Leg	1.000	0.000	134'	No Ice	0.400	0.400	0.010
(E)			0'			1/2" Ice	0.506	0.506	0.015
			0'			1" Ice	0.622	0.622	0.022
						2" Ice	0.889	0.889	0.040
						4" Ice	1.556	1.556	0.099
TME	B	From Leg	1.000	0.000	134'	No Ice	0.400	0.400	0.010
(E)			0'			1/2" Ice	0.506	0.506	0.015
			0'			1" Ice	0.622	0.622	0.022
						2" Ice	0.889	0.889	0.040
						4" Ice	1.556	1.556	0.099
$$$									
201-8	C	From Leg	2.000	0.000	112'	No Ice	1.058	1.058	0.004
(E)			0'			1/2" Ice	1.886	1.886	0.013
			4'			1" Ice	2.730	2.730	0.027
						2" Ice	3.972	3.972	0.072
						4" Ice	6.073	6.073	0.231
Flush Mount	C	From Leg	1.000	0.000	112'	No Ice	1.000	1.000	0.100
(E)			0'			1/2" Ice	2.000	2.000	0.150
			0'			1" Ice	3.000	3.000	0.200
						2" Ice	5.000	5.000	0.300
						4" Ice	9.000	9.000	0.500

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
$$$									
ANT150F2	A	From Leg	2.000	0.000	91'	No Ice	1.227	1.227	0.013
(E)			0'			1/2" Ice	1.530	1.530	0.022
			3'			1" Ice	1.842	1.842	0.035
						2" Ice	2.494	2.494	0.072
						4" Ice	3.967	3.967	0.194
Flush Mount	A	From Leg	1.000	0.000	91'	No Ice	1.000	1.000	0.100
(E)			0'			1/2" Ice	2.000	2.000	0.150
			0'			1" Ice	3.000	3.000	0.200
						2" Ice	5.000	5.000	0.300
						4" Ice	9.000	9.000	0.500
$$$									
Side Arm Mount [SO 301-1]	C	From Leg	1.000	0.000	80'	No Ice	1.000	0.900	0.023
(E)			0'			1/2" Ice	1.390	1.420	0.033
			0'			1" Ice	1.780	1.940	0.042
						2" Ice	2.560	2.980	0.061
						4" Ice	4.120	5.060	0.100
$$$									
Acutime 2000	C	From Leg	2.000	0.000	76'	No Ice	0.297	0.297	0.001
(E)			0'			1/2" Ice	0.374	0.374	0.005
			0'			1" Ice	0.459	0.459	0.010
						2" Ice	0.655	0.655	0.025
						4" Ice	1.151	1.151	0.079
Side Arm Mount [SO 301-1]	C	From Leg	1.000	0.000	76'	No Ice	1.000	0.900	0.023
(E)			0'			1/2" Ice	1.390	1.420	0.033
			0'			1" Ice	1.780	1.940	0.042
						2" Ice	2.560	2.980	0.061
						4" Ice	4.120	5.060	0.100
$$$									

Dishes

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
andrew P2F-52	C	Paraboloid	From	1.000	0.000		288'	2.000	No Ice	3.100	0.017
(E)		w/Radome	Leg	0'					1/2" Ice	3.407	0.034
				0'					1" Ice	3.714	0.052
									2" Ice	4.328	0.087
									4" Ice	5.557	0.157
$$$											
SPD2-5.8	A	Paraboloid	From	1.000	30.000		138'	2.000	No Ice	3.140	0.022
(E)		w/Radome	Leg	0'					1/2" Ice	3.407	0.039
				0'					1" Ice	3.674	0.057
									2" Ice	4.208	0.092
									4" Ice	5.277	0.162
$$$											
SPD2-5.8	A	Paraboloid	From	1.000	-10.000		134'	2.000	No Ice	3.140	0.022
(E)		w/Radome	Leg	0'					1/2" Ice	3.407	0.039

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
				0'					1" Ice	3.674	0.057
									2" Ice	4.208	0.092
									4" Ice	5.277	0.162
$$$											
A-ANT-11G-4-C (E)	C	Paraboloid w/o Radome	From Leg	1.000 0' 1'	-50.000		80'	4.222	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	14.000 14.558 15.116 16.232 18.465	0.121 0.150 0.179 0.237 0.353
$$$											

Load Combinations

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

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
T1	560 - 553.75	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	17	-0.826	-0.056	0.032
			Max. Mx	11	-0.431	-0.388	0.001
			Max. My	2	-0.489	0.003	-0.396
			Max. Vy	11	-0.208	0.207	0.001
			Max. Vx	2	-0.219	0.003	0.219
		Diagonal	Max Tension	11	0.309	0.000	0.000
			Max. Compression	11	-0.534	0.000	0.000
			Max. Mx	15	-0.282	0.090	0.000
			Max. My	3	-0.317	0.000	-0.001
			Max. Vy	15	-0.048	0.000	0.000
			Max. Vx	3	0.000	0.000	0.000
		Top Girt	Max Tension	4	0.248	-0.002	0.000
			Max. Compression	10	-0.255	-0.032	-0.000
			Max. Mx	19	0.040	0.079	0.000
			Max. My	8	-0.132	-0.045	-0.001
			Max. Vy	21	0.090	-0.029	-0.000
			Max. Vx	4	0.000	-0.043	-0.001
		Inner Bracing	Max Tension	10	0.004	0.000	0.000
			Max. Compression	10	-0.004	0.000	0.000
			Max. Mx	25	0.001	-0.029	0.000
			Max. My	4	0.002	0.000	0.000
			Max. Vy	25	0.029	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
T2	553.75 - 547.5	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	23	-2.095	-0.014	0.006
			Max. Mx	11	-0.346	0.207	0.001
			Max. My	2	-0.521	0.003	0.219
			Max. Vy	11	0.096	0.204	0.004
			Max. Vx	2	0.104	-0.003	0.216
		Diagonal	Max Tension	11	1.429	0.000	0.000
			Max. Compression	11	-1.561	0.000	0.000
			Max. Mx	15	-0.532	0.063	0.000
			Max. My	3	-0.799	0.000	-0.000
			Max. Vy	15	-0.034	0.000	0.000
			Max. Vx	3	0.000	0.000	0.000
		Horizontal	Max Tension	4	0.899	0.000	0.000
			Max. Compression	10	-0.859	-0.021	-0.004
			Max. Mx	23	-0.148	-0.045	-0.002
			Max. My	2	-0.014	-0.018	0.008
			Max. Vy	23	0.055	-0.045	-0.002
			Max. Vx	2	-0.002	-0.018	0.008
		Inner Bracing	Max Tension	2	0.005	0.000	0.000
			Max. Compression	8	-0.004	0.000	0.000
			Max. Mx	25	0.001	-0.029	0.000
			Max. My	4	-0.004	0.000	0.000
			Max. Vy	25	0.029	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
T3	547.5 - 541.25	Leg	Max Tension	8	1.198	0.007	0.057
			Max. Compression	10	-7.836	0.111	-0.060
			Max. Mx	5	-2.480	0.277	0.018
			Max. My	2	-0.459	-0.017	-0.259
			Max. Vy	11	-0.127	0.112	-0.016
			Max. Vx	2	-0.123	-0.017	0.089
		Diagonal	Max Tension	5	2.960	0.000	0.000
		Top Girt	Max Tension	6	0.241	0.000	0.000
			Max. Compression	10	-1.198	0.000	0.000
			Max. Mx	25	0.015	0.261	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	9	-1.071	0.000	-0.000
			Max. Vy	25	-0.131	0.000	0.000
			Max. Vx	9	0.000	0.000	0.000
T4	541.25 - 535	Leg	Max Tension	8	3.693	0.003	-0.078
			Max. Compression	10	-12.628	0.018	-0.007
			Max. Mx	11	-10.340	0.112	-0.016
			Max. My	2	-11.996	-0.002	0.105
			Max. Vy	11	0.064	0.112	-0.016
			Max. Vx	2	0.063	-0.002	0.105
		Diagonal	Max Tension	5	3.819	0.000	0.000
		Top Girt	Max Tension	6	0.143	0.000	0.000
			Max. Compression	11	-2.668	0.000	0.000
			Max. Mx	25	-0.092	0.177	0.000
			Max. My	9	-2.516	0.000	-0.000
			Max. Vy	25	-0.088	0.000	0.000
			Max. Vx	9	0.000	0.000	0.000
T5	535 - 510	Leg	Max Tension	4	21.143	-0.237	0.207
			Max. Compression	10	-38.903	0.274	-0.234
			Max. Mx	11	-5.100	0.393	0.012
			Max. My	2	10.003	0.047	0.386
			Max. Vy	10	0.205	0.133	-0.047
			Max. Vx	8	0.196	-0.037	-0.381
		Diagonal	Max Tension	9	6.275	0.000	0.000
		Horizontal	Max Tension	10	0.674	0.000	0.000
			Max. Compression	5	-4.640	0.000	0.000
			Max. Mx	25	0.228	0.176	0.000
			Max. My	9	0.553	0.000	-0.000
			Max. Vy	25	-0.088	0.000	0.000
			Max. Vx	9	0.000	0.000	0.000
		Top Girt	Max Tension	6	0.047	0.000	0.000
			Max. Compression	5	-3.225	0.000	0.000
			Max. Mx	25	-0.074	0.176	0.000
			Max. My	9	-3.043	0.000	-0.000
			Max. Vy	25	-0.088	0.000	0.000
			Max. Vx	9	0.000	0.000	0.000
T6	510 - 485	Leg	Max Tension	4	42.394	0.161	-0.061
			Max. Compression	10	-75.322	0.313	-0.085
			Max. Mx	11	-34.458	1.719	-0.018
			Max. My	2	16.986	0.420	1.656
			Max. Vy	10	-0.521	1.645	-0.399
			Max. Vx	2	-0.618	0.420	1.656
		Diagonal	Max Tension	5	11.120	0.000	0.000
		Horizontal	Max Tension	10	16.641	0.000	0.000
			Max. Compression	9	-6.675	0.000	0.000
			Max. Mx	20	0.963	0.176	0.000
			Max. My	4	1.047	0.000	0.000
			Max. Vy	20	-0.088	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Top Girt	Max Tension	19	0.097	0.000	0.000
			Max. Compression	9	-5.392	0.000	0.000
			Max. Mx	25	-0.133	0.176	0.000
			Max. My	4	-4.336	0.000	0.000
			Max. Vy	25	-0.088	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Guy A	Bottom Tension	8	80.984		
			Top Tension	8	83.949		
			Top Cable Vert	8	74.017		
			Top Cable Norm	8	39.609		
			Top Cable Tan	8	0.008		
			Bot Cable Vert	8	-69.534		
			Bot Cable Norm	8	41.515		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Bot Cable Tan	8	0.008		
		Guy B	Bottom Tension	12	80.080		
			Top Tension	12	82.966		
			Top Cable Vert	12	72.695		
			Top Cable Norm	12	39.986		
			Top Cable Tan	12	0.004		
			Bot Cable Vert	12	-68.287		
			Bot Cable Norm	12	41.829		
			Bot Cable Tan	12	0.004		
		Guy C	Bottom Tension	4	82.411		
			Top Tension	4	85.476		
			Top Cable Vert	4	75.926		
			Top Cable Norm	4	39.261		
			Top Cable Tan	4	0.011		
			Bot Cable Vert	4	-71.347		
			Bot Cable Norm	4	41.246		
			Bot Cable Tan	4	0.011		
T7	485 - 460	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	21	-71.786	-0.004	-0.152
			Max. Mx	11	-41.073	0.583	0.212
			Max. My	9	-51.671	-0.023	-0.617
			Max. Vy	11	0.203	0.401	0.323
			Max. Vx	8	-0.186	-0.058	-0.514
		Diagonal	Max Tension	5	10.806	0.000	0.000
		Horizontal	Max Tension	21	1.243	0.000	0.000
			Max. Compression	5	-8.298	0.000	0.000
			Max. Mx	22	1.215	0.175	0.000
			Max. My	4	1.188	0.000	0.000
			Max. Vy	22	-0.087	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Top Girt	Max Tension	1	0.000	0.000	0.000
			Max. Compression	5	-8.513	0.000	0.000
			Max. Mx	22	-1.790	0.175	0.000
			Max. My	4	-7.190	0.000	0.000
			Max. Vy	22	-0.087	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
T8	460 - 435	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	8	-87.057	0.082	0.128
			Max. Mx	12	-38.055	-0.646	-0.132
			Max. My	2	-70.311	0.261	-0.682
			Max. Vy	12	0.195	-0.072	-0.042
			Max. Vx	9	0.267	-0.129	0.205
		Diagonal	Max Tension	5	6.917	0.000	0.000
		Horizontal	Max Tension	8	1.508	0.000	0.000
			Max. Compression	5	-5.278	0.000	0.000
			Max. Mx	24	1.371	0.132	0.000
			Max. My	4	1.494	0.000	0.000
			Max. Vy	24	-0.066	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Top Girt	Max Tension	15	0.019	0.000	0.000
			Max. Compression	5	-6.005	0.000	0.000
			Max. Mx	20	-1.246	0.132	0.000
			Max. My	4	-5.056	0.000	0.000
			Max. Vy	20	-0.066	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
T9	435 - 410	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	8	-90.466	-0.202	0.307
			Max. Mx	4	-36.456	0.524	-0.253
			Max. My	8	-38.411	-0.008	0.598
			Max. Vy	11	0.209	-0.239	-0.064
			Max. Vx	7	-0.229	0.163	0.234

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Diagonal	Max Tension	6	3.180	0.000	0.000
		Horizontal	Max Tension	8	1.567	0.000	0.000
			Max. Compression	6	-2.350	0.000	0.000
			Max. Mx	25	0.971	0.131	0.000
			Max. My	4	1.559	0.000	0.000
			Max. Vy	25	-0.066	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Top Girt	Max Tension	2	0.093	0.000	0.000
			Max. Compression	6	-3.067	0.000	0.000
			Max. Mx	25	-0.419	0.131	0.000
			Max. My	4	-2.054	0.000	0.000
			Max. Vy	25	-0.066	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
T10	410 - 385	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	8	-89.460	0.008	0.196
			Max. Mx	5	-20.489	0.388	-0.094
			Max. My	7	-58.845	0.066	0.406
			Max. Vy	4	0.143	-0.208	0.189
			Max. Vx	2	-0.182	-0.038	0.255
		Diagonal	Max Tension	13	4.997	0.000	0.000
		Horizontal	Max Tension	8	1.549	0.000	0.000
			Max. Compression	13	-3.669	0.000	0.000
			Max. Mx	25	1.093	0.130	0.000
			Max. My	4	1.538	0.000	0.000
			Max. Vy	25	-0.065	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Top Girt	Max Tension	20	0.051	0.000	0.000
			Max. Compression	12	-1.938	0.000	0.000
			Max. Mx	25	-0.267	0.130	0.000
			Max. My	4	-0.519	0.000	0.000
			Max. Vy	25	-0.065	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
T11	385 - 360	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	21	-85.031	0.003	0.099
			Max. Mx	11	-65.914	0.661	0.008
			Max. My	2	-65.303	-0.059	0.716
			Max. Vy	11	-0.177	0.621	0.085
			Max. Vx	2	-0.197	-0.059	0.716
		Diagonal	Max Tension	13	8.050	0.000	0.000
		Horizontal	Max Tension	21	1.473	0.000	0.000
			Max. Compression	13	-6.172	0.000	0.000
			Max. Mx	16	1.325	0.132	0.000
			Max. My	4	1.325	0.000	0.000
			Max. Vy	16	0.066	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Top Girt	Max Tension	10	0.229	0.000	0.000
			Max. Compression	13	-4.440	0.000	0.000
			Max. Mx	26	-0.783	0.132	0.000
			Max. My	4	-3.164	0.000	0.000
			Max. Vy	26	0.066	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
T12	360 - 335	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	10	-100.071	0.537	-0.264
			Max. Mx	11	-66.527	0.661	0.008
			Max. My	8	-87.249	0.059	-0.720
			Max. Vy	11	0.166	0.621	0.085
			Max. Vx	2	0.187	-0.059	0.716
		Diagonal	Max Tension	13	11.159	0.000	0.000
		Horizontal	Max Tension	10	1.733	0.000	0.000
			Max. Compression	13	-8.618	0.000	0.000
			Max. Mx	16	1.555	0.170	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	4	1.509	0.000	0.000
			Max. Vy	16	0.085	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Top Girt	Max Tension	35	0.024	0.000	0.000
			Max. Compression	13	-6.912	0.000	0.000
			Max. Mx	16	-1.840	0.170	0.000
			Max. My	4	-5.577	0.000	0.000
			Max. Vy	16	0.085	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
T13	335 - 310	Leg	Max Tension	4	12.299	0.550	-0.263
			Max. Compression	10	-143.213	0.633	-0.245
			Max. Mx	11	-51.100	4.176	-0.074
			Max. My	8	-40.501	-0.119	-3.998
			Max. Vy	11	-0.815	4.176	-0.074
			Max. Vx	8	0.780	-0.119	-3.998
		Diagonal	Max Tension	11	14.610	0.000	0.000
		Horizontal	Max Tension	10	19.530	0.000	0.000
			Max. Compression	13	-10.130	0.000	0.000
			Max. Mx	26	2.215	0.169	0.000
			Max. My	4	2.113	0.000	0.000
			Max. Vy	26	-0.085	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Top Girt	Max Tension	19	0.088	0.000	0.000
			Max. Compression	13	-9.272	0.000	0.000
			Max. Mx	16	-2.417	0.169	0.000
			Max. My	4	-7.846	0.000	0.000
			Max. Vy	16	-0.085	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Guy A	Bottom Tension	8	66.430		
			Top Tension	8	67.786		
			Top Cable Vert	8	50.887		
			Top Cable Norm	8	44.782		
			Top Cable Tan	8	0.006		
			Bot Cable Vert	8	-48.462		
			Bot Cable Norm	8	45.436		
			Bot Cable Tan	8	0.006		
		Guy B	Bottom Tension	12	65.612		
			Top Tension	12	66.910		
			Top Cable Vert	12	49.258		
			Top Cable Norm	12	45.283		
			Top Cable Tan	12	0.015		
			Bot Cable Vert	12	-46.893		
			Bot Cable Norm	12	45.891		
			Bot Cable Tan	12	0.015		
		Guy C	Bottom Tension	4	67.659		
			Top Tension	4	69.089		
			Top Cable Vert	4	53.057		
			Top Cable Norm	4	44.252		
			Top Cable Tan	4	0.020		
			Bot Cable Vert	4	-50.556		
			Bot Cable Norm	4	44.965		
			Bot Cable Tan	4	0.020		
T14	310 - 285	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	10	-129.478	-0.099	0.047
			Max. Mx	11	-94.639	1.157	0.159
			Max. My	7	-105.896	-0.004	-1.180
			Max. Vy	5	0.329	-1.118	0.169
			Max. Vx	2	-0.303	-0.000	1.044
		Diagonal	Max Tension	11	14.827	0.000	0.000
		Horizontal	Max Tension	10	2.243	0.000	0.000
			Max. Compression	11	-11.559	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	15	2.152	0.168	0.000
			Max. My	4	2.003	0.000	0.000
			Max. Vy	15	-0.084	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Top Girt	Max Tension	14	0.137	0.000	0.000
			Max. Compression	11	-11.385	0.000	0.000
			Max. Mx	15	-4.230	0.168	0.000
			Max. My	4	-9.437	0.000	0.000
			Max. Vy	15	-0.084	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
T15	285 - 260	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	17	-140.989	-0.152	0.017
			Max. Mx	11	-84.095	1.157	0.159
			Max. My	2	-73.347	-0.000	1.044
			Max. Vy	11	0.279	1.157	0.159
			Max. Vx	2	0.260	-0.000	1.044
		Diagonal	Max Tension	11	10.857	0.000	0.000
		Horizontal	Max Tension	17	2.442	0.000	0.000
			Max. Compression	11	-8.506	0.000	0.000
			Max. Mx	16	2.112	0.126	0.000
			Max. My	4	2.321	0.000	0.000
			Max. Vy	16	-0.063	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
		Top Girt	Max Tension	2	0.327	0.000	0.000
			Max. Compression	11	-9.224	0.000	0.000
			Max. Mx	15	-3.404	0.126	0.000
			Max. My	4	-7.468	0.000	0.000
			Max. Vy	15	-0.063	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
T16	260 - 235	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	3	-156.914	0.365	-0.185
			Max. Mx	5	-151.993	1.859	0.181
			Max. My	10	-134.257	-0.296	1.685
			Max. Vy	11	0.648	-0.250	-0.127
			Max. Vx	6	-0.566	0.316	0.233
		Diagonal	Max Tension	11	7.707	0.000	0.000
		Horizontal	Max Tension	3	2.718	0.000	0.000
			Max. Compression	11	-5.869	0.000	0.000
			Max. Mx	19	2.516	0.125	0.000
			Max. My	5	2.692	0.000	0.000
			Max. Vy	19	-0.062	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
		Top Girt	Max Tension	2	0.144	0.000	0.000
			Max. Compression	11	-6.602	0.000	0.000
			Max. Mx	19	-0.439	0.125	0.000
			Max. My	4	-5.222	0.000	0.000
			Max. Vy	19	-0.062	0.000	0.000
			Max. Vx	4	-0.000	0.000	0.000
T17	235 - 210	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	17	-159.479	-0.141	0.089
			Max. Mx	11	-111.602	-0.722	0.043
			Max. My	8	-72.010	0.086	0.757
			Max. Vy	5	0.259	-0.305	0.159
			Max. Vx	8	0.282	-0.018	-0.252
		Diagonal	Max Tension	5	3.091	0.000	0.000
		Horizontal	Max Tension	17	2.762	0.000	0.000
			Max. Compression	17	-2.762	0.000	0.000
			Max. Mx	19	2.592	0.123	0.000
			Max. My	5	2.722	0.000	0.000
			Max. Vy	19	0.062	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Top Girt	Max Tension	15	0.188	0.000	0.000
			Max. Compression	10	-1.953	0.000	0.000
			Max. Mx	19	0.112	0.123	0.000
			Max. My	5	-0.461	0.000	0.000
			Max. Vy	19	0.062	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
T18	210 - 185	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	17	-159.164	0.159	-0.089
			Max. Mx	5	-144.867	2.466	-0.087
			Max. My	2	-138.891	-0.085	-2.728
			Max. Vy	11	1.772	-0.124	-0.015
			Max. Vx	8	-1.807	-0.032	0.167
		Diagonal	Max Tension	5	12.238	0.000	0.000
		Horizontal	Max Tension	17	2.757	0.000	0.000
			Max. Compression	5	-7.457	0.000	0.000
			Max. Mx	19	2.655	0.122	0.000
			Max. My	5	2.680	0.000	0.000
			Max. Vy	19	0.061	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
		Top Girt	Max Tension	2	0.306	0.000	0.000
			Max. Compression	5	-3.167	0.000	0.000
			Max. Mx	19	-0.041	0.122	0.000
			Max. My	5	-3.167	0.000	0.000
			Max. Vy	19	0.061	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
T19	185 - 160	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	20	-153.936	-0.570	-0.583
			Max. Mx	3	-127.796	-1.356	0.896
			Max. My	9	-125.998	0.098	-1.602
			Max. Vy	4	0.283	-1.305	0.834
			Max. Vx	9	0.342	0.098	-1.602
		Diagonal	Max Tension	5	18.054	0.000	0.000
		Horizontal	Max Tension	20	2.666	0.000	0.000
			Max. Compression	5	-14.138	0.000	0.000
			Max. Mx	19	2.634	0.161	0.000
			Max. My	5	2.346	0.000	0.000
			Max. Vy	19	-0.081	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
		Top Girt	Max Tension	2	0.584	0.000	0.000
			Max. Compression	5	-10.941	0.000	0.000
			Max. Mx	19	-0.064	0.161	0.000
			Max. My	5	-10.941	0.000	0.000
			Max. Vy	19	-0.081	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
T20	160 - 135	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	24	-172.902	0.270	-0.180
			Max. Mx	5	-100.949	-4.977	0.267
			Max. My	8	-69.458	-0.052	-5.008
			Max. Vy	5	-0.987	-4.977	0.267
			Max. Vx	8	-0.986	-0.052	-5.008
		Diagonal	Max Tension	5	17.893	0.000	0.000
		Horizontal	Max Tension	2	21.040	0.000	0.000
			Max. Compression	9	-8.633	0.000	0.000
			Max. Mx	23	2.898	0.159	0.000
			Max. My	5	3.376	0.000	0.000
			Max. Vy	23	-0.080	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
		Top Girt	Max Tension	14	0.148	0.000	0.000
			Max. Compression	5	-13.902	0.000	0.000
			Max. Mx	19	-0.197	0.159	0.000
			Max. My	5	-13.902	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	19	-0.080	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
		Guy A	Bottom Tension	8	48.484		
			Top Tension	8	48.893		
			Top Cable Vert	8	21.590		
			Top Cable Norm	8	43.868		
			Top Cable Tan	8	0.004		
			Bot Cable Vert	8	-20.503		
			Bot Cable Norm	8	43.935		
			Bot Cable Tan	8	0.004		
		Guy B	Bottom Tension	12	47.702		
			Top Tension	12	48.071		
			Top Cable Vert	12	19.537		
			Top Cable Norm	12	43.922		
			Top Cable Tan	12	0.014		
			Bot Cable Vert	12	-18.486		
			Bot Cable Norm	12	43.974		
			Bot Cable Tan	12	0.014		
		Guy C	Bottom Tension	4	49.376		
			Top Tension	4	49.837		
			Top Cable Vert	4	24.132		
			Top Cable Norm	4	43.605		
			Top Cable Tan	4	0.015		
			Bot Cable Vert	4	-22.996		
			Bot Cable Norm	4	43.694		
			Bot Cable Tan	4	0.015		
T21	135 - 110	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	17	-186.483	-0.007	0.038
			Max. Mx	4	-129.266	-0.639	0.292
			Max. My	8	-130.187	-0.028	-0.637
			Max. Vy	5	-0.172	-0.619	0.087
			Max. Vx	8	-0.178	-0.028	-0.637
		Diagonal	Max Tension	9	9.084	0.000	0.000
		Horizontal	Max Tension	17	3.230	0.000	0.000
			Max. Compression	9	-6.986	0.000	0.000
			Max. Mx	23	3.141	0.157	0.000
			Max. My	5	2.604	0.000	0.000
			Max. Vy	23	-0.079	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
		Top Girt	Max Tension	6	0.358	0.000	0.000
			Max. Compression	9	-7.673	0.000	0.000
			Max. Mx	23	0.127	0.157	0.000
			Max. My	5	-6.006	0.000	0.000
			Max. Vy	23	-0.079	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
T22	110 - 85	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	17	-200.988	0.063	-0.063
			Max. Mx	6	-82.881	0.715	-0.162
			Max. My	16	-176.054	0.343	-0.744
			Max. Vy	6	-0.125	0.160	0.137
			Max. Vx	3	0.111	0.123	-0.162
		Diagonal	Max Tension	4	6.095	0.000	0.000
		Horizontal	Max Tension	17	3.481	0.000	0.000
			Max. Compression	3	-4.618	0.000	0.000
			Max. Mx	23	3.311	0.114	0.000
			Max. My	5	2.897	0.000	0.000
			Max. Vy	23	0.057	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
		Top Girt	Max Tension	19	0.132	0.000	0.000
			Max. Compression	9	-5.150	0.000	0.000
			Max. Mx	23	-0.019	0.114	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	5	-3.101	0.000	0.000
			Max. Vy	23	0.057	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
T23	85 - 60	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	17	-207.980	0.103	-0.023
			Max. Mx	12	-112.623	-0.750	-0.417
			Max. My	15	-194.048	-0.251	-0.983
			Max. Vy	6	0.177	0.164	0.089
			Max. Vx	13	-0.252	-0.403	-0.413
		Diagonal	Max Tension	4	3.466	0.000	0.000
		Horizontal	Max Tension	17	3.602	0.000	0.000
			Max. Compression	17	-3.602	0.000	0.000
			Max. Mx	23	3.412	0.111	0.000
			Max. My	5	3.010	0.000	0.000
			Max. Vy	23	-0.056	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
		Top Girt	Max Tension	9	0.119	0.000	0.000
			Max. Compression	4	-3.049	0.000	0.000
			Max. Mx	23	-0.138	0.111	0.000
			Max. My	5	-0.283	0.000	0.000
			Max. Vy	23	-0.056	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
T24	60 - 35	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	17	-208.779	0.106	-0.056
			Max. Mx	24	-182.659	-0.803	-0.088
			Max. My	12	-167.852	-0.181	-0.677
			Max. Vy	24	0.120	-0.086	0.012
			Max. Vx	12	-0.107	-0.128	-0.026
		Diagonal	Max Tension	5	5.670	0.000	0.000
		Horizontal	Max Tension	17	3.616	0.000	0.000
			Max. Compression	10	-4.205	0.000	0.000
			Max. Mx	23	3.443	0.107	0.000
			Max. My	5	3.008	0.000	0.000
			Max. Vy	23	0.054	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
		Top Girt	Max Tension	18	0.071	0.000	0.000
			Max. Compression	10	-2.666	0.000	0.000
			Max. Mx	23	-0.286	0.107	0.000
			Max. My	5	-2.448	0.000	0.000
			Max. Vy	23	0.054	0.000	0.000
			Max. Vx	5	-0.000	0.000	0.000
T25	35 - 10	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	17	-206.515	0.132	-0.069
			Max. Mx	5	-141.860	-2.157	-1.257
			Max. My	8	-153.026	0.040	-2.625
			Max. Vy	17	0.449	-2.123	1.511
			Max. Vx	8	0.558	0.040	-2.625
		Diagonal	Max Tension	5	8.275	0.000	0.000
		Horizontal	Max Tension	17	3.577	0.000	0.000
			Max. Compression	5	-5.916	0.000	0.000
			Max. Mx	23	3.440	0.104	0.000
			Max. My	10	2.734	0.000	0.000
			Max. Vy	23	-0.052	0.000	0.000
			Max. Vx	10	-0.000	0.000	0.000
		Top Girt	Max Tension	30	0.034	0.000	0.000
			Max. Compression	5	-4.746	0.000	0.000
			Max. Mx	23	-0.340	0.104	0.000
			Max. My	10	-1.609	0.000	-0.000
			Max. Vy	23	-0.052	0.000	0.000
			Max. Vx	10	0.000	0.000	0.000
T26	10 - 0	Leg	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	17	-218.848	-0.355	1.513
			Max. Mx	4	-162.542	2.670	-1.061
			Max. My	11	-155.723	-0.261	-7.444
			Max. Vy	17	0.805	-1.254	-0.168
			Max. Vx	11	1.511	-0.179	-7.316
		Diagonal	Max Tension	11	2.603	0.000	0.000
			Max. Compression	5	-3.145	0.000	0.000
			Max. Mx	19	1.159	-0.043	0.000
			Max. My	18	-1.015	0.000	0.016
			Max. Vy	19	-0.026	0.000	0.000
			Max. Vx	18	-0.010	0.000	0.000
		Horizontal	Max Tension	17	4.068	0.000	0.000
			Max. Compression	17	-4.068	-0.584	-0.475
			Max. Mx	19	-4.034	-0.591	-0.473
			Max. My	23	-4.017	-0.576	-0.482
			Max. Vy	19	0.316	0.000	0.000
			Max. Vx	23	0.246	0.000	0.000
		Top Girt	Max Tension	15	51.785	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	19	51.533	0.256	0.000
			Max. My	19	48.438	0.000	0.059
			Max. Vy	19	-0.128	0.000	0.000
			Max. Vx	19	0.030	0.000	0.000
		Inner Bracing	Max Tension	1	0.000	0.000	0.000
			Max. Compression	15	-0.267	0.000	0.000
			Max. Mx	14	-0.259	-0.006	0.000
			Max. My	10	-0.202	0.000	-0.000
			Max. Vy	14	0.013	0.000	0.000
			Max. Vx	10	0.000	0.000	0.000

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Mast	Max. Vert	19	578.618	-3.420	-1.661
	Max. H_x	11	422.046	5.815	-0.193
	Max. H_z	2	428.944	-0.052	6.528
	Max. M_x	1	0.000	-0.043	0.040
	Max. M_z	1	0.000	-0.043	0.040
	Max. Torsion	11	10.667	5.815	-0.193
	Min. Vert	1	382.089	-0.043	0.040
	Min. H_x	5	427.151	-5.865	-0.092
	Min. H_z	8	415.725	-0.099	-5.533
	Min. M_x	1	0.000	-0.043	0.040
	Min. M_z	1	0.000	-0.043	0.040
	Min. Torsion	5	-10.546	-5.865	-0.092
Guy C @ 265 ft Elev 12.9193 ft Azimuth 240 deg	Max. Vert	10	-7.032	-5.640	3.259
	Max. H_x	10	-7.032	-5.640	3.259
	Max. H_z	4	-144.900	-112.524	64.913
	Min. Vert	4	-144.900	-112.524	64.913
	Min. H_x	4	-144.900	-112.524	64.913
	Min. H_z	10	-7.032	-5.640	3.259
Guy B @ 265 ft Elev 40.9193 ft	Max. Vert	6	-5.152	5.299	3.062

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Azimuth 120 deg					
	Max. H_x	12	-133.666	114.067	65.818
	Max. H_z	12	-133.666	114.067	65.818
	Min. Vert	12	-133.666	114.067	65.818
	Min. H_x	6	-5.152	5.299	3.062
	Min. H_z	6	-5.152	5.299	3.062
Guy A @ 265 ft Elev 28.7005 ft Azimuth 0 deg	Max. Vert	2	-5.996	-0.000	-6.290
	Max. H_x	11	-75.573	2.828	-70.463
	Max. H_z	2	-5.996	-0.000	-6.290
	Min. Vert	8	-138.499	-0.018	-130.886
	Min. H_x	5	-72.940	-2.848	-68.337
	Min. H_z	8	-138.499	-0.018	-130.886

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	382.089	0.043	-0.040	0.000	0.000	-0.044
Dead+Wind 0 deg - No Ice+Guy	428.944	0.052	-6.528	0.000	0.000	-0.369
Dead+Wind 30 deg - No Ice+Guy	426.028	2.726	-5.377	0.000	0.000	6.901
Dead+Wind 60 deg - No Ice+Guy	417.128	4.788	-2.952	0.000	0.000	9.889
Dead+Wind 90 deg - No Ice+Guy	427.151	5.865	0.092	0.000	0.000	10.546
Dead+Wind 120 deg - No Ice+Guy	431.959	5.482	3.089	0.000	0.000	9.216
Dead+Wind 150 deg - No Ice+Guy	425.115	3.203	4.939	0.000	0.000	5.584
Dead+Wind 180 deg - No Ice+Guy	415.725	0.099	5.533	0.000	0.000	-0.499
Dead+Wind 210 deg - No Ice+Guy	423.341	-3.082	4.946	0.000	0.000	-7.841
Dead+Wind 240 deg - No Ice+Guy	426.097	-5.462	3.080	0.000	0.000	-10.575
Dead+Wind 270 deg - No Ice+Guy	422.046	-5.815	0.193	0.000	0.000	-10.667
Dead+Wind 300 deg - No Ice+Guy	414.758	-4.722	-2.967	0.000	0.000	-10.372
Dead+Wind 330 deg - No Ice+Guy	422.692	-2.614	-5.440	0.000	0.000	-5.997
Dead+Ice+Temp+Guy	571.682	0.067	-0.216	0.000	0.000	-0.255
Dead+Wind 0 deg+Ice+Temp+Guy	577.821	0.131	-4.049	0.000	0.000	-1.773
Dead+Wind 30 deg+Ice+Temp+Guy	576.822	1.715	-3.214	0.000	0.000	1.192
Dead+Wind 60 deg+Ice+Temp+Guy	576.329	2.898	-1.783	0.000	0.000	2.159
Dead+Wind 90 deg+Ice+Temp+Guy	577.262	3.502	-0.140	0.000	0.000	4.006
Dead+Wind 120 deg+Ice+Temp+Guy	578.618	3.420	1.661	0.000	0.000	4.807
Dead+Wind 150	577.099	1.874	2.699	0.000	0.000	3.851

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
deg+Ice+Temp+Guy Dead+Wind 180	576.074	0.078	3.012	0.000	0.000	1.078
deg+Ice+Temp+Guy Dead+Wind 210	576.371	-1.656	2.699	0.000	0.000	-1.495
deg+Ice+Temp+Guy Dead+Wind 240	577.238	-3.226	1.630	0.000	0.000	-2.932
deg+Ice+Temp+Guy Dead+Wind 270	576.174	-3.302	-0.129	0.000	0.000	-3.921
deg+Ice+Temp+Guy Dead+Wind 300	575.701	-2.702	-1.796	0.000	0.000	-3.977
deg+Ice+Temp+Guy Dead+Wind 330	576.460	-1.512	-3.228	0.000	0.000	-3.936
deg+Ice+Temp+Guy Dead+Wind 0 deg - Service+Guy	385.335	0.034	-2.588	0.000	0.000	-0.367
Dead+Wind 30 deg - Service+Guy	384.948	1.146	-2.170	0.000	0.000	2.763
Dead+Wind 60 deg - Service+Guy	384.825	2.010	-1.212	0.000	0.000	3.561
Dead+Wind 90 deg - Service+Guy	385.023	2.408	-0.012	0.000	0.000	4.080
Dead+Wind 120 deg - Service+Guy	385.463	2.213	1.177	0.000	0.000	3.658
Dead+Wind 150 deg - Service+Guy	385.133	1.286	1.967	0.000	0.000	2.205
Dead+Wind 180 deg - Service+Guy	385.039	0.065	2.233	0.000	0.000	-0.269
Dead+Wind 210 deg - Service+Guy	385.131	-1.186	1.966	0.000	0.000	-3.161
Dead+Wind 240 deg - Service+Guy	385.415	-2.122	1.156	0.000	0.000	-4.163
Dead+Wind 270 deg - Service+Guy	385.193	-2.313	0.026	0.000	0.000	-4.058
Dead+Wind 300 deg - Service+Guy	385.111	-1.921	-1.206	0.000	0.000	-3.747
Dead+Wind 330 deg - Service+Guy	385.112	-1.045	-2.180	0.000	0.000	-2.377

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.000	-201.082	0.000	0.001	201.082	-0.000	0.000%
2	0.379	-201.513	-110.511	-0.378	201.512	110.495	0.007%
3	54.338	-201.119	-94.065	-54.339	201.119	94.048	0.007%
4	93.234	-200.720	-54.315	-93.228	200.720	54.316	0.003%
5	108.221	-201.152	-0.440	-108.206	201.152	0.450	0.008%
6	95.435	-201.573	54.957	-95.420	201.572	-54.949	0.008%
7	53.916	-201.114	93.461	-53.900	201.114	-93.455	0.007%
8	-0.271	-200.650	107.479	0.277	200.650	-107.476	0.003%
9	-54.411	-201.044	93.849	54.397	201.044	-93.842	0.007%
10	-95.782	-201.444	55.388	95.768	201.443	-55.379	0.007%
11	-108.189	-201.011	0.361	108.176	201.011	-0.350	0.007%
12	-92.872	-200.591	-53.764	92.871	200.591	53.763	0.001%
13	-53.695	-201.049	-93.723	53.698	201.049	93.709	0.006%
14	0.000	-361.352	0.000	0.002	361.352	0.005	0.002%
15	0.162	-361.603	-54.285	-0.160	361.603	54.275	0.003%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
16	26.366	-361.371	-45.604	-26.362	361.371	45.596	0.002%
17	45.041	-361.137	-26.167	-45.035	361.137	26.164	0.002%
18	52.503	-361.389	-0.165	-52.496	361.389	0.167	0.002%
19	46.904	-361.635	27.010	-46.897	361.635	-27.008	0.002%
20	26.144	-361.369	45.371	-26.138	361.369	-45.366	0.002%
21	-0.135	-361.101	51.935	0.137	361.101	-51.928	0.002%
22	-26.383	-361.333	45.552	26.377	361.333	-45.545	0.003%
23	-47.058	-361.567	27.236	47.054	361.567	-27.232	0.002%
24	-52.495	-361.315	0.147	52.489	361.315	-0.145	0.002%
25	-44.882	-361.069	-25.912	44.877	361.069	25.913	0.001%
26	-26.090	-361.335	-45.433	26.089	361.335	45.424	0.002%
27	0.148	-201.250	-43.168	-0.148	201.250	43.165	0.002%
28	21.226	-201.096	-36.744	-21.225	201.096	36.742	0.001%
29	36.420	-200.940	-21.217	-36.418	200.940	21.217	0.001%
30	42.274	-201.109	-0.172	-42.272	201.109	0.173	0.001%
31	37.279	-201.273	21.468	-37.276	201.273	-21.464	0.002%
32	21.061	-201.094	36.508	-21.053	201.094	-36.504	0.004%
33	-0.106	-200.913	41.984	0.106	200.913	-41.983	0.001%
34	-21.254	-201.067	36.660	21.253	201.067	-36.659	0.001%
35	-37.415	-201.223	21.636	37.413	201.223	-21.635	0.001%
36	-42.261	-201.054	0.141	42.260	201.054	-0.140	0.001%
37	-36.278	-200.890	-21.002	36.276	200.890	21.001	0.001%
38	-20.975	-201.069	-36.611	20.975	201.069	36.602	0.004%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	40	0.00000001	0.00007524
2	Yes	44	0.00008710	0.00003343
3	Yes	39	0.00008957	0.00003359
4	Yes	25	0.00008344	0.00001720
5	Yes	40	0.00009575	0.00003523
6	Yes	46	0.00009587	0.00003762
7	Yes	39	0.00009861	0.00003383
8	Yes	23	0.00008040	0.00001165
9	Yes	37	0.00008910	0.00003275
10	Yes	41	0.00009224	0.00003515
11	Yes	36	0.00009983	0.00003474
12	Yes	22	0.00009628	0.00001493
13	Yes	38	0.00008725	0.00002920
14	Yes	18	0.00010000	0.00005176
15	Yes	25	0.00000001	0.00001802
16	Yes	25	0.00000001	0.00001764
17	Yes	25	0.00000001	0.00001702
18	Yes	26	0.00000001	0.00001551
19	Yes	27	0.00000001	0.00001535
20	Yes	25	0.00000001	0.00001720
21	Yes	24	0.00000001	0.00001788
22	Yes	24	0.00000001	0.00001940
23	Yes	27	0.00000001	0.00001394
24	Yes	25	0.00000001	0.00001322
25	Yes	25	0.00000001	0.00001331
26	Yes	24	0.00000001	0.00001784
27	Yes	23	0.00000001	0.00001400
28	Yes	24	0.00000001	0.00000996

29	Yes	24	0.00000001	0.00000999
30	Yes	24	0.00000001	0.00001050
31	Yes	22	0.00000001	0.00002006
32	Yes	19	0.00000001	0.00002300
33	Yes	24	0.00000001	0.00001263
34	Yes	24	0.00000001	0.00001077
35	Yes	24	0.00000001	0.00001073
36	Yes	25	0.00000001	0.00000881
37	Yes	21	0.00000001	0.00001028
38	Yes	19	0.00000001	0.00002141

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	560 - 553.75	5.173	29	0.030	0.498
T2	553.75 - 547.5	5.134	29	0.030	0.497
T3	547.5 - 541.25	5.092	29	0.030	0.497
T4	541.25 - 535	5.045	29	0.030	0.496
T5	535 - 510	4.995	29	0.029	0.495
T6	510 - 485	4.792	29	0.023	0.491
T7	485 - 460	4.674	29	0.014	0.499
T8	460 - 435	4.718	29	0.015	0.545
T9	435 - 410	4.730	29	0.022	0.609
T10	410 - 385	4.590	29	0.031	0.695
T11	385 - 360	4.282	29	0.038	0.747
T12	360 - 335	3.911	29	0.040	0.743
T13	335 - 310	3.568	29	0.034	0.720
T14	310 - 285	3.360	29	0.023	0.713
T15	285 - 260	3.433	29	0.020	0.766
T16	260 - 235	3.575	31	0.026	0.843
T17	235 - 210	3.617	31	0.039	0.864
T18	210 - 185	3.350	31	0.053	0.776
T19	185 - 160	2.908	31	0.063	0.717
T20	160 - 135	2.350	31	0.064	0.649
T21	135 - 110	2.084	31	0.059	0.616
T22	110 - 85	1.905	31	0.062	0.557
T23	85 - 60	1.677	27	0.069	0.475
T24	60 - 35	1.299	27	0.078	0.326
T25	35 - 10	0.780	31	0.086	0.201
T26	10 - 0	0.191	31	0.090	0.100

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
560'	Lightning Rod 5/8" x 3'	29	5.173	0.030	0.498	510536
557'	AP19-1670/090D/DT2	29	5.154	0.030	0.498	510536
545'	Platform w/ Handrail	29	5.074	0.030	0.497	76140
514'	ANT150F6	29	4.822	0.024	0.491	115457
505'	Flush Mount	29	4.757	0.021	0.490	60489
500'	ATW25HS3-HSO-46H	29	4.726	0.019	0.491	45872
495'	ATW25HS3-HSO-46H	29	4.701	0.017	0.492	36945
492'	101-68-10-0-03N	29	4.690	0.016	0.493	33082

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
491'3"	Guy	29	4.687	0.015	0.494	32239
490'	ATW25HS3-HSO-46H	29	4.684	0.015	0.494	30926
485'	ATW25HS3-HSO-46H	29	4.674	0.014	0.499	28462
480'	ATW25HS3-HSO-46H	29	4.674	0.013	0.505	35638
475'	Side Light	29	4.680	0.013	0.512	54005
465'	ANT150F6	29	4.705	0.014	0.533	343347
456'	13' x 2" Pipe Mount	29	4.727	0.016	0.555	74850
442'	101-68-10-0-03N	29	4.739	0.020	0.592	55587
438'	ANT150F6	29	4.735	0.021	0.602	50269
415'	101D-90-06-0-03	29	4.632	0.029	0.677	35542
388'	SC233	29	4.325	0.037	0.744	87045
324'	DB636-C	29	3.446	0.029	0.712	31145
316'3"	Guy	29	3.386	0.026	0.710	21520
315'	Flash Beacon Lighting	29	3.379	0.025	0.710	20486
312'	Flash Beacon Lighting	29	3.366	0.024	0.712	18644
294'	DB540K-E	29	3.388	0.020	0.741	59807
288'	andrew P2F-52	29	3.418	0.020	0.757	487354
270'	CC806-06	31	3.521	0.023	0.814	151725
250'	DB806-XC	31	3.619	0.031	0.865	36138
245'	(3) 844G65VTZASX w/ Mount Pipe	31	3.630	0.034	0.870	25354
237'	APX16DWV-16DWVS-E-A20 w/ Mount Pipe	31	3.624	0.038	0.867	17409
214'	742 213 w/ Mount Pipe	31	3.407	0.051	0.790	47193
212'	ANT150F6	31	3.379	0.052	0.783	54655
193'	6' x 2" Mount Pipe	31	3.070	0.061	0.735	33584
190'	(4) HPA-65R-BUU-H8 w/ Mount Pipe	31	3.012	0.062	0.728	30123
175'	ANT150F6	31	2.674	0.065	0.689	167815
157'	Side Light	31	2.301	0.063	0.643	16061
153'9"	Guy	31	2.255	0.062	0.638	18538
145'	Side Arm Mount [SO 202-1]	31	2.161	0.061	0.628	32756
138'	SPD2-5.8	31	2.106	0.060	0.620	83946
134'	SPD2-5.8	31	2.077	0.059	0.614	236598
112'	201-8	31	1.920	0.061	0.562	118879
91'	ANT150F2	27	1.741	0.067	0.500	47639
81'	A-ANT-11G-4-C	27	1.628	0.070	0.454	41641
80'	Side Arm Mount [SO 301-1]	27	1.615	0.071	0.449	42070
76'	Acutime 2000	27	1.560	0.072	0.426	43937

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	560 - 553.75	15.592	3	0.111	1.046
T2	553.75 - 547.5	15.480	3	0.111	1.045
T3	547.5 - 541.25	15.364	3	0.111	1.045
T4	541.25 - 535	15.232	3	0.110	1.043
T5	535 - 510	15.093	3	0.108	1.040
T6	510 - 485	14.545	5	0.092	1.031
T7	485 - 460	14.222	5	0.068	1.053
T8	460 - 435	14.321	6	0.071	1.146
T9	435 - 410	14.563	6	0.088	1.286
T10	410 - 385	14.476	6	0.109	1.414
T11	385 - 360	13.955	6	0.126	1.506
T12	360 - 335	13.213	6	0.130	1.525

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T13	335 - 310	12.484	6	0.114	1.483
T14	310 - 285	12.034	6	0.082	1.476
T15	285 - 260	12.229	6	0.072	1.573
T16	260 - 235	12.450	6	0.085	1.705
T17	235 - 210	12.351	6	0.122	1.710
T18	210 - 185	11.519	6	0.170	1.540
T19	185 - 160	10.220	6	0.207	1.431
T20	160 - 135	8.577	6	0.217	1.285
T21	135 - 110	7.551	6	0.213	1.206
T22	110 - 85	6.667	6	0.225	1.098
T23	85 - 60	5.611	6	0.248	0.935
T24	60 - 35	4.225	6	0.275	0.700
T25	35 - 10	2.532	6	0.297	0.473
T26	10 - 0	0.655	6	0.309	0.255

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
560'	Lightning Rod 5/8" x 3'	3	15.592	0.111	1.046	193704
557'	AP19-1670/090D/DT2	3	15.538	0.111	1.045	193704
545'	Platform w/ Handrail	3	15.313	0.110	1.044	30437
514'	ANT150F6	5	14.626	0.096	1.032	45519
505'	Flush Mount	5	14.451	0.087	1.031	24565
500'	ATW25HS3-HSO-46H	5	14.369	0.082	1.033	18906
495'	ATW25HS3-HSO-46H	5	14.301	0.076	1.037	15366
492'	101-68-10-0-03N	5	14.268	0.073	1.041	13815
491'3"	Guy	5	14.261	0.073	1.042	13474
490'	ATW25HS3-HSO-46H	5	14.251	0.072	1.043	12943
485'	ATW25HS3-HSO-46H	5	14.222	0.068	1.053	11964
480'	ATW25HS3-HSO-46H	5	14.217	0.067	1.065	15045
475'	Side Light	5	14.231	0.066	1.080	22992
465'	ANT150F6	5	14.286	0.069	1.121	200058
456'	13' x 2" Pipe Mount	6	14.376	0.074	1.169	33804
442'	101-68-10-0-03N	6	14.522	0.083	1.251	24251
438'	ANT150F6	6	14.548	0.086	1.272	22126
415'	101D-90-06-0-03	6	14.528	0.105	1.383	15670
388'	SC233	6	14.034	0.124	1.499	30433
324'	DB636-C	6	12.218	0.100	1.470	13480
316'3"	Guy	6	12.087	0.089	1.469	9309
315'	Flash Beacon Lighting	6	12.072	0.088	1.470	8860
312'	Flash Beacon Lighting	6	12.045	0.084	1.473	8061
294'	DB540K-E	6	12.118	0.072	1.528	24324
288'	andrew P2F-52	6	12.191	0.072	1.557	119902
270'	CC806-06	6	12.383	0.077	1.658	41851
250'	DB806-XC	6	12.478	0.098	1.731	14674
245'	(3) 844G65VTZASX w/ Mount Pipe	6	12.464	0.105	1.734	11188
237'	APX16DWV-16DWVS-E-A20 w/ Mount Pipe	6	12.385	0.119	1.718	8114
214'	742 213 w/ Mount Pipe	6	11.689	0.162	1.566	19216
212'	ANT150F6	6	11.605	0.166	1.552	21889
193'	6' x 2" Mount Pipe	6	10.693	0.198	1.465	12734
190'	(4) HPA-65R-BUU-H8 w/ Mount Pipe	6	10.523	0.202	1.453	11578
175'	ANT150F6	6	9.547	0.214	1.374	92456
157'	Side Light	6	8.418	0.216	1.271	7210

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
153'9"	Guy	6	8.261	0.216	1.258	8348
145'	Side Arm Mount [SO 202-1]	6	7.901	0.214	1.228	14991
138'	SPD2-5.8	6	7.653	0.213	1.213	39947
134'	SPD2-5.8	6	7.517	0.213	1.203	119532
112'	201-8	6	6.742	0.224	1.108	51513
91'	ANT150F2	6	5.891	0.242	0.983	19802
81'	A-ANT-11G-4-C	6	5.413	0.253	0.899	17927
80'	Side Arm Mount [SO 301-1]	6	5.362	0.254	0.890	18314
76'	Acutime 2000	6	5.151	0.258	0.853	20077

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	560	Diagonal	A325N	1.000	2	0.155	17.219	0.009 ✔	1.333	Member Block Shear
T2	553.75	Diagonal	A325N	0.625	2	0.714	9.584	0.075 ✔	1.333	Member Block Shear
		Horizontal	A325N	0.875	2	0.450	16.041	0.028 ✔	1.333	Member Block Shear
T3	547.5	Diagonal	A325N	0.875	2	1.480	12.628	0.117 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.625	2	0.599	12.885	0.046 ✔	1.333	Bolt Shear
T4	541.25	Diagonal	A325N	0.875	2	1.910	12.628	0.151 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.750	2	1.334	18.555	0.072 ✔	1.333	Bolt Shear
T5	535	Leg	A325N	0.750	6	1.197	19.439	0.062 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.875	2	3.138	12.628	0.248 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.750	2	2.320	18.555	0.125 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.750	2	1.613	18.555	0.087 ✔	1.333	Bolt Shear
T6	510	Leg	A325N	0.750	6	4.578	19.439	0.236 ✔	1.333	Bolt Tension
		Diagonal	A325N	1.000	2	5.560	16.493	0.337 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.750	2	8.321	14.863	0.560 ✔	1.333	Member Block Shear
		Top Girt	A325N	0.750	2	2.696	18.555	0.145 ✔	1.333	Bolt Shear
T7	485	Leg	A325N	0.750	6	0.000	19.439	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.875	2	5.403	12.628	0.428 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.750	2	4.149	18.555	0.224 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.750	2	4.257	18.555	0.229 ✔	1.333	Bolt Shear
T8	460	Leg	A325N	0.750	6	0.000	19.439	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.625	2	3.458	6.443	0.537 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.625	2	2.639	12.885	0.205 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.625	2	3.002	12.885	0.233 ✔	1.333	Bolt Shear
T9	435	Leg	A325N	0.750	6	0.000	19.439	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.625	2	1.590	6.443	0.247 ✔	1.333	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Horizontal	A325N	0.625	2	1.175	12.885	0.091 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.625	2	1.534	12.885	0.119 ✔	1.333	Bolt Shear
T10	410	Leg	A325N	0.750	6	0.000	19.439	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.625	2	2.498	6.443	0.388 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.625	2	1.835	12.885	0.142 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.625	2	0.969	12.885	0.075 ✔	1.333	Bolt Shear
T11	385	Leg	A325N	0.750	6	0.000	19.439	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.625	2	4.025	6.443	0.625 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.625	2	3.086	12.885	0.239 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.625	2	2.220	12.885	0.172 ✔	1.333	Bolt Shear
T12	360	Leg	A325N	0.750	6	0.000	19.439	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.875	2	5.579	12.628	0.442 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.750	2	4.309	18.555	0.232 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.750	2	3.456	18.555	0.186 ✔	1.333	Bolt Shear
T13	335	Leg	A325N	1.000	6	0.000	34.557	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	1.000	2	7.305	16.493	0.443 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.750	2	9.765	14.863	0.657 ✔	1.333	Member Block Shear
		Top Girt	A325N	0.750	2	4.636	18.555	0.250 ✔	1.333	Bolt Shear
T14	310	Leg	A325N	1.000	6	0.000	34.557	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.875	2	7.414	12.628	0.587 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.750	2	5.780	18.555	0.311 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.750	2	5.693	18.555	0.307 ✔	1.333	Bolt Shear
T15	285	Leg	A325N	0.750	6	0.000	19.439	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.625	2	5.428	6.443	0.843 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.625	2	4.253	12.885	0.330 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.625	2	4.612	12.885	0.358 ✔	1.333	Bolt Shear
T16	260	Leg	A325N	0.750	6	0.000	19.439	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.625	2	3.853	6.443	0.598 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.625	2	2.935	12.885	0.228 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.625	2	3.301	12.885	0.256 ✔	1.333	Bolt Shear
T17	235	Leg	A325N	0.750	6	0.000	19.439	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.625	2	1.545	6.443	0.240 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.625	2	1.112	9.584	0.116 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	2	0.976	12.885	0.076 ✔	1.333	Bolt Shear
T18	210	Leg	A325N	0.750	6	0.000	19.439	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.750	2	6.119	9.278	0.660 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.625	2	3.728	12.885	0.289 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.625	2	1.583	12.885	0.123 ✔	1.333	Bolt Shear
T19	185	Leg	A325N	1.000	6	0.000	34.557	0.000 ✔	1.333	Bolt Tension

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Diagonal	A325N	0.875	2	9.027	12.628	0.715 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.750	2	7.069	18.555	0.381 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.750	2	5.471	18.555	0.295 ✔	1.333	Bolt Shear
T20	160	Leg	A325N	1.000	6	0.000	34.557	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	1.000	2	8.946	16.493	0.542 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.750	2	10.520	14.863	0.708 ✔	1.333	Member Block Shear
		Top Girt	A325N	0.750	2	6.951	18.555	0.375 ✔	1.333	Bolt Shear
T21	135	Leg	A325N	1.000	6	0.000	34.557	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.875	2	4.542	12.628	0.360 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.750	2	3.493	18.555	0.188 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.750	2	3.837	18.555	0.207 ✔	1.333	Bolt Shear
T22	110	Leg	A325N	1.000	6	0.000	34.557	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.750	2	3.047	9.278	0.328 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.625	2	1.500	9.584	0.157 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	2	2.575	12.885	0.200 ✔	1.333	Bolt Shear
T23	85	Leg	A325N	1.000	6	0.000	34.557	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.750	2	1.733	9.278	0.187 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.625	2	1.550	9.584	0.162 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	2	1.525	12.885	0.118 ✔	1.333	Bolt Shear
T24	60	Leg	A325N	1.000	6	0.000	34.557	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.750	2	2.835	9.278	0.306 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.625	2	1.594	9.584	0.166 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	2	1.333	12.885	0.103 ✔	1.333	Bolt Shear
T25	35	Leg	A325N	1.000	6	0.000	34.557	0.000 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.750	2	4.138	9.278	0.446 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.625	2	2.958	12.885	0.230 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.625	2	2.373	12.885	0.184 ✔	1.333	Bolt Shear
T26	10	Leg	A325N	0.750	8	0.000	19.438	0.000 ✔	1.333	Bolt Tension

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T K	Allowable T_a K	Required S.F.	Actual S.F.
T6	491'3" (A) (900)	1 3/4 BS	37.600	376.000	83.949	188.000	2.000	4.479 ✔
	491'3" (B) (899)	1 3/4 BS	37.600	376.000	82.966	188.000	2.000	4.532 ✔

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T K	Allowable T_a K	Required S.F.	Actual S.F.
	491'3" (C) (898)	1 3/4 BS	37.600	376.000	85.476	188.000	2.000	4.399 ✔
T13	316'3" (A) (897)	1 1/2 BS	27.600	275.999	67.786	138.000	2.000	4.072 ✔
	316'3" (B) (896)	1 1/2 BS	27.600	275.999	66.910	138.000	2.000	4.125 ✔
	316'3" (C) (895)	1 1/2 BS	27.600	275.999	69.089	138.000	2.000	3.995 ✔
T20	153'9" (A) (894)	1 1/4 BS	19.200	192.000	48.893	96.000	2.000	3.927 ✔
	153'9" (B) (893)	1 1/4 BS	19.200	192.000	48.071	96.000	2.000	3.994 ✔
	153'9" (C) (892)	1 1/4 BS	19.200	192.000	49.837	96.000	2.000	3.853 ✔

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	Mast Stability Index	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	560 - 553.75	4	6'3"	6'3"	75.0 K=1.00	1.00	19.993	12.566	-0.825	251.245	0.003* ✔
T2	553.75 - 547.5	4	6'3"	6'3"	75.0 K=1.00	1.00	19.993	12.566	-1.923	251.245	0.008* ✔
T3	547.5 - 541.25	4	6'3"	6'3"	75.0 K=1.00	1.00	19.993	12.566	-7.836	251.245	0.031 ✔
T4	541.25 - 535	4	6'3"	6'3"	75.0 K=1.00	1.00	19.993	12.566	-12.628	251.245	0.050 ✔
T5	535 - 510	4	25'	6'3"	75.0 K=1.00	1.00	19.993	12.566	-38.904	251.245	0.155 ✔
T6	510 - 485	4 1/2	25'	6'3"	66.7 K=1.00	1.00	21.547	15.904	-75.322	342.693	0.220 ✔
T7	485 - 460	4 1/2	25'	6'3"	66.7 K=1.00	1.00	21.547	15.904	-58.007	342.693	0.169* ✔
T8	460 - 435	4 3/4	25'	6'3"	63.2 K=1.00	1.00	22.171	17.721	-87.057	392.886	0.222 ✔
T9	435 - 410	4 3/4	25'	6'3"	63.2 K=1.00	1.00	22.171	17.721	-90.466	392.886	0.230 ✔
T10	410 - 385	4 3/4	25'	6'3"	63.2 K=1.00	1.00	22.171	17.721	-89.460	392.886	0.228 ✔
T11	385 - 360	4 3/4	25'	6'3"	63.2 K=1.00	1.00	22.171	17.721	-73.319	392.886	0.187* ✔
T12	360 - 335	4 3/4	25'	6'3"	63.2 K=1.00	1.00	22.171	17.721	-77.405	392.886	0.197* ✔
T13	335 - 310	5 1/4	25'	6'3"	57.1 K=1.00	1.00	23.199	21.647	-140.100	502.206	0.279 ✔
T14	310 - 285	5	25'	6'3"	60.0	1.00	22.718	19.635	-114.377	446.057	0.256*

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	Mast Stability Index	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T15	285 - 260	4 3/4	25'	6'3"	K=1.00 63.2	1.00	22.171	17.721	-118.283	392.886	0.301* ✔
T16	260 - 235	4 3/4	25'	6'3"	K=1.00 63.2	1.00	22.171	17.721	-123.851	392.886	0.315* ✔
T17	235 - 210	4 3/4	25'	6'3"	K=1.00 63.2	1.00	22.171	17.721	-128.368	392.886	0.327* ✔
T18	210 - 185	5	25'	6'3"	K=1.00 60.0	1.00	22.718	19.635	-137.387	446.057	0.308* ✔
T19	185 - 160	5 1/4	25'	6'3"	K=1.00 57.1	1.00	23.199	21.647	-143.909	502.206	0.287* ✔
T20	160 - 135	5 1/2	25'	6'3"	K=1.00 54.5	1.00	23.627	23.758	-162.184	561.330	0.289* ✔
T21	135 - 110	5 1/4	25'	6'3"	K=1.00 57.1	1.00	23.199	21.647	-167.931	502.206	0.334* ✔
T22	110 - 85	5 1/4	25'	6'3"	K=1.00 57.1	1.00	23.199	21.647	-173.198	502.206	0.345* ✔
T23	85 - 60	5 1/4	25'	6'3"	K=1.00 57.1	1.00	23.199	21.647	-179.006	502.206	0.356* ✔
T24	60 - 35	5 1/4	25'	6'3"	K=1.00 57.1	1.00	23.199	21.647	-184.061	502.206	0.367* ✔
T25	35 - 10	5 1/4	25'	6'3"	K=1.00 57.1	1.00	23.199	21.647	-188.915	502.206	0.376* ✔
T26	10 - 0	5 1/4	11'3/16"	5'6-3/32"	K=1.00 50.4	1.00	24.295	21.647	-210.121	525.932	0.400* ✔

* DL controls

Diagonal Design Data (Compression)

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 $\frac{P}{P_a}$
T1	560 - 553.75	2L3x3x1/4x3/8	7'5-1/32"	6'6-11/32"	102.1 K=1.21	12.708	2.880	-0.534	36.600	0.015 ✔
T2	553.75 - 547.5	2L2 1/2x2x3/16x3/8	7'5-1/32"	6'8-19/32"	128.6 K=1.00	9.036	1.620	-1.561	14.638	0.107 ✔
T26	10 - 0	2L 'a' > 35.487 in - 20 L3x3 1/2x5/16	6'6-1/16"	6'1-31/32"	119.0 K=1.01	10.427	1.930	-3.145	20.123	0.156 ✔

Horizontal Design Data (Compression)

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 $\frac{P}{P_a}$
T2	553.75 - 547.5	2L3x2 1/2x1/4x3/8	8'	3'6-7/8"	82.7 K=1.82	15.054	2.630	-0.859	39.591	0.022 ✔
T5	535 - 510	2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	105.8 K=1.16	12.235	2.630	-4.640	32.177	0.144 ✔
T6	510 - 485	2L 'a' > 41.884 in - 67 2L3x2 1/2x1/4x3/8	8'	7'2"	105.5 K=1.16	12.269	2.630	-6.675	32.268	0.207 ✔
T7	485 - 460	2L 'a' > 41.779 in - 117 2L3x2 1/2x1/4x3/8	8'	7'2"	105.5 K=1.16	12.269	2.630	-8.298	32.268	0.257 ✔
T8	460 - 435	2L 'a' > 41.779 in - 163 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	114.5 K=1.05	11.052	1.620	-5.278	17.904	0.295 ✔
T9	435 - 410	2L 'a' > 36.681 in - 202 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	114.5 K=1.05	11.052	1.620	-2.350	17.904	0.131 ✔
T10	410 - 385	2L 'a' > 36.681 in - 241 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	114.5 K=1.05	11.052	1.620	-3.669	17.904	0.205 ✔
T11	385 - 360	2L 'a' > 36.681 in - 263 2L2x2x1/4x3/8	8'	7'2-1/2"	133.6 K=0.94	8.372	1.880	-6.172	15.740	0.392 ✔
T12	360 - 335	2L 'a' > 39.164 in - 302 2L3x2 1/2x1/4x3/8	8'	7'1-3/4"	105.4 K=1.16	12.287	2.630	-8.618	32.313	0.267 ✔
T13	335 - 310	2L 'a' > 41.727 in - 341 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	105.1 K=1.17	12.321	2.630	-10.130	32.404	0.313 ✔
T14	310 - 285	2L 'a' > 41.622 in - 398 2L3x2 1/2x1/4x3/8	8'	7'1-1/2"	105.2 K=1.16	12.304	2.630	-11.559	32.359	0.357 ✔
T15	285 - 260	2L 'a' > 41.674 in - 436 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	114.5 K=1.05	11.052	1.620	-8.506	17.904	0.475 ✔
T16	260 - 235	2L 'a' > 36.681 in - 475 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	114.5 K=1.05	11.052	1.620	-5.869	17.904	0.328 ✔
T17	235 - 210	2L 'a' > 36.681 in - 514 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	114.5 K=1.05	11.052	1.620	-2.223	17.904	0.124* ✔
T18	210 - 185	2L 'a' > 36.681 in - 535 2L2 1/2x2x3/16x3/8	8'	7'2-1/4"	114.4 K=1.05	11.074	1.620	-7.457	17.939	0.416 ✔
T19	185 - 160	2L 'a' > 36.631 in - 574 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	105.1 K=1.17	12.321	2.630	-14.138	32.404	0.436 ✔
T20	160 - 135	2L 'a' > 41.622 in - 613 2L3x2 1/2x1/4x3/8	8'	7'1"	105.0 K=1.17	12.338	2.630	-8.633	32.450	0.266 ✔
T21	135 - 110	2L 'a' > 41.570 in - 654 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	105.1 K=1.17	12.321	2.630	-6.986	32.404	0.216 ✔
T22	110 - 85	2L 'a' > 41.622 in - 711 2L2 1/2x2x3/16x3/8	8'	7'2"	114.2 K=1.05	11.095	1.620	-4.618	17.975	0.257 ✔

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 $\frac{P}{P_a}$
T23	85 - 60	2L 'a' > 36.580 in - 750 2L2 1/2x2x3/16x3/8	8'	7'2"	114.2 K=1.05	11.095	1.620	-3.100	17.975	0.172* ✔
T24	60 - 35	2L 'a' > 36.580 in - 769 2L2 1/2x2x3/16x3/8	8'	7'2"	114.2 K=1.05	11.095	1.620	-3.188	17.975	0.177* ✔
T25	35 - 10	2L 'a' > 36.580 in - 808 2L2 1/2x2x3/16x3/8	8'	7'2"	114.2 K=1.05	11.095	1.620	-5.916	17.975	0.329 ✔
T26	10 - 0	2L 'a' > 36.580 in - 847 L3x5x1/2	4'	1'9-3/8"	72.9 K=2.83	16.127	3.750	-3.906	60.477	0.065* ✔

* DL controls

Top Girt Design Data (Compression)

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 $\frac{P}{P_a}$
T1	560 - 553.75	C10x20	8'	3'10"	114.1 K=1.00	11.118	5.880	-0.255	65.374	0.004 ✔
T3	547.5 - 541.25	2C6x8.2x0.375	8'	7'8"	52.2 K=0.50	18.155	4.800	-1.198	87.145	0.014 ✔
T4	541.25 - 535	2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	105.8 K=1.16	12.235	2.630	-2.668	32.177	0.083 ✔
T5	535 - 510	2L 'a' > 41.884 in - 46 2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	105.8 K=1.16	12.235	2.630	-3.225	32.177	0.100 ✔
T6	510 - 485	2L 'a' > 41.884 in - 58 2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	105.8 K=1.16	12.235	2.630	-5.392	32.177	0.168 ✔
T7	485 - 460	2L 'a' > 41.884 in - 99 2L3x2 1/2x1/4x3/8	8'	7'2"	105.5 K=1.16	12.269	2.630	-8.513	32.268	0.264 ✔
T8	460 - 435	2L 'a' > 41.779 in - 136 2L2 1/2x2x3/16x3/8	8'	7'2-3/4"	114.7 K=1.05	11.030	1.620	-6.005	17.869	0.336 ✔
T9	435 - 410	2L 'a' > 36.732 in - 175 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	114.5 K=1.05	11.052	1.620	-3.067	17.904	0.171 ✔
T10	410 - 385	2L 'a' > 36.681 in - 214 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	114.5 K=1.05	11.052	1.620	-1.938	17.904	0.108 ✔
T11	385 - 360	2L 'a' > 36.681 in - 254 2L2x2x1/4x3/8	8'	7'2-1/2"	133.6 K=0.94	8.372	1.880	-4.440	15.740	0.282 ✔
T12	360 - 335	2L 'a' > 39.164 in - 293 2L3x2 1/2x1/4x3/8	8'	7'1-3/4"	105.4 K=1.16	12.287	2.630	-6.912	32.313	0.214 ✔
		2L 'a' > 41.727 in - 332								

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 $\frac{P}{P_a}$
T13	335 - 310	2L3x2 1/2x1/4x3/8	8'	7'1-3/4"	105.4 K=1.16	12.287	2.630	-9.272	32.313	0.287 ✔
T14	310 - 285	2L 'a' > 41.727 in - 371 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	105.1 K=1.17	12.321	2.630	-11.385	32.404	0.351 ✔
T15	285 - 260	2L 'a' > 41.622 in - 409 2L2 1/2x2x3/16x3/8	8'	7'2-1/4"	114.4 K=1.05	11.074	1.620	-9.224	17.939	0.514 ✔
T16	260 - 235	2L 'a' > 36.631 in - 448 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	114.5 K=1.05	11.052	1.620	-6.602	17.904	0.369 ✔
T17	235 - 210	2L 'a' > 36.681 in - 487 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	114.5 K=1.05	11.052	1.620	-1.953	17.904	0.109 ✔
T18	210 - 185	2L 'a' > 36.681 in - 528 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	114.5 K=1.05	11.052	1.620	-3.167	17.904	0.177 ✔
T19	185 - 160	2L 'a' > 36.681 in - 565 2L3x2 1/2x1/4x3/8	8'	7'1-1/2"	105.2 K=1.16	12.304	2.630	-10.941	32.359	0.338 ✔
T20	160 - 135	2L 'a' > 41.674 in - 604 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	105.1 K=1.17	12.321	2.630	-13.902	32.404	0.429 ✔
T21	135 - 110	2L 'a' > 41.622 in - 643 2L3x2 1/2x1/4x3/8	8'	7'1"	105.0 K=1.17	12.338	2.630	-7.673	32.450	0.236 ✔
T22	110 - 85	2L 'a' > 41.570 in - 684 2L2 1/2x2x3/16x3/8	8'	7'2"	114.2 K=1.05	11.095	1.620	-5.150	17.975	0.287 ✔
T23	85 - 60	2L 'a' > 36.580 in - 723 2L2 1/2x2x3/16x3/8	8'	7'2"	114.2 K=1.05	11.095	1.620	-3.049	17.975	0.170 ✔
T24	60 - 35	2L 'a' > 36.580 in - 762 2L2 1/2x2x3/16x3/8	8'	7'2"	114.2 K=1.05	11.095	1.620	-2.666	17.975	0.148 ✔
T25	35 - 10	2L 'a' > 36.580 in - 799 2L2 1/2x2x3/16x3/8	8'	7'2"	114.2 K=1.05	11.095	1.620	-4.746	17.975	0.264 ✔
		2L 'a' > 36.580 in - 838								

Inner Bracing Design Data (Compression)

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 $\frac{P}{P_a}$
T1	560 - 553.75	L3x3x1/4	4'	4'	100.5 K=1.24	12.909	1.440	-0.004	18.589	0.000 ✔
T2	553.75 - 547.5	L3x3x1/4	4'	4'	100.5 K=1.24	12.909	1.440	-0.004	18.589	0.000 ✔
T26	10 - 0	L3x3x5/16	2'	2'	80.4 K=1.97	15.314	1.780	-0.259	27.258	0.010* ✔

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 $\frac{P}{P_a}$

* DL controls

Tension Checks

Leg Design Data (Tension)

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 $\frac{P}{P_a}$
T3	547.5 - 541.25	4	6'3"	6'3"	75.0	30.000	12.566	1.198	376.991	0.003 ✔
T4	541.25 - 535	4	6'3"	6'3"	75.0	30.000	12.566	3.693	376.991	0.010 ✔
T5	535 - 510	4	25'	6'3"	75.0	30.000	12.566	21.143	376.991	0.056 ✔
T6	510 - 485	4 1/2	25'	6'3"	66.7	30.000	15.904	42.394	477.129	0.089 ✔
T13	335 - 310	5 1/4	25'	6'3"	57.1	30.000	21.647	12.299	649.426	0.019 ✔

Diagonal Design Data (Tension)

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 $\frac{P}{P_a}$
T1	560 - 553.75	2L3x3x1/4x3/8	7'5-1/32"	6'6-11/32"	91.8	29.000	1.738	0.309	50.406	0.006 ✔
T2	553.75 - 547.5	2L2 1/2x2x3/16x3/8	7'5-1/32"	6'8-19/32"	107.6	29.000	1.004	1.429	29.118	0.049 ✔
T3	547.5 - 541.25	2L 'a' > 35.487 in - 21 1	10'1-13/16"	9'8-3/4"	467.0	21.600	0.785	2.960	16.965	0.174 ✔
T4	541.25 - 535	1	10'1-13/16"	9'8-3/4"	467.0	21.600	0.785	3.819	16.965	0.225 ✔
T5	535 - 510	1	10'1-13/16"	9'8-3/4"	467.0	21.600	0.785	6.275	16.965	0.370 ✔
T6	510 - 485	1 1/4	10'1-13/16"	9'8-1/8"	371.6	21.600	1.227	11.121	26.507	0.420 ✔
T7	485 - 460	1	10'1-13/16"	9'8-1/8"	464.5	21.600	0.785	10.806	16.965	0.637 ✔
T8	460 - 435	3/4	10'1-13/16"	9'7-13/16"	617.6	21.600	0.442	6.917	9.543	0.725 ✔
T9	435 - 410	5/8	10'1-13/16"	9'7-13/16"	741.1	21.600	0.307	3.180	6.627	0.480 ✔

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 $\frac{P}{P_a}$
T10	410 - 385	5/8	10'1-13/16"	9'7-13/16"	741.1	21.600	0.307	4.997	6.627	0.754 ✔
T11	385 - 360	3/4	10'1-13/16"	9'7-13/16"	617.6	21.600	0.442	8.050	9.543	0.844 ✔
T12	360 - 335	1	10'1-13/16"	9'7-13/16"	463.2	21.600	0.785	11.159	16.965	0.658 ✔
T13	335 - 310	1 1/4	10'1-13/16"	9'7-5/32"	368.5	21.600	1.227	14.610	26.507	0.551 ✔
T14	310 - 285	1	10'1-13/16"	9'7-15/32"	461.9	21.600	0.785	14.827	16.965	0.874 ✔
T15	285 - 260	3/4	10'1-13/16"	9'7-13/16"	617.6	21.600	0.442	10.857	9.543	1.138 ✔
T16	260 - 235	5/8	10'1-13/16"	9'7-13/16"	741.1	21.600	0.307	7.707	6.627	1.163 ✔
T17	235 - 210	5/8	10'1-13/16"	9'7-13/16"	741.1	21.600	0.307	3.091	6.627	0.466 ✔
T18	210 - 185	7/8	10'1-13/16"	9'7-15/32"	527.9	21.600	0.601	12.239	12.989	0.942 ✔
T19	185 - 160	1	10'1-13/16"	9'7-5/32"	460.6	21.600	0.785	18.054	16.965	1.064 ✔
T20	160 - 135	1 1/4	10'1-13/16"	9'6-27/32"	367.5	21.600	1.227	17.893	26.507	0.675 ✔
T21	135 - 110	1	10'1-13/16"	9'7-5/32"	460.6	21.600	0.785	9.084	16.965	0.535 ✔
T22	110 - 85	7/8	10'1-13/16"	9'7-5/32"	526.5	21.600	0.601	6.095	12.989	0.469 ✔
T23	85 - 60	7/8	10'1-13/16"	9'7-5/32"	526.5	21.600	0.601	3.466	12.989	0.267 ✔
T24	60 - 35	7/8	10'1-13/16"	9'7-5/32"	526.5	21.600	0.601	5.670	12.989	0.437 ✔
T25	35 - 10	7/8	10'1-13/16"	9'7-5/32"	526.5	21.600	0.601	8.275	12.989	0.637 ✔
T26	10 - 0	L3x3 1/2x5/16	6'6-1/16"	6'1-31/32"	81.8	21.600	1.930	2.603	41.688	0.062 ✔

Horizontal Design Data (Tension)

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 $\frac{P}{P_a}$
T2	553.75 - 547.5	2L3x2 1/2x1/4x3/8	8'	3'6-7/8"	48.7	29.000	1.597	0.899	46.328	0.019 ✔
T5	535 - 510	2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	97.4	29.000	1.644	0.674	47.687	0.014 ✔
T6	510 - 485	2L 'a' > 41.884 in - 67 2L3x2 1/2x1/4x3/8	8'	7'2"	96.8	29.000	1.644	16.641	47.687	0.349 ✔
T7	485 - 460	2L 'a' > 41.779 in - 107 2L3x2 1/2x1/4x3/8	8'	7'2"	96.8	29.000	1.644	1.005	47.687	0.021* ✔

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 $\frac{P}{P_a}$
T8	460 - 435	2L 'a' > 41.779 in - 146 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	29.000	1.004	1.508	29.118	0.052 ✔
T9	435 - 410	2L 'a' > 36.681 in - 185 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	29.000	1.004	1.567	29.118	0.054 ✔
T10	410 - 385	2L 'a' > 36.681 in - 224 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	29.000	1.004	1.203	29.118	0.041* ✔
T11	385 - 360	2L 'a' > 36.681 in - 263 2L2x2x1/4x3/8	8'	7'2-1/2"	149.8	29.000	1.129	1.270	32.734	0.039* ✔
T12	360 - 335	2L 'a' > 39.164 in - 303 2L3x2 1/2x1/4x3/8	8'	7'1-3/4"	96.6	29.000	1.644	1.341	47.687	0.028* ✔
T13	335 - 310	2L 'a' > 41.727 in - 341 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	96.0	29.000	1.644	19.530	47.687	0.410 ✔
T14	310 - 285	2L 'a' > 41.622 in - 380 2L3x2 1/2x1/4x3/8	8'	7'1-1/2"	96.3	29.000	1.644	1.981	47.687	0.042* ✔
T15	285 - 260	2L 'a' > 41.674 in - 419 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	29.000	1.004	2.049	29.118	0.070* ✔
T16	260 - 235	2L 'a' > 36.681 in - 458 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	29.000	1.004	2.145	29.118	0.074* ✔
T17	235 - 210	2L 'a' > 36.681 in - 514 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	29.000	1.004	2.223	29.118	0.076* ✔
T18	210 - 185	2L 'a' > 36.681 in - 537 2L2 1/2x2x3/16x3/8	8'	7'2-1/4"	114.8	29.000	1.004	2.380	29.118	0.082* ✔
T19	185 - 160	2L 'a' > 36.631 in - 574 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	96.0	29.000	1.644	2.493	47.687	0.052* ✔
T20	160 - 135	2L 'a' > 41.622 in - 613 2L3x2 1/2x1/4x3/8	8'	7'1"	95.8	29.000	1.644	21.040	47.687	0.441 ✔
T21	135 - 110	2L 'a' > 41.570 in - 670 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	96.0	29.000	1.644	2.909	47.687	0.061* ✔
T22	110 - 85	2L 'a' > 41.622 in - 711 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	29.000	1.004	3.000	29.118	0.103* ✔
T23	85 - 60	2L 'a' > 36.580 in - 750 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	29.000	1.004	3.100	29.118	0.106* ✔
T24	60 - 35	2L 'a' > 36.580 in - 771 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	29.000	1.004	3.188	29.118	0.109* ✔
T25	35 - 10	2L 'a' > 36.580 in - 810 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	29.000	1.004	3.272	29.118	0.112* ✔
		2L 'a' > 36.580 in - 849								

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 $\frac{P}{P_a}$
T26	10 - 0	L3x5x1/2	4'	1'9-3/8"	25.8	21.600	3.750	3.906	81.000	0.048* ✔

* DL controls

Top Girt Design Data (Tension)

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 $\frac{P}{P_a}$
T1	560 - 553.75	C10x20	8'	3'10"	66.5	21.600	5.880	0.248	127.008	0.002 ✔
T3	547.5 - 541.25	2C6x8.2x0.375	8'	7'8"	104.4	29.000	3.375	0.241	97.875	0.002 ✔
T4	541.25 - 535	2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	97.4	29.000	1.644	0.143	47.687	0.003 ✔
T5	535 - 510	2L 'a' > 41.884 in - 48 2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	97.4	29.000	1.644	0.047	47.687	0.001 ✔
T6	510 - 485	2L 'a' > 41.884 in - 60 2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	97.4	29.000	1.644	0.097	47.687	0.002 ✔
T8	460 - 435	2L 'a' > 41.884 in - 99 2L2 1/2x2x3/16x3/8	8'	7'2-3/4"	115.4	29.000	1.004	0.019	29.118	0.001 ✔
T9	435 - 410	2L 'a' > 36.732 in - 175 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	29.000	1.004	0.093	29.118	0.003 ✔
T10	410 - 385	2L 'a' > 36.681 in - 214 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	29.000	1.004	0.051	29.118	0.002 ✔
T11	385 - 360	2L 'a' > 36.681 in - 255 2L2x2x1/4x3/8	8'	7'2-1/2"	149.8	29.000	1.129	0.229	32.734	0.007 ✔
T12	360 - 335	2L 'a' > 39.164 in - 293 2L3x2 1/2x1/4x3/8	8'	7'1-3/4"	96.6	29.000	1.644	0.024	47.687	0.000 ✔
T13	335 - 310	2L 'a' > 41.727 in - 332 2L3x2 1/2x1/4x3/8	8'	7'1-3/4"	96.6	29.000	1.644	0.088	47.687	0.002 ✔
T14	310 - 285	2L 'a' > 41.727 in - 372 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	96.0	29.000	1.644	0.137	47.687	0.003* ✔
T15	285 - 260	2L 'a' > 41.622 in - 410 2L2 1/2x2x3/16x3/8	8'	7'2-1/4"	114.8	29.000	1.004	0.327	29.118	0.011 ✔
T16	260 - 235	2L 'a' > 36.631 in - 448 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	29.000	1.004	0.144	29.118	0.005 ✔
T17	235 - 210	2L 'a' > 36.681 in - 487 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	29.000	1.004	0.188	29.118	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 $\frac{P}{P_a}$
T18	210 - 185	2L 'a' > 36.681 in - 526 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	29.000	1.004	0.306	29.118	0.011 ✔
T19	185 - 160	2L 'a' > 36.681 in - 565 2L3x2 1/2x1/4x3/8	8'	7'1-1/2"	96.3	29.000	1.644	0.584	47.687	0.012 ✔
T20	160 - 135	2L 'a' > 41.674 in - 604 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	96.0	29.000	1.644	0.148	47.687	0.003* ✔
T21	135 - 110	2L 'a' > 41.622 in - 643 2L3x2 1/2x1/4x3/8	8'	7'1"	95.8	29.000	1.644	0.358	47.687	0.008 ✔
T22	110 - 85	2L 'a' > 41.570 in - 684 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	29.000	1.004	0.132	29.118	0.005 ✔
T23	85 - 60	2L 'a' > 36.580 in - 723 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	29.000	1.004	0.119	29.118	0.004 ✔
T24	60 - 35	2L 'a' > 36.580 in - 761 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	29.000	1.004	0.071	29.118	0.002 ✔
T25	35 - 10	2L 'a' > 36.580 in - 801 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	29.000	1.004	0.022	29.118	0.001 ✔
T26	10 - 0	2L 'a' > 36.580 in - 838 2L4x3x1/2	8'	7'6-3/4"	75.6	21.600	6.500	50.265	140.400	0.358* ✔

* DL controls

Inner Bracing Design Data (Tension)

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 $\frac{P}{P_a}$
T1	560 - 553.75	L3x3x1/4	4'	4'	51.6	21.600	1.440	0.004	31.104	0.000 ✔
T2	553.75 - 547.5	L3x3x1/4	4'	4'	51.6	21.600	1.440	0.005	31.104	0.000 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T1	560 - 553.75	Leg	4	1	-0.825	251.245	0.3	Pass
T2	553.75 - 547.5	Leg	4	16	-1.923	251.245	0.8	Pass
T3	547.5 - 541.25	Leg	4	31	-7.836	334.910	2.3	Pass

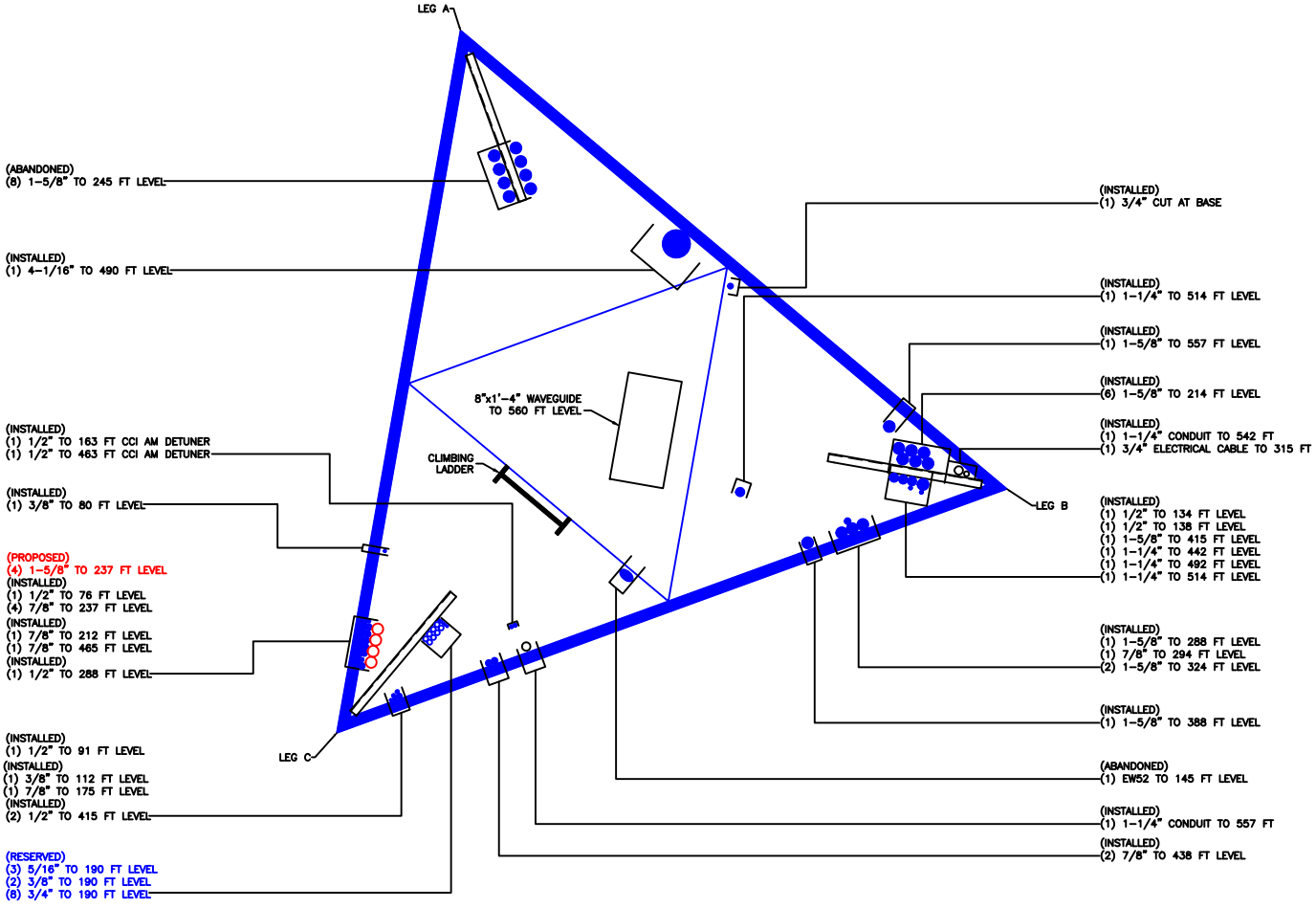
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T4	541.25 - 535	Leg	4	43	-12.628	334.910	3.8	Pass
T5	535 - 510	Leg	4	55	-38.904	334.910	11.6	Pass
T6	510 - 485	Leg	4 1/2	94	-75.322	456.810	16.5	Pass
							17.7 (b)	
T7	485 - 460	Leg	4 1/2	135	-58.007	342.693	16.9	Pass
T8	460 - 435	Leg	4 3/4	174	-87.057	523.717	16.6	Pass
T9	435 - 410	Leg	4 3/4	213	-90.466	523.717	17.3	Pass
T10	410 - 385	Leg	4 3/4	252	-89.460	523.717	17.1	Pass
T11	385 - 360	Leg	4 3/4	291	-73.319	392.886	18.7	Pass
T12	360 - 335	Leg	4 3/4	330	-77.405	392.886	19.7	Pass
T13	335 - 310	Leg	5 1/4	367	-140.100	669.441	20.9	Pass
T14	310 - 285	Leg	5	408	-114.377	446.057	25.6	Pass
T15	285 - 260	Leg	4 3/4	447	-118.283	392.886	30.1	Pass
T16	260 - 235	Leg	4 3/4	485	-123.851	392.886	31.5	Pass
T17	235 - 210	Leg	4 3/4	523	-128.368	392.886	32.7	Pass
T18	210 - 185	Leg	5	563	-137.387	446.057	30.8	Pass
T19	185 - 160	Leg	5 1/4	602	-143.909	502.206	28.7	Pass
T20	160 - 135	Leg	5 1/2	640	-162.184	561.330	28.9	Pass
T21	135 - 110	Leg	5 1/4	679	-167.931	502.206	33.4	Pass
T22	110 - 85	Leg	5 1/4	718	-173.198	502.206	34.5	Pass
T23	85 - 60	Leg	5 1/4	757	-179.006	502.206	35.6	Pass
T24	60 - 35	Leg	5 1/4	796	-184.061	502.206	36.7	Pass
T25	35 - 10	Leg	5 1/4	835	-188.915	502.206	37.6	Pass
T26	10 - 0	Leg	5 1/4	874	-210.121	525.932	40.0	Pass
T1	560 - 553.75	Diagonal	2L3x3x1/4x3/8	7	-0.534	48.787	1.1	Pass
T2	553.75 - 547.5	Diagonal	2L2 1/2x2x3/16x3/8	20	-1.561	19.512	8.0	Pass
T3	547.5 - 541.25	Diagonal	1	37	2.960	22.614	13.1	Pass
T4	541.25 - 535	Diagonal	1	49	3.819	22.614	16.9	Pass
T5	535 - 510	Diagonal	1	65	6.275	22.614	27.8	Pass
T6	510 - 485	Diagonal	1 1/4	101	11.121	35.334	31.5	Pass
T7	485 - 460	Diagonal	1	167	10.806	22.614	47.8	Pass
T8	460 - 435	Diagonal	3/4	206	6.917	12.720	54.4	Pass
T9	435 - 410	Diagonal	5/8	245	3.180	8.834	36.0	Pass
T10	410 - 385	Diagonal	5/8	258	4.997	8.834	56.6	Pass
T11	385 - 360	Diagonal	3/4	297	8.050	12.720	63.3	Pass
T12	360 - 335	Diagonal	1	336	11.159	22.614	49.3	Pass
T13	335 - 310	Diagonal	1 1/4	373	14.610	35.334	41.3	Pass
T14	310 - 285	Diagonal	1	439	14.827	22.614	65.6	Pass
T15	285 - 260	Diagonal	3/4	478	10.857	12.720	85.4	Pass
T16	260 - 235	Diagonal	5/8	517	7.707	8.834	87.2	Pass
T17	235 - 210	Diagonal	5/8	529	3.091	8.834	35.0	Pass
T18	210 - 185	Diagonal	7/8	568	12.239	17.314	70.7	Pass
T19	185 - 160	Diagonal	1	607	18.054	22.614	79.8	Pass
T20	160 - 135	Diagonal	1 1/4	673	17.893	35.334	50.6	Pass
T21	135 - 110	Diagonal	1	717	9.084	22.614	40.2	Pass
T22	110 - 85	Diagonal	7/8	755	6.095	17.314	35.2	Pass
T23	85 - 60	Diagonal	7/8	794	3.466	17.314	20.0	Pass
T24	60 - 35	Diagonal	7/8	802	5.670	17.314	32.8	Pass
T25	35 - 10	Diagonal	7/8	841	8.275	17.314	47.8	Pass
T26	10 - 0	Diagonal	L3x3 1/2x5/16	881	-3.145	26.824	11.7	Pass
T2	553.75 - 547.5	Horizontal	2L3x2 1/2x1/4x3/8	19	-0.859	52.775	1.6	Pass
							2.1 (b)	
T5	535 - 510	Horizontal	2L3x2 1/2x1/4x3/8	67	-4.640	42.892	10.8	Pass
T6	510 - 485	Horizontal	2L3x2 1/2x1/4x3/8	107	16.641	63.567	26.2	Pass
							42.0 (b)	
T7	485 - 460	Horizontal	2L3x2 1/2x1/4x3/8	163	-8.298	43.013	19.3	Pass
T8	460 - 435	Horizontal	2L2 1/2x2x3/16x3/8	202	-5.278	23.866	22.1	Pass
T9	435 - 410	Horizontal	2L2 1/2x2x3/16x3/8	241	-2.350	23.866	9.8	Pass
T10	410 - 385	Horizontal	2L2 1/2x2x3/16x3/8	263	-3.669	23.866	15.4	Pass
T11	385 - 360	Horizontal	2L2x2x1/4x3/8	302	-6.172	20.982	29.4	Pass
T12	360 - 335	Horizontal	2L3x2 1/2x1/4x3/8	341	-8.618	43.074	20.0	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P_{allow} K	% Capacity	Pass Fail
T13	335 - 310	Horizontal	2L3x2 1/2x1/4x3/8	380	19.530	63.567	30.7	Pass
							49.3 (b)	
T14	310 - 285	Horizontal	2L3x2 1/2x1/4x3/8	436	-11.559	43.135	26.8	Pass
T15	285 - 260	Horizontal	2L2 1/2x2x3/16x3/8	475	-8.506	23.866	35.6	Pass
T16	260 - 235	Horizontal	2L2 1/2x2x3/16x3/8	514	-5.869	23.866	24.6	Pass
T17	235 - 210	Horizontal	2L2 1/2x2x3/16x3/8	535	-2.223	17.904	12.4	Pass
T18	210 - 185	Horizontal	2L2 1/2x2x3/16x3/8	574	-7.457	23.913	31.2	Pass
T19	185 - 160	Horizontal	2L3x2 1/2x1/4x3/8	613	-14.138	43.195	32.7	Pass
T20	160 - 135	Horizontal	2L3x2 1/2x1/4x3/8	670	21.040	63.567	33.1	Pass
							53.1 (b)	
T21	135 - 110	Horizontal	2L3x2 1/2x1/4x3/8	711	-6.986	43.195	16.2	Pass
T22	110 - 85	Horizontal	2L2 1/2x2x3/16x3/8	750	-4.618	23.960	19.3	Pass
T23	85 - 60	Horizontal	2L2 1/2x2x3/16x3/8	769	-3.100	17.975	17.2	Pass
T24	60 - 35	Horizontal	2L2 1/2x2x3/16x3/8	817	-3.188	17.975	17.7	Pass
T25	35 - 10	Horizontal	2L2 1/2x2x3/16x3/8	847	-5.916	23.960	24.7	Pass
T26	10 - 0	Horizontal	L3x5x1/2	886	-3.906	60.477	6.5	Pass
T1	560 - 553.75	Top Girt	C10x20	4	-0.255	87.144	0.3	Pass
T3	547.5 - 541.25	Top Girt	2C6x8.2x0.375	34	-1.198	116.164	1.0	Pass
							3.5 (b)	
T4	541.25 - 535	Top Girt	2L3x2 1/2x1/4x3/8	46	-2.668	42.892	6.2	Pass
T5	535 - 510	Top Girt	2L3x2 1/2x1/4x3/8	58	-3.225	42.892	7.5	Pass
T6	510 - 485	Top Girt	2L3x2 1/2x1/4x3/8	99	-5.392	42.892	12.6	Pass
T7	485 - 460	Top Girt	2L3x2 1/2x1/4x3/8	136	-8.513	43.013	19.8	Pass
T8	460 - 435	Top Girt	2L2 1/2x2x3/16x3/8	175	-6.005	23.819	25.2	Pass
T9	435 - 410	Top Girt	2L2 1/2x2x3/16x3/8	214	-3.067	23.866	12.9	Pass
T10	410 - 385	Top Girt	2L2 1/2x2x3/16x3/8	254	-1.938	23.866	8.1	Pass
T11	385 - 360	Top Girt	2L2x2x1/4x3/8	293	-4.440	20.982	21.2	Pass
T12	360 - 335	Top Girt	2L3x2 1/2x1/4x3/8	332	-6.912	43.074	16.0	Pass
T13	335 - 310	Top Girt	2L3x2 1/2x1/4x3/8	371	-9.272	43.074	21.5	Pass
T14	310 - 285	Top Girt	2L3x2 1/2x1/4x3/8	409	-11.385	43.195	26.4	Pass
T15	285 - 260	Top Girt	2L2 1/2x2x3/16x3/8	448	-9.224	23.913	38.6	Pass
T16	260 - 235	Top Girt	2L2 1/2x2x3/16x3/8	487	-6.602	23.866	27.7	Pass
T17	235 - 210	Top Girt	2L2 1/2x2x3/16x3/8	528	-1.953	23.866	8.2	Pass
T18	210 - 185	Top Girt	2L2 1/2x2x3/16x3/8	565	-3.167	23.866	13.3	Pass
T19	185 - 160	Top Girt	2L3x2 1/2x1/4x3/8	604	-10.941	43.135	25.4	Pass
T20	160 - 135	Top Girt	2L3x2 1/2x1/4x3/8	643	-13.902	43.195	32.2	Pass
T21	135 - 110	Top Girt	2L3x2 1/2x1/4x3/8	684	-7.673	43.256	17.7	Pass
T22	110 - 85	Top Girt	2L2 1/2x2x3/16x3/8	723	-5.150	23.960	21.5	Pass
T23	85 - 60	Top Girt	2L2 1/2x2x3/16x3/8	762	-3.049	23.960	12.7	Pass
T24	60 - 35	Top Girt	2L2 1/2x2x3/16x3/8	799	-2.666	23.960	11.1	Pass
T25	35 - 10	Top Girt	2L2 1/2x2x3/16x3/8	838	-4.746	23.960	19.8	Pass
T26	10 - 0	Top Girt	2L4x3x1/2	877	50.265	140.400	35.8	Pass
T1	560 - 553.75	Inner Bracing	L3x3x1/4	14	-0.004	24.780	0.2	Pass
T2	553.75 - 547.5	Inner Bracing	L3x3x1/4	28	-0.004	24.780	0.2	Pass
T26	10 - 0	Inner Bracing	L3x3x5/16	889	-0.259	27.258	1.0	Pass
T6	510 - 485	Guy A@491.25	1 3/4	900	83.949	188.000	44.7	Pass
T13	335 - 310	Guy A@316.25	1 1/2	897	67.786	138.000	49.1	Pass
T20	160 - 135	Guy A@153.75	1 1/4	894	48.893	96.000	50.9	Pass
T6	510 - 485	Guy B@491.25	1 3/4	899	82.966	188.000	44.1	Pass
T13	335 - 310	Guy B@316.25	1 1/2	896	66.910	138.000	48.5	Pass
T20	160 - 135	Guy B@153.75	1 1/4	893	48.071	96.000	50.1	Pass
T6	510 - 485	Guy C@491.25	1 3/4	898	85.476	188.000	45.5	Pass
T13	335 - 310	Guy C@316.25	1 1/2	895	69.089	138.000	50.1	Pass
T20	160 - 135	Guy C@153.75	1 1/4	892	49.837	96.000	51.9	Pass
							Summary	
						Leg (T26)	40.0	Pass
						Diagonal (T16)	87.2	Pass
						Horizontal (T20)	53.1	Pass
						Top Girt	38.6	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
						(T15) Inner Bracing (T26)	1.0	Pass
						Guy A (T20)	50.9	Pass
						Guy B (T20)	50.1	Pass
						Guy C (T20)	51.9	Pass
						Bolt Checks	63.2	Pass
						RATING =	**87.2**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 870800 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

PROJECT	**870800 - Avon (Deercliff Rd.), CT**
SUBJECT	**Base Foundation Analysis**
DATE	**03/18/15**

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

Guyed Tower Pad & Pier Base Analysis Rev F

Design Loads:

Compression	=	579.00	k
Shear	=	7.00	k

Saftey Factors:

Shear	=	2.00
Bearing	=	2.00
Overturning	=	1.50

Pad / Properties:

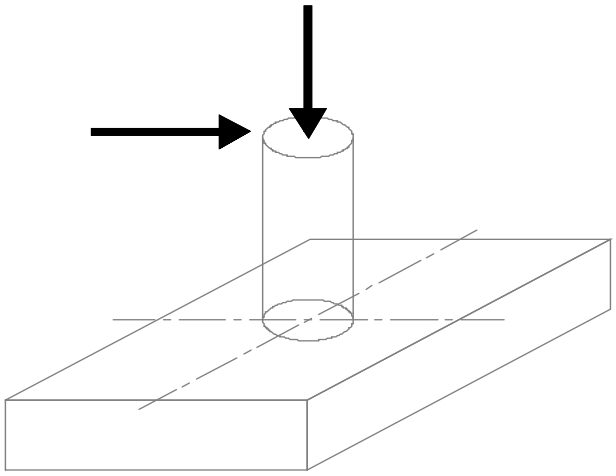
Depth	=	8.00	ft
Pad Width	=	15.00	ft
Ext. Above Grade	=	1.00	ft

Pier / Properties:

Pier Diameter	=	2.00	ft

Material Properties:

Concrete Density	=	0.15	kcf
Concrete Strength	=	3000.00	psi
Clear Cover	=	3.00	in
Bar Tensile Strength	=	60000	psi



Soil Data:

Neglected Depth	=	3.33	ft
Allowable Bearing	=	8.00	ksf
Soil Unit Weight	=	0.12	kcf
Cohesion	=	0.90	ksf
Friction Angle	=	0.00	deg
Passive Pressure	=	0.00	pcf
Base Friction	=	0.38	

Summary of Results

Overturning	31.5%
Bearing	35.3%
Shear	23.9%

ANCHOR REACTION COMPARISON

BU #870800
WO #1023768

REACTIONS PER ANCHOR	DESIGN REACTIONS	CURRENT REACTIONS	% CAPACITY
UPLIFT (kips)	360.0	145.0	40.3%
SHEAR (kips)	254.0	130.0	51.2%

Original Design Reactions from Stainless Inc., Report#: 3290, 9/11/1986

Exhibit C

EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11376A

Farmington 1/ Rt 10
376 Deercliff Road
Avon, CT 06001

April 21, 2015

EBI Project Number: 6215002684

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	82.70 %

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

EBI Consulting
environmental | engineering | due diligence

April 21, 2015

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

Emissions Analysis for Site: **CT11376A – Farmington 1/ Rt 10**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **376 Deercliff Road, Avon, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

General population/uncontrolled exposure limits apply to situations in which the general 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 limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **376 Deercliff Road, Avon, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, 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 GSM channels (PCS Band - 1900 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 (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 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.

5) For the following calculations the sample point was the top of a six 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.

6) The antennas used in this modeling are the **RFS APX16DWV-16DWVS-E-A20** for 1900 MHz (PCS) and 2100 MHz (AWS) channels. The **RFS APX16DWV-16DWVS-E-A20** has a maximum gain of **16.3 dBd** at its main lobe at 1900 MHz and 2100 MHz. 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.

7) The antenna mounting height centerline of the proposed antennas is **240 feet** above ground level (AGL).

8) 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.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	RFS APX16DWV-16DWVS-E-A20	Make / Model:	RFS APX16DWV-16DWVS-E-A20	Make / Model:	RFS APX16DWV-16DWVS-E-A20
Gain:	16.3 dBd	Gain:	16.3 dBd	Gain:	16.3 dBd
Height (AGL):	240	Height (AGL):	240	Height (AGL):	240
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	6	Channel Count	6	# PCS Channels:	6
Total TX Power:	240	Total TX Power:	240	# AWS Channels:	240
ERP (W):	10,237.91	ERP (W):	10,237.91	ERP (W):	10,237.91
Antenna A1 MPE%	0.67	Antenna B1 MPE%	0.67	Antenna C1 MPE%	0.67

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile	**2.02 %**
Marcus	0.50 %
LightSquared	0.19 %
MetroPCS	1.49 %
Arch Communications	3.22 %
Hartford Data Dispatch	6.74 %
Pagemart	6.14 %
Pagenet	4.08 %
Preferred Network	8.11 %
Roamer One	1.72 %
Nationwide	0.92 %
WHCT TV (Ch 18)	42.89 %
Nextel	0.84 %
AT&T	3.84 %
Site Total MPE %:	**82.70 %**

T-Mobile Sector 1 Total:	0.67 %
T-Mobile Sector 2 Total:	0.67 %
T-Mobile Sector 3 Total:	0.67 %
Site Total:	82.70 %

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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 T-Mobile 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:

T-Mobile Sector	Power Density Value (%)
Sector 1:	0.67 %
Sector 2:	0.67 %
Sector 3 :	0.67 %
T-Mobile Total:	2.02 %
Site Total:	82.70 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **82.70%** 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.

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