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March 30, 2018

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

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T) – CT2359
1 Deerfield Lane, Ansonia, CT 06401
N 41-21-02.7
W 73-02-57.3

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 148-foot level of the existing 169-foot Monopole at 1 Deerfield Lane, Ansonia, CT. The tower is owned by SBA. The property is owned by the Macabee Properties LLC. AT&T now intends to install three (3) new CCI antennas, also at the 116-foot level. AT&T also intends to swap (3) Ericsson RRUS-12 / A2 for three (3) RRUS-32 B2 and install (3) RRUS-32 B66.

This facility was approved by the Connecticut Siting Council in Docket # 340 on November 29, 2007 and later Amended this approval on March 26, 2008. The approval included a tower height limitation of 170 feet and a requirement that antennas be mounted to the tower with T-Arms. Since no further modification to the overall facility height or antenna mounts is proposed, this modification therefore complies with the aforementioned approvals.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Honorable David S. Cassetti, Mayor of the City of Ansonia, and the Ansonia Land Use Office, as well as the property owner and the tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

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

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

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

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

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

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

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Please feel free to call me at (860) 670-9068 with any questions regarding this matter. Thank you for your consideration.

Sincerely,

Mark Roberts
QC Development
Consultant for AT&T

Attachments

cc: Honorable David S. Cassetti - as Elected Official
Ronda Porrini – Land Use Administrator
Macabee Properties LLC - as Property Owner
SBA - Tower Owner (via e-mail)

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							3.72%
AT&T GSM	2	762	148	0.0271	850	0.5667	0.48%
AT&T UMTS	2	414	148	0.0147	850	0.5667	0.26%
AT&T UMTS	2	656	148	0.0233	1900	1.0000	0.23%
AT&T LTE	2	1079	148	0.0383	700	0.4667	0.82%
AT&T LTE	2	1833	148	0.0651	1900	1.0000	0.65%
AT&T LTE	2	2154	148	0.0765	2300	1.0000	0.48%
Site Total							7.33%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							3.72%
AT&T GSM	1	294	148	0.0052	850	0.5667	0.09%
AT&T UMTS	1	294	148	0.0052	850	0.5667	0.09%
AT&T LTE	1	1476	148	0.0263	700	0.4667	0.56%
AT&T LTE	2	4842	148	0.1727	1900	1.0000	1.73%
AT&T LTE	1	5070	148	0.0904	2100	1.0000	0.90%
AT&T LTE	1	1285	148	0.0229	2300	1.0000	0.23%
Site Total							7.73%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

PROJECT INFORMATION

SCOPE OF WORK:	TOWER – ADD (3) HEXPORT ANTENNAS (ONE 6' FOR ALPHA, ONE 8' FOR BETA/GAMMA). REPLACE (3) 1900 RRUS–12 & A2 WITH (3) 1900 RRUS–32 B2. INSTALL (3) AWS RRUS–32 B66. SHELTER – ADD 2ND XMU WITH IDL2.
SITE ADDRESS:	1 DEERFIELD LANE ANSONIA, CT 06401
LATITUDE:	41° 21' 02.06" N (NAD 83)*
LONGITUDE:	73° 02' 57.30" W (NAD 83)* *PER PREVIOUS PLANS
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
NAME OF APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE SUITE 3A ROCKY HILL, CT 06067
TOWER OWNER:	SBA
TOWER NUMBER:	CT13071

DRAWING INDEX

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THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS SITE CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN OTHER CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.

STRUCTURAL NOTE:

1. AS REQUIRED UNDER TIA/EIA 222H – STANDARD, SAI COMMUNICATIONS SHALL PROVIDE A STRUCTURAL ANALYSIS OF THE TOWER PREPARED BY A LICENSED CONNECTICUT STRUCTURAL ENGINEER CERTIFYING THAT, THE EXISTING TOWER AND ANY REQUIRED IMPROVEMENTS AND REINFORCEMENTS HAVE SUFFICIENT CAPACITY TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, SUPPORTS AND APPURTENANCES AND COMPLIES WITH THE CURRENT CONNECTICUT STATE BUILDING CODE AND EIA/TIA CRITERIA. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THAT ANY IMPROVEMENTS AND REINFORCEMENTS REQUIRED BY THE STRUCTURAL ANALYSIS CERTIFICATION ARE PROPERLY INSTALLED PRIOR TO THE ADDITION OF ANTENNAS, SUPPORTS AND APPURTENANCES PROPOSED ON THESE DRAWINGS OR OTHERWISE NOTED IN THE STRUCTURAL ANALYSIS.

CONTACT INFORMATION

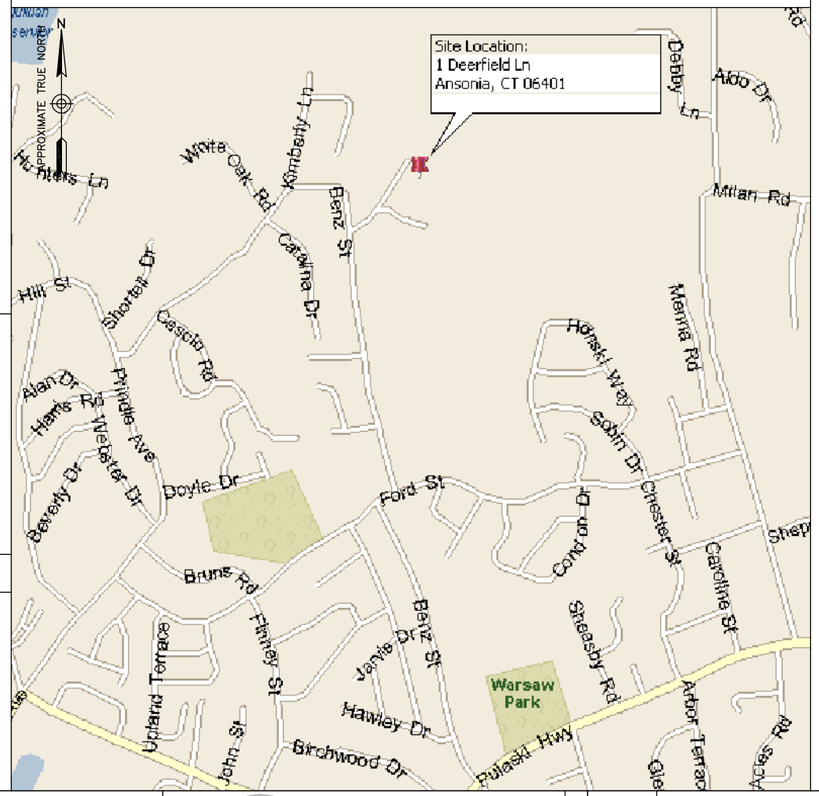
CONTACT	CONTACT	COMPANY	PHONE NO.
ENGINEERING:	DAMIAN SCHMALZ, P.E.	DEWBERRY	(617) 531–0823
SAC:	TIM BURKS	SAI COMMUNICATIONS	(860) 989–0001

at&t Mobility

SITE NAME: ANSONIA DEERFIELD LANE 4C/RETROFIT
SITE NUMBER: CT2359
PACE NUMBER: MRCTB027300 (4C) / MRCTB027220 (RETROFIT)

VICINITY MAP

DIRECTIONS: FROM FRAMINGHAM, MA: TAKE I–90 W. TAKE EXIT 9 TO MERGE ONTO I–84 TOWARD RT–20/HARTFORD. TAKE EXIT 6 TO MERGE ONTO I–291 W. TAKE EXIT 1A–2A FOR I–91S. TAKE EXIT 17 TO MERGE ONTO CT–15S/WILBUR CROSS PARKWAY. MERGE ONTO CT–34 W. TURN RIGHT ONTO BALDWIN RD. TURN LEFT ONTO CT–243 W. TURN RIGHT ONTO FORD ROAD. TURN RIGHT ONTO BENZ STREET. TURN RIGHT ONTO DEERFIELD LANE.



APPLICABLE BUILDING CODES AND STANDARDS

CONTRACTOR'S WORK SHALL COMPLY WITH PROJECT STANDARD NOTES, SYMBOLS AND DETAILS (SEE DRAWING INDEX FOR STANDARD NOTES AND DETAILS INCLUDED WITH TYPICAL DRAWING PACKAGE). CONTRACTOR WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
2016 CONNECTICUT STATE BUILDING CODE (2012 INTERNATIONAL BUILDING CODE)

ELECTRICAL CODE:
NATIONAL ELECTRICAL CODE (NEC)

CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS.
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222–H, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

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

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

TELCORDIA GR–1503, COAXIAL CABLE CONNECTIONS

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

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

Dewberry®
Dewberry Engineers Inc.
280 SUMMER ST.
10TH FLOOR
BOSTON, MA 02210
PHONE: 617.695.3400
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SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

ANSONIA DEERFIELD LANE
4C/RETROFIT
SITE NO. CT2359
1 DEERFIELD LANE
ANSONIA, CT 06401

at&t Mobility
500 ENTERPRISE DRIVE
SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	03/14/18	FOR CT SITING COUNCIL FILING	KB	DAS	BBR
A	02/09/18	FOR REVIEW	KB	DAS	BBR

SCALE: AS SHOWN | DESIGNED BY: KB | DRAWN BY: NMS

AT&T MOBILITY
ROCKY HILL, CT 06067

TITLE SHEET

DEWBERRY NO.	DRAWING NUMBER	REV
50019239/50083732	T01	B

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   PROJECT MANAGEMENT – SAI
   CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY
   OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF PROJECT MANAGEMENT.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
5. DRAWINGS PROVIDED HERE ARE NOT TO SCALE UNLESS OTHERWISE NOTED AND ARE INTENDED TO SHOW OUTLINE ONLY.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY PROJECT MANAGEMENT.
9. CONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. CONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. CONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH PROJECT MANAGEMENT.
10. THE CONTRACTOR SHALL PROTECT EXISTING & PROPOSED IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. 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 THE CONTRACT.
14. CONTRACTOR SHALL NOTIFY DEWBERRY 48 HOURS IN ADVANCE OF POURING CONCRETE, OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS & POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEER REVIEW.
15. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. CONTRACTOR SHALL NOTIFY PROJECT MANAGEMENT OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
16. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY CONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
17. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.

SITE WORK GENERAL NOTES:

1. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO:
   A) FALL PROTECTION
   B) CONFINED SPACE
   C) ELECTRICAL SAFETY
   D) TRENCHING & EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES, TOP SOIL AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
6. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE AT&T SPECIFICATION FOR SITE SIGNAGE.
8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE TRANSMISSION EQUIPMENT AND TOWER AREAS.
9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION, SEE SOIL COMPACTION NOTES.
11. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
12. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTION'S GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000 PSI) MAY BE USED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE (UNO). SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF.....1 1/2 IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....3/4 IN.
   BEAMS AND COLUMNS.....1 1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC 1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TESTS PERFORMED AT THE SUPPLIER'S PLANT,
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
   FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
8. AS AN ALTERNATIVE TO ITEM 7, TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS UNLESS NOTED OTHERWISE. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE PERFORMED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"Ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.
7. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION & TOPSOIL EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
3. AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
4. COMPACTED SUBBASE SHALL BE UNIFORM & LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING 1" SIEVE.
5. AS AN ALTERNATIVE TO ITEMS 2 AND 3 PROOFROLL THE SUBGRADE SOILS WITH 5 PASSES OF A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). ANY SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL, AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
   CONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, AT&T ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.
2. COORDINATION OF WORK:
   CONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH PROJECT MANAGEMENT.
3. CABLE LADDER RACK:
   CONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
2. CONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. CONTRACTOR SHALL SUBMIT MODIFICATIONS TO PROJECT MANAGEMENT FOR APPROVAL.
3. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
4. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
5. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
6. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.
7. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.
8. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
9. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
10. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
11. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL.) PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS.
13. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (SIZE 6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
14. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
15. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
16. ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
17. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
18. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
19. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
20. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
21. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
22. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
23. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
24. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
25. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
26. CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
27. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
28. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
29. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
30. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
31. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM PROJECT MANAGEMENT BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
32. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

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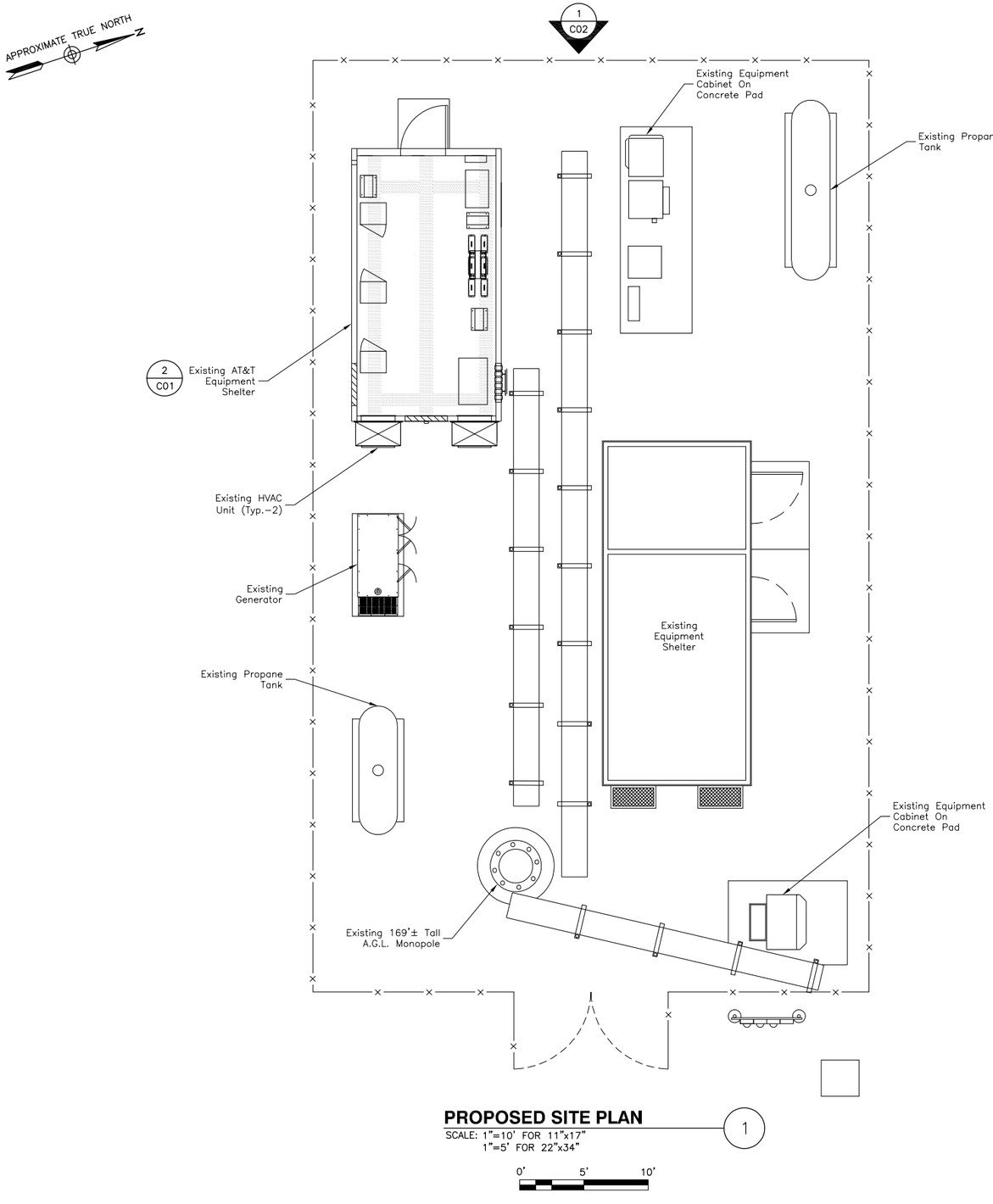
GENERAL NOTES

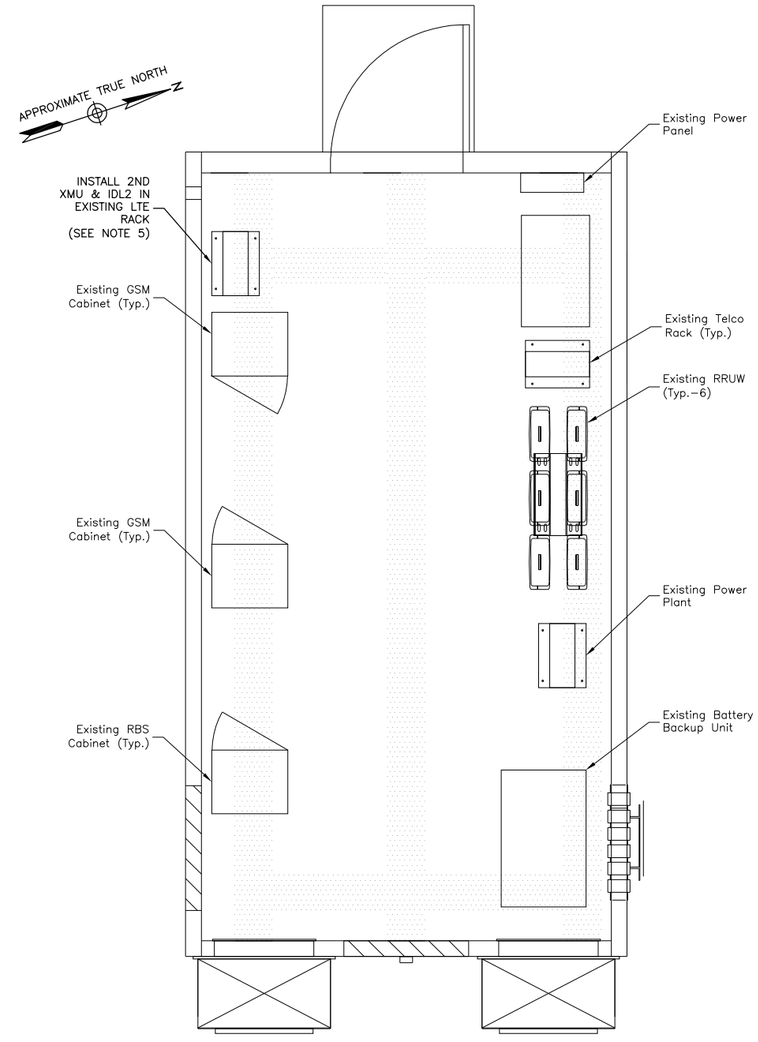
DEWBERRY NO.	DRAWING NUMBER	REV
50019239/50083732	G01	B



PROPOSED SITE PLAN 1

SCALE: 1"=10' FOR 11"x17"
1"=5' FOR 22"x34"

0' 5' 10'



PROPOSED SHELTER PLAN 2

SCALE: 1"=4' FOR 11"x17"
1"=2' FOR 22"x34"

2' 4'

NOTES:

1. NORTH ARROW SHOWN AS APPROXIMATE.
2. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, SURGE ARRESTORS, RRU'S, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS (BY OTHERS).
3. DEWBERRY WAS NOT PROVIDED WITH OR CONTRACTED TO PERFORM A STRUCTURAL ANALYSIS ON THIS TOWER. TOWER RELATED IMPROVEMENTS ARE NOT TO BE INSTALLED WITHOUT A PASSING STRUCTURAL ANALYSIS. SEE STRUCTURAL NOTE ON SHEET T01.
4. NOT ALL INFORMATION SHOWN FOR CLARITY.
5. EQUIPMENT MODIFICATION SCOPE:

   TOWER – ADD (3) HEXPORT ANTENNAS (ONE 6' FOR ALPHA, ONE 8' FOR BETA/GAMMA). REPLACE (3) 1900 RRUS-12 & A2 WITH (3) 1900 RRUS-32 B2. INSTALL (3) AWS RRUS-32 B66.

   SHELTER – ADD 2ND XMU WITH IDL2.

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PROPOSED SITE & SHELTER PLAN

DEWBERRY NO.	DRAWING NUMBER	REV
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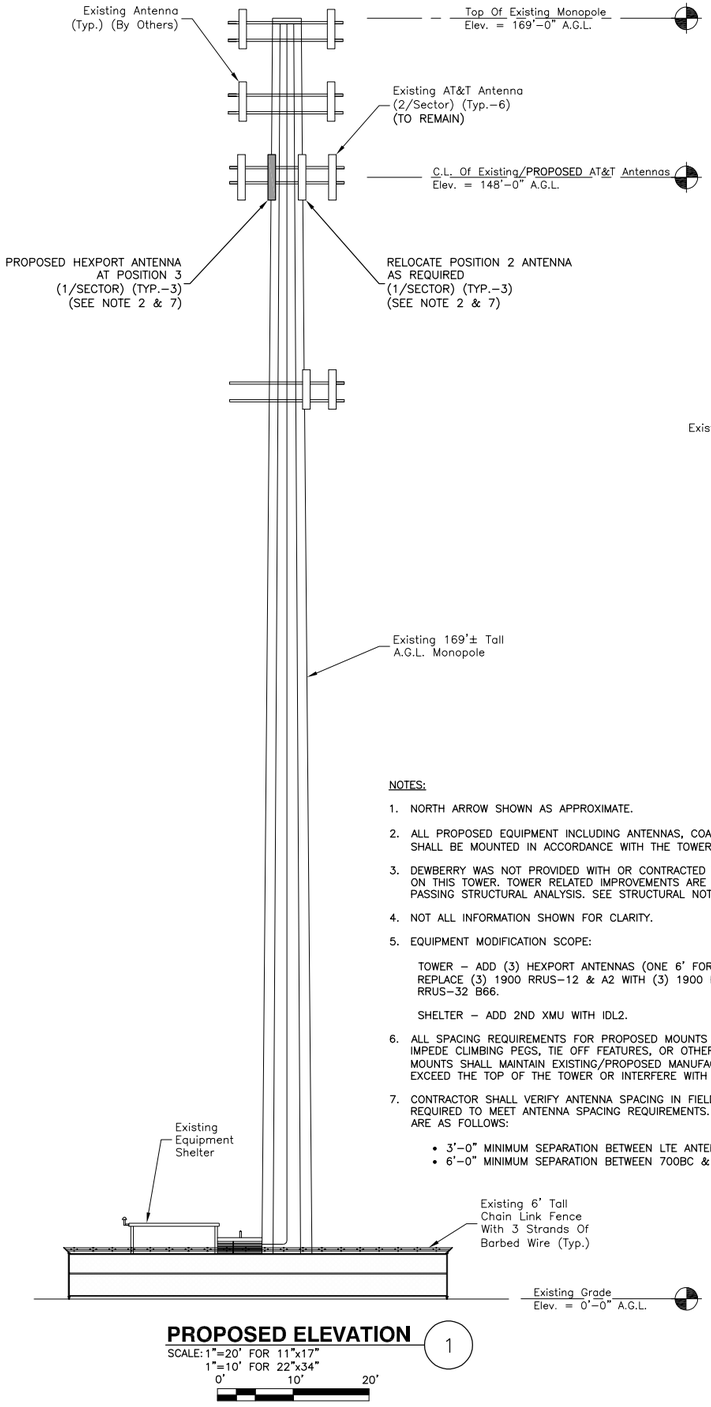


PROPOSED ELEVATION 1

SCALE: 1"=20' FOR 11"x17"
1"=10' FOR 22"x34"
0' 10' 20'

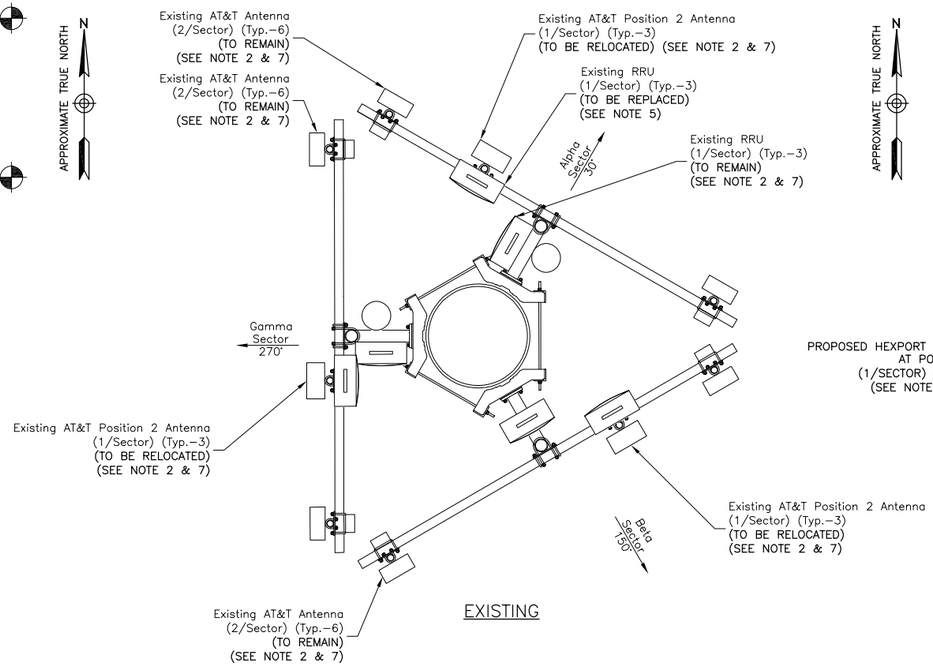
NOTES:

1. NORTH ARROW SHOWN AS APPROXIMATE.
2. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, SURGE ARRESTORS, RRU'S, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS (BY OTHERS).
3. DEWBERRY WAS NOT PROVIDED WITH OR CONTRACTED TO PERFORM A STRUCTURAL ANALYSIS ON THIS TOWER. TOWER RELATED IMPROVEMENTS ARE NOT TO BE INSTALLED WITHOUT A PASSING STRUCTURAL ANALYSIS. SEE STRUCTURAL NOTE ON SHEET T01.
4. NOT ALL INFORMATION SHOWN FOR CLARITY.
5. EQUIPMENT MODIFICATION SCOPE:

   TOWER – ADD (3) HEXPORT ANTENNAS (ONE 6' FOR ALPHA, ONE 8' FOR BETA/GAMMA). REPLACE (3) 1900 RRUS-12 & A2 WITH (3) 1900 RRUS-32 B2. INSTALL (3) AWS RRUS-32 B66.

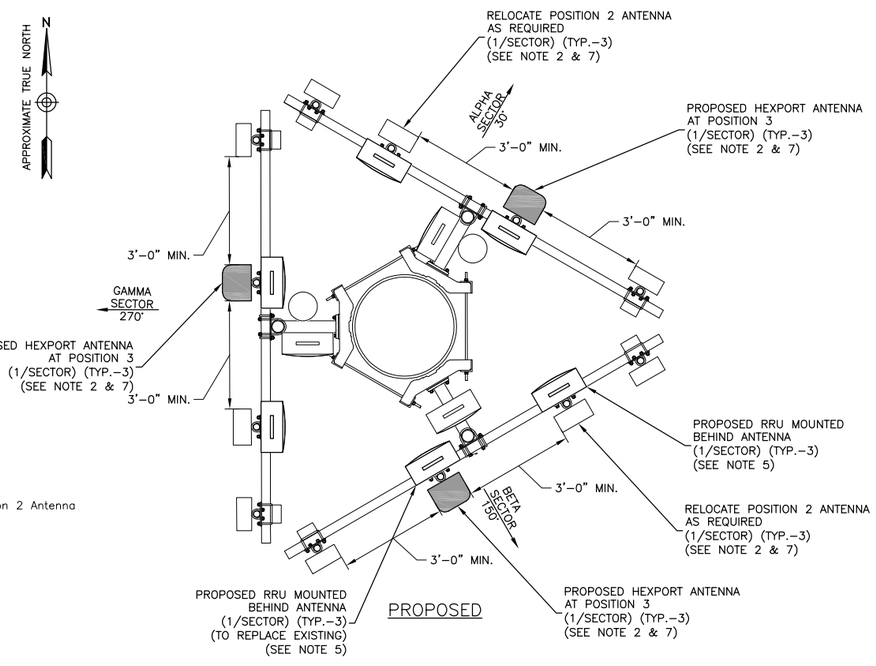
   SHELTER – ADD 2ND XMU WITH IDL2.

6. ALL SPACING REQUIREMENTS FOR PROPOSED MOUNTS SHALL BE CONFIRMED & SHALL NOT IMPEDE CLIMBING PEGS, TIE OFF FEATURES, OR OTHER EXISTING SAFETY FEATURES. ALL MOUNTS SHALL MAINTAIN EXISTING/PROPOSED MANUFACTURER REQUIREMENTS & SHALL NOT EXCEED THE TOP OF THE TOWER OR INTERFERE WITH OTHER RAD CENTERS.
7. CONTRACTOR SHALL VERIFY ANTENNA SPACING IN FIELD & RELOCATE PIPE MASTS AS REQUIRED TO MEET ANTENNA SPACING REQUIREMENTS. THE ANTENNA SPACING REQUIREMENTS ARE AS FOLLOWS:
   - 3'-0" MINIMUM SEPARATION BETWEEN LTE ANTENNAS
   - 6'-0" MINIMUM SEPARATION BETWEEN 700BC & 700DE



ANTENNA ORIENTATION PLAN 2

SCALE: N.T.S.



FINAL EQUIPMENT CONFIGURATION

SECTOR	BAND	ANTENNA	SIZE (INCHES) (LxWxD)	RAD. CENTER	AZIMUTH	TMA	RRU	SIZE (INCHES) (LxWxD)	FEEDER	FIBER JUMPERS
ALPHA	UMTS DB	(E) 7770	55.0x11.0x5.0	148'-0"	30°	(E) LGP 21401 (E) LGP 21401	–	–	(E) 2	–
	LTE 700 BC/PCS	(E) OPA-65R-LCUU-H6	72.4x14.8x7.4	148'-0"	30°	–	(E) RRUS-11 B/C (P) RRUS-32 B2 PCS	19.7 x 17.0 x 7.2 27.2 x 12.1 x 7.0	–	–
	LTE AWS	(P) HPA-65R-BUU-H6	72.4x14.8x9.0	148'-0"	30°	–	(P) RRUS-32 B66	27.2 x 12.1 x 7.0	–	(P) 1
	LTE WCS	(E) HPA-65R-BUU-H6	72.4x14.8x9.0	148'-0"	30°	–	(E) RRUS-32 WCS	27.2 x 12.1 x 7.0	(E) 2	(E) 1
BETA	UMTS DB	(E) 7770	55.0x11.0x5.0	148'-0"	150°	(E) LGP 21401 (E) LGP 21401	–	–	(E) 2	–
	LTE 700 BC/PCS	(P) OPA-65R-LCUU-H8	92.7x14.4x7.0	148'-0"	150°	–	(E) RRUS-11 B/C (P) RRUS-32 B2 PCS	19.7 x 17.0 x 7.2 27.2 x 12.1 x 7.0	–	–
	LTE AWS	(P) HPA-65R-BUU-H8	92.4x14.8x7.4	148'-0"	150°	–	(P) RRUS-32 B66	27.2 x 12.1 x 7.0	–	(P) 1
	LTE WCS	(E) HPA-65R-BUU-H8	92.4x14.8x7.4	148'-0"	150°	–	(E) RRUS-32 WCS	27.2 x 12.1 x 7.0	(E) 2	(E) 1
GAMMA	UMTS DB	(E) 7770	55.0x11.0x5.0	148'-0"	270°	(E) LGP 21401 (E) LGP 21401	–	–	(E) 2	–
	LTE 700 BC/PCS	(P) OPA-65R-LCUU-H4	72.4x14.8x7.4	148'-0"	270°	–	(E) RRUS-11 B/C (P) RRUS-32 B2 PCS	19.7 x 17.0 x 7.2 27.2 x 12.1 x 7.0	–	–
	LTE AWS	(P) HPA-65R-BUU-H8	92.4x14.8x7.4	148'-0"	270°	–	(P) RRUS-32 B66	27.2 x 12.1 x 7.0	–	(P) 1
	LTE WCS	(E) HPA-65R-BUU-H8	92.4x14.8x7.4	148'-0"	270°	–	(E) RRUS-32 WCS	27.2 x 12.1 x 7.0	(E) 2	(E) 1

FINAL EQUIPMENT CONFIGURATION 3

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PROPOSED ELEVATION & CONSTRUCTION DETAILS

DEWBERRY NO.	DRAWING NUMBER	REV
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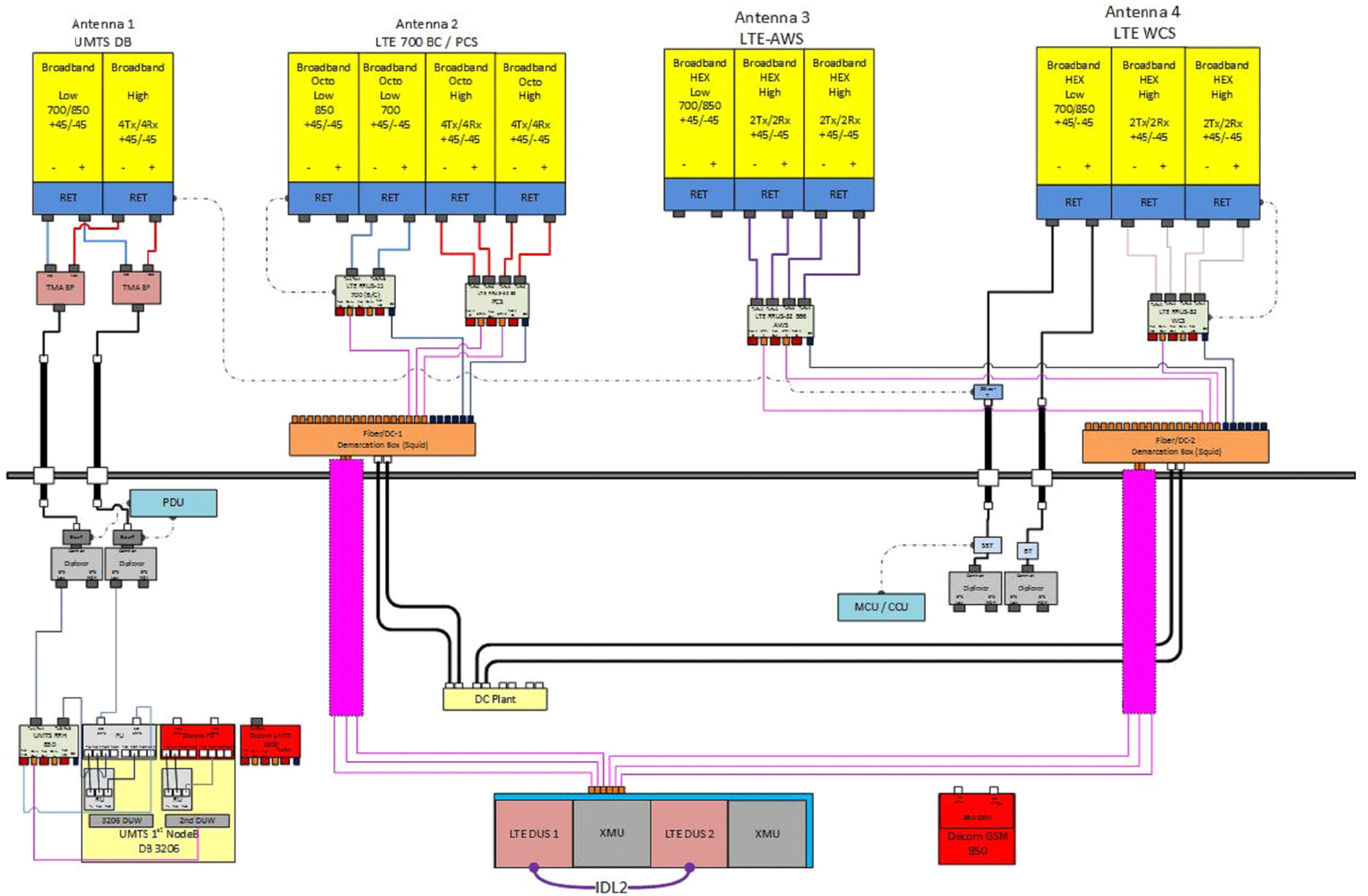

EQUIPMENT PLUMBING DIAGRAM

SCALE: N.T.S.

1

NOTES:

1. EQUIPMENT PLUMBING DIAGRAM PER RFDS VERSION 4 DATED 10/31/17.
2. CONTRACTOR TO VERIFY FINAL EQUIPMENT CONFIGURATION & SEPARATIONS WITH AT&T PRIOR TO CONSTRUCTION.

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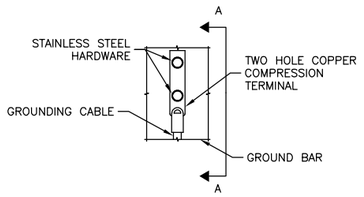
EQUIPMENT PLUMBING DIAGRAM

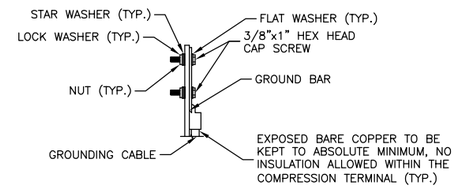
DEWBERRY NO.	DRAWING NUMBER	REV
50019239/50083732	C03	B

GROUNDING NOTES:

1. THE CONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ). THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE CONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS. ALL AVAILABLE GROUNDING ELECTRODES SHALL BE CONNECTED TOGETHER IN ACCORDANCE WITH THE NEC.
3. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. USE OF OTHER METHODS MUST BE PRE-APPROVED BY CONTRACTOR IN WRITING.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS ON TOWER SITES AND 10 OHMS OR LESS ON ROOFTOP SITES. WHEN ADDING ELECTRODES, CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE BETWEEN THE ADDED ELECTRODE AND ANY OTHER EXISTING ELECTRODE EQUAL TO THE BURIED LENGTH OF THE ROD. IDEALLY, CONTRACTOR SHALL STRIVE TO KEEP THE SEPARATION DISTANCE EQUAL TO TWICE THE BURIED LENGTH OF THE RODS.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
6. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE AND UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
7. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO TRANSMISSION EQUIPMENT.
8. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK-TO-BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 8 INCHES.
11. EACH INTERIOR TRANSMISSION CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH 6 AWG STRANDED, GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRE UNLESS NOTED OTHERWISE IN THE DETAILS. EACH OUTDOOR CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE BURIED GROUND RING WITH 2 AWG SOLID TIN-PLATED COPPER WIRE UNLESS NOTED OTHERWISE IN THE DETAILS.
12. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE 2 AWG SOLID TIN-PLATED COPPER UNLESS OTHERWISE INDICATED.
13. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE. CONNECTIONS TO ABOVE GRADE UNITS SHALL BE MADE WITH EXOTHERMIC WELDS WHERE PRACTICAL OR WITH 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS. HIGH PRESSURE CRIMP CONNECTORS MAY ONLY BE USED WITH WRITTEN PERMISSION FROM SAI COMMUNICATIONS MARKET REPRESENTATIVE.
14. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
15. ALL WIRE TO WIRE GROUND CONNECTIONS TO THE INTERIOR GROUND RING SHALL BE FORMED USING HIGH PRESS CRIMPS OR SPLIT BOLT CONNECTORS WHERE INDICATED IN THE DETAILS.
16. ON ROOFTOP SITES WHERE EXOTHERMIC WELDS ARE A FIRE HAZARD COPPER COMPRESSION CAP CONNECTORS MAY BE USED FOR WIRE TO WIRE CONNECTORS. 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS SHALL BE USED FOR CONNECTION TO ALL ROOFTOP TRANSMISSION EQUIPMENT AND STRUCTURAL STEEL.
17. COAX BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR USING TWO-HOLE MECHANICAL TYPE BRASS CONNECTORS AND STAINLESS STEEL HARDWARE.
18. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
19. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
20. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
21. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF THE BURIED GROUND RING WITH 2 AWG SOLID TIN-PLATED COPPER GROUND CONDUCTOR. DURING EXCAVATION FOR NEW GROUND CONDUCTORS, IF EXISTING GROUND CONDUCTORS ARE ENCOUNTERED, BOND EXISTING GROUND CONDUCTORS TO NEW CONDUCTORS.
22. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT WITH LISTED BONDING FITTINGS.



ELEVATION

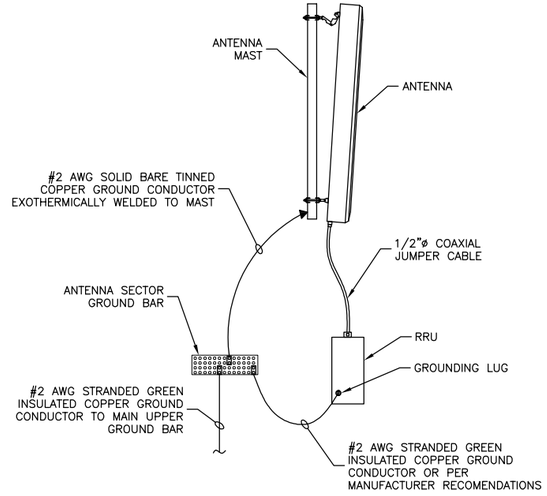


NOTES:

1. DOUBLING UP OR STACKING OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

TYPICAL GROUND BAR MECHANICAL CONNECTION DETAIL 1

SCALE: N.T.S.



NOTES:

1. VERIFY EXISTING GROUNDING SYSTEM IS INSTALLED PER AT&T STANDARDS.
2. BOND NEW EQUIPMENT INTO EXISTING GROUND SYSTEM IN ACCORDANCE WITH AT&T STANDARDS & MANUFACTURER RECOMMENDATIONS.

TYPICAL ANTENNA/RRU GROUNDING DETAIL 2

SCALE: N.T.S

Dewberry®
Dewberry Engineers Inc.
280 SUMMER ST.
10TH FLOOR
BOSTON, MA 02210
PHONE: 617.695.3400
FAX: 617.695.3310

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

ANSONIA DEERFIELD LANE
4C/RETROFIT
SITE NO. CT2359
1 DEERFIELD LANE
ANSONIA, CT 06401

at&t Mobility
500 ENTERPRISE DRIVE
SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	03/14/18	FOR CT SITING COUNCIL FILING	KB	DAS	BBR
A	02/09/18	FOR REVIEW	KB	DAS	BBR

SCALE: AS SHOWN | DESIGNED BY: KB | DRAWN BY: NMS

AT&T MOBILITY
ROCKY HILL, CT 06067

GROUNDING NOTES & DETAILS

DEWBERRY NO.	DRAWING NUMBER	REV
50019239/50083732	E01	B

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 169 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13071-A

Customer Site Name: Woodbridge

Carrier Name: AT&T

Carrier Site ID / Name: CT2359 / Ansonia Deerfield Lane

Site Location: 1 Deerfield Lane

Ansonia, Connecticut

New Haven County

Latitude: 41.350750

Longitude: -73.049250

Analysis Result:

Max Structural Usage: 73.2% [Pass]

Max Foundation Usage: 70.0% [Pass]

Report Prepared By: Khaibar Noorzad

1/29/18

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

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Customer Name: SBA Communications Corp

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Ansonia, Connecticut

New Haven County

Latitude: 41.350750

Longitude: -73.049250

Analysis Result:

Max Structural Usage: 73.2% [Pass]

Max Foundation Usage: 70.0% [Pass]

Report Prepared By: Khaibar Noorzad

Introduction

The purpose of this report is to summarize the analysis results on the 169 ft SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Sabre, DWG # 08-01016-PE, dated 1/7/2008
Foundation Drawing	Sabre, DWG # 08-01016, dated 1/30/2008
Geotechnical Report	JGI Eastern, Inc., Project # J2085109, dated 1/29/2008
Modification Drawings	TES, Project # 17022, dated 9/1/2015: TES, Project # 19194, dated 12/9/2015: TES, Project # 22848 dated 6/23/2016

Analysis Criteria

The feasibility/rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G**.** In accordance with this standard, the structure was analyzed using **TESPoles,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 125.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 97.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2016 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.186, S_1 = 0.062

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	167.0	3	Ericsson - AIR B2A B4P - Panel	(3) T-Arms/Commscope VSR-MS-B	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
2		3	Ericsson - AIR B4A B2P - Panel			
3		3	Andrew - LNX-6515DS - Panel			
4		3	Ericsson KRY 112 144/1			
5		3	Ericsson S11B12			
6	157.0	3	ALU RRH2X60-AWS RRH	(3) T-Arms	(6) 1 5/8" (12) 1 5/8" (1) 1 5/8" Fiber (1) 1/2"	Verizon
7		3	ALU/900 RRH2X60W - RRH			
8		1	Antel BXA-70063/6CF - Panel			
9		4	Decibel - DB846F65ZAXY - Panel			
10		2	Decibel - DB846H80E-SX - Panel			
11		1	GPS			
12		6	Andrew - HBX-6517DS-VTM - Panel			
13		1	RFS DB T1-6Z-8AB-OZ Distribution Box			
14		2	Swedcom - SLCP 2x6014F - Panel			
15	148.0	3	Powerwave 7770 - Panel	(3) T-Arms	(12) 1 5/8" (1) 1/2" Fiber (Rosenberger 10mm FB-L98B-002 fiber Trunk) (2) 3/4" DC (WR-VG122ST-BRDA 12 gauge DC)	AT&T
16		1	Cci OPA-65R-LCUU-H6 - Panel			
17		2	Cci OPA-65R-LCUU-H8 - Panel			
18		1	CCI HPA-65R-BUU-H6 - Panel			
19		2	CCI HPA-65R-BUU-H8 - Panel			
20		6	Powerwave LGP21401 TMA			
21		6	Powerwave LGP13519 Diplexer			
22		3	Ericsson RRUS-11-RRU			
23		3	Ericsson RRUS 12-B2-RRU			
24		3	Ericsson RRUS 32-RRU			
25		3	Ericsson RRUS A2 Module - RRU			
26		3	Powerwave 1001940-Bias Ts			
27		2	Raycap DC6-48-60-18-8F-Surge Supperssor			
28		1	Commscope - WCS-IMFQ-AMT - Filter			
29	127.0	3	Samsung - 2.5GHz RRH BTS	(3) T-Arms	(4) 1/2" (3) 1/4" (3) 5/16" (3) 5/8"	Clearwire
30		3	Argus - LLPX310R - Panel			
31		3	Andrew - VHLP2-11 - Dish			
32		1	Andrew - VHLP800-11 - Dish			
33	117.0	1	L-com - HG2409U-PRO - Omni	Chain Mount (Commscope CM-30S-72)	(1) 1 5/8"	Ingenu

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	148.0	3	Powerwave 7770 - Panel	(3) T-Arms	(12) 1 5/8" (1) 1/2" Fiber (2) 3/4" DC Power	AT&T
2		1	Cci OPA-65R-LCUU-H6 - Panel			
3		2	Cci OPA-65R-LCUU-H8 - Panel			
4		2	CCI HPA-65R-BUU-H6 - Panel			
5		4	CCI HPA-65R-BUU-H8 - Panel			
6		6	Powerwave LGP21401 TMA			
7		6	Powerwave LGP13519 Diplexer			
8		3	Ericsson RRUS-11 (17.8x17.3x7.2) - RRU			
9		9	Ericsson RRUS 32 - RRU			
10		3	Powerwave 1001940 - Bias-T			
11		2	Raycap DC6-48-60-18-8F - Surge			
12		1	Commscope - WCS-IMFQ-AMT - Filter			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**73.2%**	**67.5%**	**56.2%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	4977.0	43.7
Analysis Reactions	4083.7	32.4
Factored Reactions*	6719.0	59.0
% of Design Reactions	60.8%	54.9%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

The maximum twist and sway of the microwave dishes under the operational wind speed as specified in the Analysis Criteria are listed in the table below:

Elevation (ft)	Antenna / Dish	Carrier	Twist (deg)	Sway (deg)
127.0	Andrew - VHLP2-11 - Dish	Clearwire	0.001	1.294
	Andrew - VHLP800-11 - Dish			

It is recommended that the carriers review the twist and sway values of the microwave dishes.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.

4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.

5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.

6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 73.25% at 105.0ft

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Gh:**	1.1		
Base Elev:	0.000 (ft)			Page: 1	

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Dead Load Factor:	1.20	**Iterations:**	27
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 97 mph Wind

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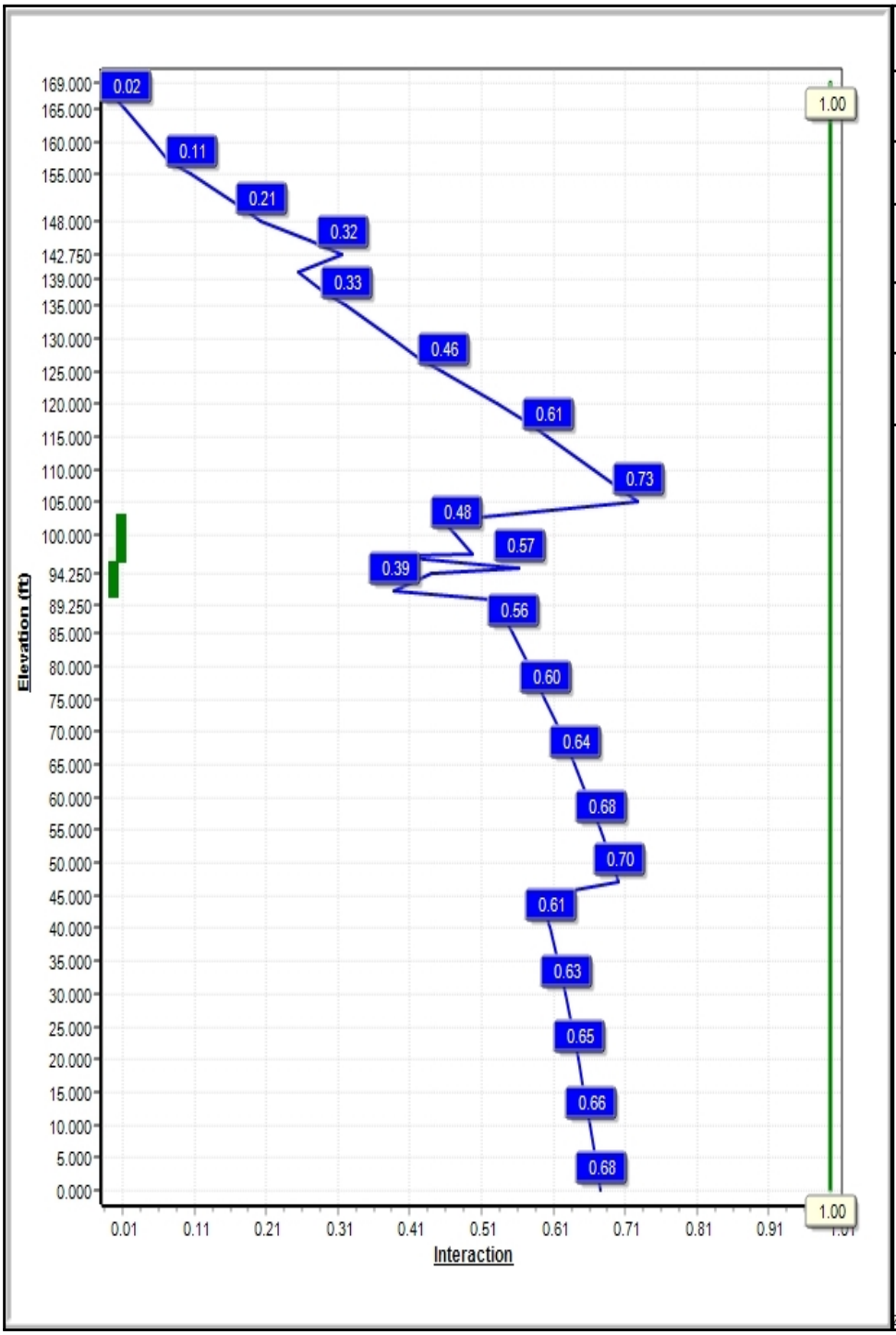
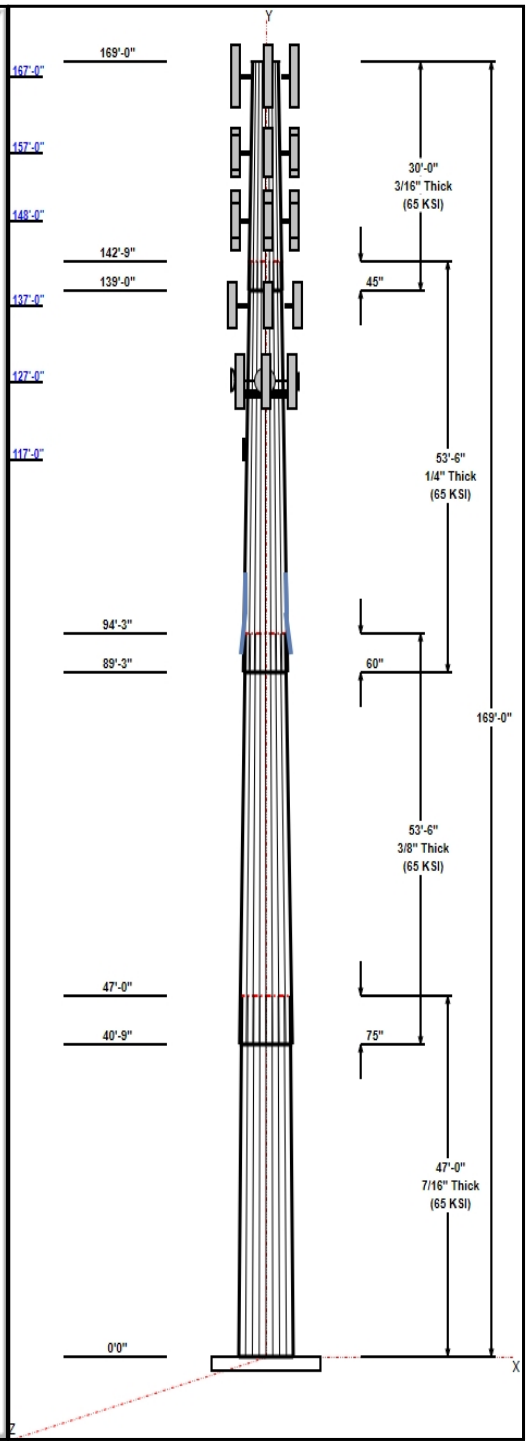




Structure: CT13071-A-SBA

Type: Tapered
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.20003

1/29/2018

Tower Engineering Solutions

Shaft Properties

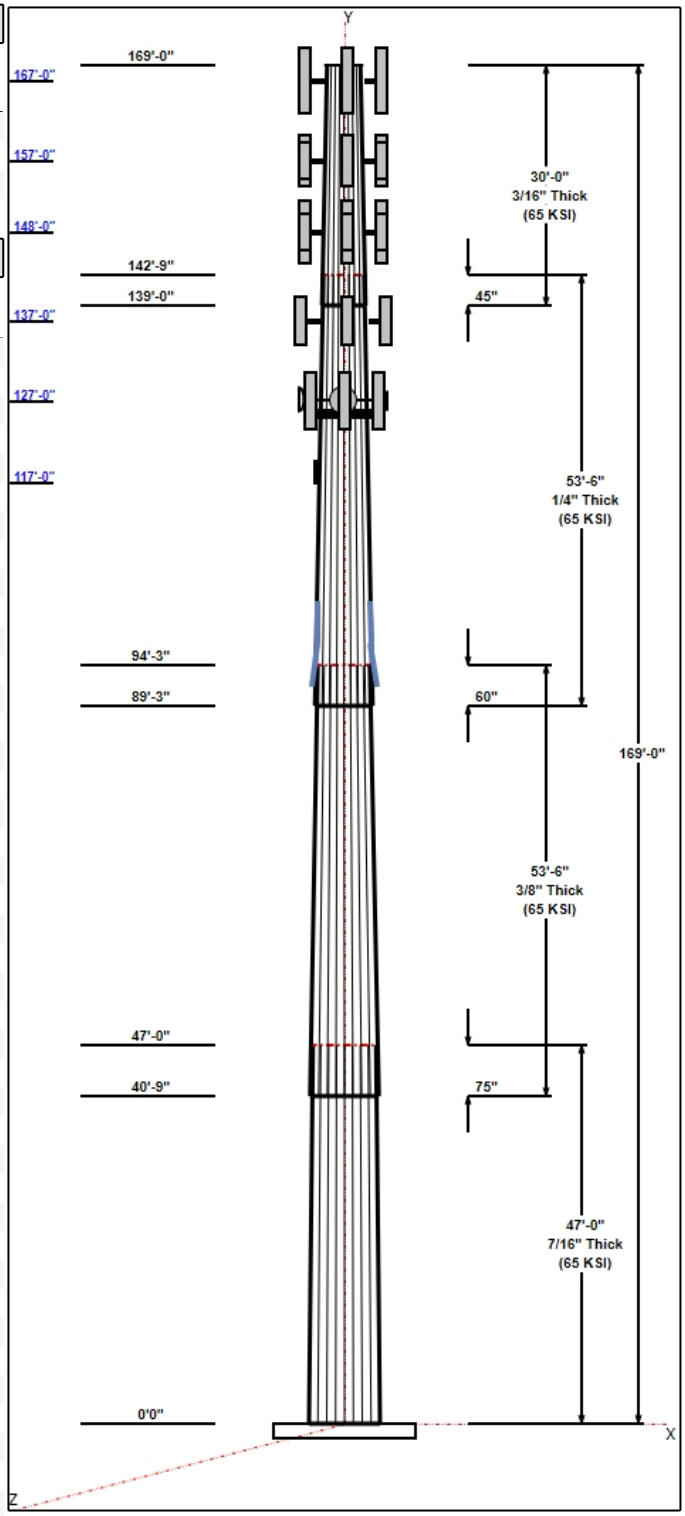
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	47.00	46.78	56.18	0.438		0.20003	65
2	53.50	38.08	48.78	0.375	Slip	0.20003	65
3	53.50	28.88	39.58	0.250	Slip	0.20003	65
4	30.00	24.00	30.00	0.188	Slip	0.20003	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
167.00	167.50	3	T-Arms/Commscope	T-Mobile
167.00	167.00	3	AIR B2A B4P	T-Mobile
167.00	167.00	3	AIR B4A B2P	T-Mobile
167.00	167.00	3	LNX-6515DS	T-Mobile
167.00	167.00	3	Ericsson KRY 112 144/1	T-Mobile
167.00	167.00	3	Ericsson S11B12	T-Mobile
157.00	157.00	1	BXA-70063/6CF	Verizon
157.00	157.00	3	T-Arms	Verizon
157.00	157.00	2	SLCP 2x6014F	Verizon
157.00	157.00	4	DB846F65ZAXY	Verizon
157.00	157.00	2	DB846H80E-SX	Verizon
157.00	157.00	6	HBX-6517DS-VTM	Verizon
157.00	157.00	3	ALU RRH2X60-AWS RRH	Verizon
157.00	157.00	1	RFS DB T1-6Z-8AB-OZ	Verizon
157.00	157.00	1	GPS	Verizon
157.00	157.00	3	ALU/900 RRH2X60W -	Verizon
150.00	150.00	1	Collar Mount	AT&T
148.00	148.00	3	Ericsson RRUS-11-RRU	AT&T
148.00	148.00	2	Raycap	AT&T
148.00	148.00	3	T-Arms	AT&T
148.00	148.00	3	Powerwave 7770	AT&T
148.00	148.00	1	Cci OPA-65R-LCUU-H6	AT&T
148.00	148.00	2	Cci OPA-65R-LCUU-H8	AT&T
148.00	148.00	1	Commscope	AT&T
148.00	148.00	6	Powerwave LGP21401	AT&T
148.00	148.00	6	Powerwave LGP13519	AT&T
148.00	148.00	2	CCI HPA-65R-BUU-H6	AT&T
148.00	148.00	4	CCI HPA-65R-BUU-H8	AT&T
148.00	148.00	3	Powerwave 1001940-Bias	AT&T
148.00	148.00	9	Ericsson RRUS 32-RRU	AT&T
137.00	137.00	3	T-Arms	Metro PCS
137.00	137.00	6	APXV18-206517S-C	Metro PCS
127.00	127.00	3	Sector Frames	Sprint Nextel
127.00	127.00	3	ETCR-654L12H6	Sprint Nextel
127.00	127.00	4	Horizon Duo	Sprint Nextel
127.00	127.00	3	1900MHz RRH	Sprint Nextel
127.00	127.00	6	800 MHz RRH	Sprint Nextel
127.00	127.00	3	TD-RRH8x20-25	Sprint Nextel
127.00	127.00	3	VHLP2-11	Sprint Nextel
127.00	127.00	1	VHLP800-11	Sprint Nextel
117.00	118.35	1	HG2409U-PRO	Ingenu
117.00	117.00	1	CM-30S-72	Ingenu

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier



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0.00	167.00	Inside	1 5/8" Coax	T-Mobile
0.00	167.00	Inside	1 5/8" Fiber	T-Mobile
0.00	157.00	Inside	1 5/8" Coax	Verizon
0.00	157.00	Outside	1 5/8" Coax	Verizon
0.00	157.00	Inside	1 5/8" Fiber	Verizon
0.00	157.00	Inside	1/2" Coax	Verizon
0.00	148.00	Inside	1 5/8" Coax	AT&T
0.00	148.00	Inside	1/2" Fiber	AT&T
0.00	148.00	Inside	3/4" DC Power	AT&T
0.00	137.00	Inside	1 5/8" Coax	Metro PCS
0.00	127.00	Inside	1-1/4" Fiber	Sprint Nextel
0.00	127.00	Inside	1/2" Coax	Sprint Nextel
0.00	117.00	Inside	1 5/8" Coax	Ingenu
99.25	104.50	Outside	1" Reinforcing plate	
89.25	99.25	Outside	1" Reinforcing plate	

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
16	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	61.3	60.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	4083.7	32.4	55.8
0.9D + 1.6W 97 mph Wind	4032.0	32.4	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1115.0	8.9	87.3
1.2D + 1.0E	220.5	1.8	55.8
0.9D + 1.0E	217.4	1.8	41.9
1.0D + 1.0W 60 mph Wind	969.8	7.7	46.5

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Structure: CT13071-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Woodbridge
Height: 169.00 (ft)

1/29/2018

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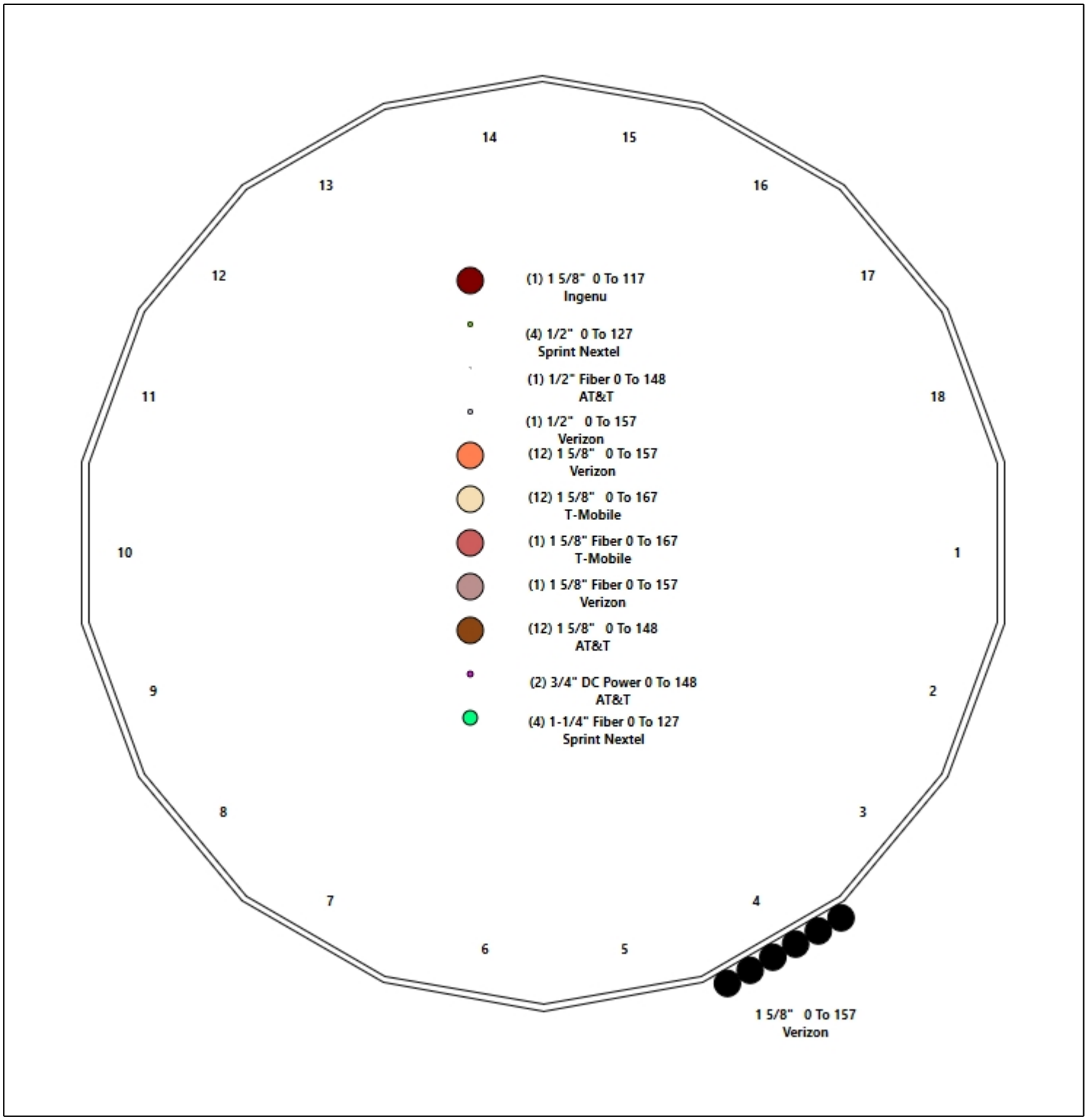

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Shaft Properties

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	47.000	0.4375	65		0.00	11,335
2	18	53.500	0.3750	65	Slip	75.00	9,329
3	18	53.500	0.2500	65	Slip	60.00	4,908
4	18	30.000	0.1875	65	Slip	45.00	1,629
					Total Shaft Weight:		**27,200**

	Bottom						Top						
Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	56.18	0.00	77.40	30386.58	21.23	128.41	46.78	47.00	64.35	17459.0	17.44	106.9	0.200030
2	48.78	40.75	57.61	17053.51	21.53	130.08	38.08	94.25	44.87	8058.91	16.49	101.5	0.200030
3	39.58	89.25	31.21	6097.74	26.50	158.31	28.88	142.75	22.71	2351.56	18.96	115.5	0.200030
4	30.00	139.0	17.74	1992.41	26.80	160.00	24.00	169.00	14.17	1015.22	21.16	128.0	0.200030

Additional Steel

							Intermediate Connectors		Termination Connectors			
Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Description	Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty
91.50	97.00	3	LNP LP6X100-G-10TT	65	80	0.00	5/8" Hollo Bolt	23.00	5/8" Hollo Bolt		9	9
96.75	102.2	3	LNP LP6X100-G-10TT	65	80	0.00	5/8" Hollo Bolt	23.00	5/8" Hollo Bolt		9	9

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Load Summary

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 6

Tower Engineering Solutions

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	167.00	T-Arms/Commscope VSR-MS-B	3	340.00	6.75	0.75	579.91	12.704	0.75	0.00	0.50
2	167.00	AIR B2A B4P	3	91.50	6.09	0.86	262.57	7.200	0.86	0.00	0.00
3	167.00	AIR B4A B2P	3	90.40	6.09	0.86	261.47	7.200	0.86	0.00	0.00
4	167.00	LNX-6515DS	3	50.30	11.47	0.84	284.66	14.772	0.84	0.00	0.00
5	167.00	Ericsson KRY 112 144/1	3	11.00	0.41	0.70	21.90	0.890	0.72	0.00	0.00
6	167.00	Ericsson S11B12	3	51.00	3.31	0.70	138.66	3.528	0.72	0.00	0.00
7	157.00	BXA-70063/6CF	1	17.00	7.57	0.70	159.36	10.346	0.70	0.00	0.00
8	157.00	T-Arms	3	350.00	8.00	0.75	595.45	15.013	0.75	0.00	0.00
9	157.00	SLCP 2x6014F	2	20.00	6.49	0.89	197.04	8.575	0.89	0.00	0.00
10	157.00	DB846F65ZAXY	4	21.00	7.05	0.93	219.47	8.287	0.93	0.00	0.00
11	157.00	DB846H80E-SX	2	16.00	5.01	1.10	176.40	6.231	1.10	0.00	0.00
12	157.00	HBX-6517DS-VTM	6	18.70	5.29	0.75	140.62	6.584	0.75	0.00	0.00
13	157.00	ALU RRH2X60-AWS RRH	3	60.00	3.50	0.76	147.69	4.293	0.78	0.00	0.00
14	157.00	RFS DB T1-6Z-8AB-OZ Distribution	1	19.00	3.20	1.00	94.95	4.035	1.00	0.00	0.00
15	157.00	GPS	1	10.00	1.00	1.00	39.45	1.715	1.00	0.00	0.00
16	157.00	ALU/900 RRH2X60W - RRH	3	46.00	1.88	0.76	115.51	2.469	0.78	0.00	0.00
17	150.00	Collar Mount	1	100.00	3.50	1.00	183.77	5.943	1.00	0.00	0.00
18	148.00	Ericsson RRUS-11-RRU	3	50.00	2.52	0.76	140.08	3.220	0.78	0.00	0.00
19	148.00	Raycap DC6-48-60-18-8F-Surge	2	32.80	1.47	0.80	96.48	2.169	0.82	0.00	0.00
20	148.00	T-Arms	3	350.00	8.00	0.75	594.00	14.972	0.75	0.00	0.00
21	148.00	Powerwave 7770	3	35.00	5.51	0.77	169.93	6.566	0.80	0.00	0.00
22	148.00	Cci OPA-65R-LCUU-H6	1	73.00	9.66	0.79	304.40	11.024	0.79	0.00	0.00
23	148.00	Cci OPA-65R-LCUU-H8	2	88.00	12.75	0.79	373.59	14.593	0.79	0.00	0.00
24	148.00	Commscope WCS-IMFQ-AMT -	1	6.60	1.19	0.63	30.81	1.976	0.65	0.00	0.00
25	148.00	Powerwave LGP21401 TMA	6	14.10	1.29	0.75	39.07	2.125	0.77	0.00	0.00
26	148.00	Powerwave LGP13519	6	5.30	0.34	0.75	14.78	0.793	0.77	0.00	0.00
27	148.00	CCI HPA-65R-BUU-H6	2	51.00	9.66	0.85	298.72	11.024	0.85	0.00	0.00
28	148.00	CCI HPA-65R-BUU-H8	4	68.00	12.98	0.79	358.59	14.593	0.79	0.00	0.00
29	148.00	Powerwave 1001940-Bias Ts	3	2.00	0.07	0.90	9.46	0.300	0.91	0.00	0.00
30	148.00	Ericsson RRUS 32-RRU	9	77.00	1.65	0.70	125.40	2.229	0.72	0.00	0.00
31	137.00	T-Arms	3	242.00	8.19	0.75	446.08	18.359	0.75	0.00	0.00
32	137.00	APXV18-206517S-C	6	26.40	5.17	0.74	118.41	7.523	0.74	0.00	0.00
33	127.00	Sector Frames	3	500.00	20.00	0.75	1186.56	35.654	0.75	0.00	0.00
34	127.00	ETCR-654L12H6	3	99.00	15.71	0.71	415.73	17.360	0.73	0.00	0.00
35	127.00	Horizon Duo	4	7.00	0.59	0.50	22.26	1.143	0.50	0.00	0.00
36	127.00	1900MHz RRH	3	60.00	2.77	0.99	142.06	4.018	0.99	0.00	0.00
37	127.00	800 MHz RRH	6	53.00	2.49	0.92	125.74	3.615	0.92	0.00	0.00
38	127.00	TD-RRH8x20-25	3	70.00	4.05	0.69	178.26	4.849	0.71	0.00	0.00
39	127.00	VHLP2-11	3	27.00	4.68	1.00	123.25	5.933	1.00	0.10	0.00
40	127.00	VHLP800-11	1	48.00	8.43	1.00	219.27	10.108	1.00	0.10	0.00
41	117.00	HG2409U-PRO	1	2.80	0.38	1.00	28.28	0.981	1.00	0.00	1.35
42	117.00	CM-30S-72	1	350.00	5.00	1.00	636.00	8.405	1.00	0.00	0.00
		Totals:	**127**	**10,399.60**			**27,582.09**				

Linear Appurtenances

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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
Bottom Elev. (ft)	Top Elev. (ft)	Description		Exposed Width		Exposed					
0.00	167.00	(12) 1 5/8" Coax		0.00		Inside					
0.00	167.00	(1) 1 5/8" Fiber		0.00		Inside					
0.00	157.00	(12) 1 5/8" Coax		0.00		Inside					
0.00	157.00	(6) 1 5/8" Coax		1.98		Outside					
0.00	157.00	(1) 1 5/8" Fiber		0.00		Inside					
0.00	157.00	(1) 1/2" Coax		0.00		Inside					
0.00	148.00	(12) 1 5/8" Coax		0.00		Inside					
0.00	148.00	(1) 1/2" Fiber		0.00		Inside					
0.00	148.00	(2) 3/4" DC Power		0.00		Inside					
0.00	137.00	(6) 1 5/8" Coax		0.00		Inside					
0.00	127.00	(4) 1-1/4" Fiber		0.00		Inside					
0.00	127.00	(4) 1/2" Coax		0.00		Inside					
0.00	117.00	(1) 1 5/8" Coax		0.00		Inside					
99.25	104.50	(1) 1" Reinforcing plate		1.00		Outside					
89.25	99.25	(1) 1" Reinforcing plate		1.00		Outside					

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Shaft Section Properties

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Topography: 1

Code: EIA/TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/29/2018

Tower Engineering Solutions

Increment Length: 5 (ft)

											Additional Reinforcing			
Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00		0.4375	56.180	77.403	30386.6	21.23	128.41	65	76	0.0				
5.00		0.4375	55.180	76.014	28780.1	20.83	126.13	65	77	1305.1				
10.00		0.4375	54.180	74.625	27231.3	20.43	123.84	65	77	1281.5				
15.00		0.4375	53.180	73.236	25739.1	20.02	121.55	65	78	1257.8				
20.00		0.4375	52.179	71.848	24302.4	19.62	119.27	65	78	1234.2				
25.00		0.4375	51.179	70.459	22920.2	19.22	116.98	65	79	1210.6				
30.00		0.4375	50.179	69.070	21591.5	18.81	114.70	65	79	1187.0				
35.00		0.4375	49.179	67.681	20315.1	18.41	112.41	65	80	1163.3				
40.00		0.4375	48.179	66.292	19090.0	18.01	110.12	65	80	1139.7				
40.75	Bot - Section 2	0.4375	48.029	66.084	18910.6	17.95	109.78	65	80	168.9				
45.00		0.4375	47.179	64.904	17915.2	17.60	107.84	65	81	1773.0				
47.00	Top - Section 1	0.3750	47.529	56.123	15766.0	20.94	126.74	65	77	823.4				
50.00		0.3750	46.929	55.408	15171.7	20.66	125.14	65	77	569.3				
55.00		0.3750	45.928	54.218	14214.7	20.19	122.48	65	78	932.6				
60.00		0.3750	44.928	53.028	13298.8	19.71	119.81	65	78	912.3				
65.00		0.3750	43.928	51.837	12423.2	19.24	117.14	65	79	892.1				
70.00		0.3750	42.928	50.647	11586.8	18.77	114.47	65	79	871.8				
75.00		0.3750	41.928	49.456	10788.9	18.30	111.81	65	80	851.6				
80.00		0.3750	40.928	48.266	10028.4	17.83	109.14	65	80	831.3				
85.00		0.3750	39.927	47.076	9304.6	17.36	106.47	65	81	811.1				
89.25	Bot - Section 3	0.3750	39.077	46.064	8717.4	16.96	104.21	65	81	673.5				
90.00		0.3750	38.927	45.885	8616.4	16.89	103.81	65	82	196.8				
91.50	RB1	0.3750	38.627	45.528	8416.8	16.75	103.01	65	82	391.4	18.00	4449.0	2805.1	91.9
94.25	Top - Section 2	0.2500	38.577	30.412	5644.2	25.80	154.31	65	71	709.6	18.00	4328.3	2729.4	168.4
95.00		0.2500	38.427	30.293	5578.2	25.69	153.71	65	71	77.5	18.00	4290.5	2703.4	45.9
96.75	RB2	0.2500	38.077	30.015	5426.2	25.45	152.31	65	71	179.6	36.00	7688.0	6129.7	214.4
97.00	RT1	0.2500	38.027	29.975	5404.7	25.41	152.11	65	72	25.5	18.00	3454.8	3454.8	15.3
100.00		0.2500	37.427	29.499	5151.2	24.99	149.71	65	72	303.6	18.00	3350.2	3350.2	183.7
102.25	RT2	0.2500	36.977	29.142	4966.4	24.67	147.91	65	72	224.5	18.00	3272.8	3272.8	137.8
105.00		0.2500	36.427	28.705	4746.6	24.28	145.71	65	73	270.7				
110.00		0.2500	35.427	27.912	4363.7	23.58	141.71	65	74	481.6				
115.00		0.2500	34.427	27.118	4001.9	22.87	137.71	65	75	468.1				
117.00		0.2500	34.027	26.801	3863.0	22.59	136.11	65	75	183.5				
120.00		0.2500	33.426	26.325	3660.8	22.17	133.71	65	75	271.2				
125.00		0.2500	32.426	25.531	3339.6	21.46	129.71	65	76	441.1				
127.00		0.2500	32.026	25.214	3216.6	21.18	128.10	65	76	172.7				
130.00		0.2500	31.426	24.737	3037.7	20.75	125.70	65	77	255.0				
135.00		0.2500	30.426	23.944	2754.7	20.05	121.70	65	78	414.1				
137.00		0.2500	30.026	23.626	2646.6	19.77	120.10	65	78	161.9				
139.00	Bot - Section 4	0.2500	29.626	23.309	2541.3	19.48	118.50	65	78	159.7				
140.00		0.2500	29.426	23.150	2489.7	19.34	117.70	65	79	139.2				
142.75	Top - Section 3	0.1875	29.251	17.296	1845.8	26.10	156.00	65	71	378.0				
145.00		0.1875	28.801	17.028	1761.3	25.67	153.60	65	71	131.4				
148.00		0.1875	28.201	16.671	1652.8	25.11	150.40	65	72	172.0				
150.00		0.1875	27.801	16.433	1583.0	24.73	148.27	65	72	112.6				
155.00		0.1875	26.800	15.837	1417.2	23.79	142.94	65	73	274.5				
157.00		0.1875	26.400	15.599	1354.2	23.42	140.80	65	74	107.0				
160.00		0.1875	25.800	15.242	1263.3	22.85	137.60	65	75	157.4				
165.00		0.1875	24.800	14.647	1121.0	21.91	132.27	65	76	254.3				
167.00		0.1875	24.400	14.409	1067.3	21.54	130.13	65	76	98.9				

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Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ixp (in^4)	Additional Reinforcing Iyp (in^4)	Additional Reinforcing Weight (lb)
169.00		0.1875	24.000	14.171	1015.2	21.16	128.00	65	77	97.3				
									Total Weight	**27200.5**				**857.5**

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Wind Loading - Shaft

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

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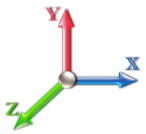
Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 27

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	16.018	17.62	385.81	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	16.018	17.62	378.94	0.650	0.000	5.00	23.558	15.31	431.7	0.0	1566.1
10.00		1.00	0.70	16.018	17.62	372.07	0.650	0.000	5.00	23.135	15.04	423.9	0.0	1537.8
15.00		1.00	0.70	16.018	17.62	365.20	0.650	0.000	5.00	22.712	14.76	416.2	0.0	1509.4
20.00		1.00	0.70	16.018	17.62	358.33	0.650	0.000	5.00	22.288	14.49	408.4	0.0	1481.1
25.00		1.00	0.70	16.018	17.62	351.46	0.650	0.000	5.00	21.865	14.21	400.7	0.0	1452.7
30.00		1.00	0.70	16.031	17.63	344.74	0.650	0.000	5.00	21.442	13.94	393.2	0.0	1424.4
35.00		1.00	0.73	16.753	18.43	345.39	0.650	0.000	5.00	21.019	13.66	402.8	0.0	1396.0
40.00		1.00	0.76	17.405	19.15	344.89	0.650	0.000	5.00	20.596	13.39	410.1	0.0	1367.6
40.75	Bot - Section 2	1.00	0.76	17.497	19.25	344.73	0.650	0.000	0.75	3.053	1.98	61.1	0.0	202.7
45.00		1.00	0.79	18.000	19.80	343.46	0.650	0.000	4.25	17.389	11.30	358.1	0.0	2127.6
47.00	Top - Section 1	1.00	0.80	18.225	20.05	342.67	0.650	0.000	2.00	8.077	5.25	168.4	0.0	988.1
50.00		1.00	0.81	18.551	20.41	346.82	0.650	0.000	3.00	11.989	7.79	254.4	0.0	683.1
55.00		1.00	0.83	19.063	20.97	344.08	0.650	0.000	5.00	19.644	12.77	428.4	0.0	1119.1
60.00		1.00	0.85	19.543	21.50	340.80	0.650	0.000	5.00	19.220	12.49	429.7	0.0	1094.8
65.00		1.00	0.87	19.995	21.99	337.04	0.650	0.000	5.00	18.797	12.22	430.0	0.0	1070.5
70.00		1.00	0.89	20.422	22.46	332.87	0.650	0.000	5.00	18.374	11.94	429.3	0.0	1046.2
75.00		1.00	0.91	20.829	22.91	328.34	0.650	0.000	5.00	17.951	11.67	427.7	0.0	1021.9
80.00		1.00	0.93	21.217	23.34	323.47	0.650	0.000	5.00	17.528	11.39	425.4	0.0	997.6
85.00		1.00	0.94	21.587	23.75	318.32	0.650	0.000	5.00	17.105	11.12	422.4	0.0	973.3
89.25	Bot - Section 3	1.00	0.96	21.890	24.08	313.72	0.650	0.000	4.25	14.206	9.23	355.8	0.0	808.2
90.00		1.00	0.96	21.943	24.14	312.89	0.650	0.000	0.75	2.507	1.63	62.9	0.0	236.2
91.50	RB1	1.00	0.96	22.047	24.25	311.21	0.650	0.000	1.50	4.985	3.24	125.7	0.0	469.6
94.25	Top - Section 2	1.00	0.97	22.234	24.46	308.08	0.650	0.000	2.75	9.041	5.88	230.0	0.0	851.5
95.00		1.00	0.97	22.284	24.51	311.26	0.650	0.000	0.75	2.444	1.59	62.3	0.0	93.0
96.75	RB2	1.00	0.98	22.401	24.64	309.23	0.650	0.000	1.75	5.664	3.68	145.2	0.0	215.5
97.00	RT1	1.00	0.98	22.417	24.66	308.94	0.650	0.000	0.25	0.805	0.52	20.6	0.0	30.6
100.00		1.00	0.99	22.613	24.87	305.39	0.650	0.000	3.00	9.577	6.23	247.8	0.0	364.3
102.25	RT2	1.00	0.99	22.758	25.03	302.68	0.650	0.000	2.25	7.083	4.60	184.4	0.0	269.4
105.00		1.00	1.00	22.931	25.22	299.31	0.650	0.000	2.75	8.541	5.55	224.0	0.0	324.8
110.00		1.00	1.02	23.238	25.56	293.03	0.650	0.000	5.00	15.200	9.88	404.1	0.0	578.0
115.00		1.00	1.03	23.535	25.89	286.57	0.650	0.000	5.00	14.777	9.61	397.9	0.0	561.8
117.00	Appurtenance(s)	1.00	1.03	23.651	26.02	283.94	0.650	0.000	2.00	5.792	3.77	156.7	0.0	220.2
120.00		1.00	1.04	23.823	26.20	279.94	0.650	0.000	3.00	8.562	5.57	233.3	0.0	325.4
125.00		1.00	1.05	24.102	26.51	273.16	0.650	0.000	5.00	13.931	9.06	384.1	0.0	529.4
127.00	Appurtenance(s)	1.00	1.06	24.212	26.63	270.40	0.650	0.000	2.00	5.454	3.55	151.1	0.0	207.2
130.00		1.00	1.07	24.374	26.81	266.22	0.650	0.000	3.00	8.054	5.24	224.6	0.0	305.9
135.00		1.00	1.08	24.638	27.10	259.14	0.650	0.000	5.00	13.085	8.51	368.8	0.0	497.0
137.00	Appurtenance(s)	1.00	1.08	24.742	27.22	256.27	0.650	0.000	2.00	5.115	3.32	144.8	0.0	194.2
139.00	Bot - Section 4	1.00	1.09	24.844	27.33	253.38	0.650	0.000	2.00	5.048	3.28	143.5	0.0	191.7
140.00		1.00	1.09	24.895	27.38	251.93	0.650	0.000	1.00	2.530	1.64	72.1	0.0	167.1
142.75	Top - Section 3	1.00	1.09	25.034	27.54	247.90	0.650	0.000	2.75	6.871	4.47	196.8	0.0	453.6
145.00		1.00	1.10	25.146	27.66	247.81	0.650	0.000	2.25	5.526	3.59	159.0	0.0	157.7
148.00	Appurtenance(s)	1.00	1.11	25.294	27.82	243.36	0.650	0.000	3.00	7.235	4.70	209.4	0.0	206.4
150.00	Appurtenance(s)	1.00	1.11	25.391	27.93	240.37	0.650	0.000	2.00	4.739	3.08	137.6	0.0	135.2
155.00		1.00	1.12	25.630	28.19	232.81	0.650	0.000	5.00	11.551	7.51	338.7	0.0	329.4
157.00	Appurtenance(s)	1.00	1.12	25.724	28.30	229.75	0.650	0.000	2.00	4.502	2.93	132.5	0.0	128.4

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Wind Loading - Shaft

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Topography: 1
Code: EIA/TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/29/2018

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160.00	1.00	1.13	25.863	28.45	225.14	0.650	0.000	3.00	6.626	4.31	196.0	0.0	188.9
165.00	1.00	1.14	26.092	28.70	217.37	0.650	0.000	5.00	10.704	6.96	319.5	0.0	305.1
167.00 Appurtenance(s)	1.00	1.14	26.182	28.80	214.23	0.650	0.000	2.00	4.163	2.71	124.7	0.0	118.6
169.00	1.00	1.15	26.271	28.90	211.07	0.650	0.000	2.00	4.096	2.66	123.1	0.0	116.7
							Totals:	**169.00**			**13,398.8**		**32,640.6**

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Discrete Appurtenance Forces

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

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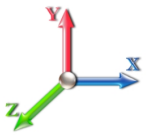
Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	167.00	AIR B4A B2P	3	26.182	28.800	0.77	0.90	14.14	325.44	0.000	0.000	651.61	0.00	0.00
2	167.00	T-Arms/Commscope	3	26.204	28.825	0.56	0.75	11.39	1224.00	0.000	0.500	525.33	0.00	262.66
3	167.00	AIR B2A B4P	3	26.182	28.800	0.77	0.90	14.14	329.40	0.000	0.000	651.61	0.00	0.00
4	167.00	Ericsson S11B12	3	26.182	28.800	0.63	0.90	6.26	183.60	0.000	0.000	288.27	0.00	0.00
5	167.00	LNX-6515DS	3	26.182	28.800	0.76	0.90	26.01	181.08	0.000	0.000	1198.72	0.00	0.00
6	167.00	Ericsson KRY 112 144/1	3	26.182	28.800	0.63	0.90	0.77	39.60	0.000	0.000	35.71	0.00	0.00
7	157.00	BXA-70063/6CF	1	25.724	28.296	0.63	0.90	4.77	20.40	0.000	0.000	215.92	0.00	0.00
8	157.00	T-Arms	3	25.724	28.296	0.56	0.75	13.50	1260.00	0.000	0.000	611.20	0.00	0.00
9	157.00	SLCP 2x6014F	2	25.724	28.296	0.71	0.80	9.24	48.00	0.000	0.000	418.41	0.00	0.00
10	157.00	DB846F65ZAXY	4	25.724	28.296	0.74	0.80	20.98	100.80	0.000	0.000	949.89	0.00	0.00
11	157.00	DB846H80E-SX	2	25.724	28.296	0.88	0.80	8.82	38.40	0.000	0.000	399.21	0.00	0.00
12	157.00	HBX-6517DS-VTM	6	25.724	28.296	0.60	0.80	19.04	134.64	0.000	0.000	862.20	0.00	0.00
13	157.00	ALU RRH2X60-AWS RRH	3	25.724	28.296	0.61	0.80	6.38	216.00	0.000	0.000	289.03	0.00	0.00
14	157.00	RFS DB T1-6Z-8AB-OZ	1	25.724	28.296	0.80	0.80	2.56	22.80	0.000	0.000	115.90	0.00	0.00
15	157.00	GPS	1	25.724	28.296	0.80	0.80	0.80	12.00	0.000	0.000	36.22	0.00	0.00
16	157.00	ALU/900 RRH2X60W -	3	25.724	28.296	0.61	0.80	3.43	165.60	0.000	0.000	155.25	0.00	0.00
17	150.00	Collar Mount	1	25.391	27.930	1.00	1.00	3.50	120.00	0.000	0.000	156.41	0.00	0.00
18	148.00	Cci OPA-65R-LCUU-H8	2	25.294	27.823	0.63	0.80	16.12	211.20	0.000	0.000	717.43	0.00	0.00
19	148.00	Cci OPA-65R-LCUU-H6	1	25.294	27.823	0.63	0.80	6.11	87.60	0.000	0.000	271.78	0.00	0.00
20	148.00	Ericsson RRUS 32-RRU	9	25.294	27.823	0.56	0.80	8.32	831.60	0.000	0.000	370.20	0.00	0.00
21	148.00	Powerwave 1001940-Bias	3	25.294	27.823	0.72	0.80	0.15	7.20	0.000	0.000	6.73	0.00	0.00
22	148.00	CCI HPA-65R-BUU-H8	4	25.294	27.823	0.63	0.80	32.81	326.40	0.000	0.000	1460.75	0.00	0.00
23	148.00	CCI HPA-65R-BUU-H6	2	25.294	27.823	0.68	0.80	13.14	122.40	0.000	0.000	584.84	0.00	0.00
24	148.00	Powerwave LGP13519	6	25.294	27.823	0.60	0.80	1.22	38.16	0.000	0.000	54.49	0.00	0.00
25	148.00	Powerwave LGP21401	6	25.294	27.823	0.60	0.80	4.64	101.52	0.000	0.000	206.74	0.00	0.00
26	148.00	Commscope	1	25.294	27.823	0.50	0.80	0.60	7.92	0.000	0.000	26.70	0.00	0.00
27	148.00	Powerwave 7770	3	25.294	27.823	0.61	0.80	10.13	126.00	0.000	0.000	450.94	0.00	0.00
28	148.00	T-Arms	3	25.294	27.823	0.60	0.80	14.40	1260.00	0.000	0.000	641.04	0.00	0.00
29	148.00	Raycap	2	25.294	27.823	0.64	0.80	1.88	78.72	0.000	0.000	83.76	0.00	0.00
30	148.00	Ericsson RRUS-11-RRU	3	25.294	27.823	0.61	0.80	4.60	180.00	0.000	0.000	204.62	0.00	0.00
31	137.00	T-Arms	3	24.742	27.216	0.56	0.75	13.82	871.20	0.000	0.000	601.82	0.00	0.00
32	137.00	APXV18-206517S-C	6	24.742	27.216	0.59	0.80	18.36	190.08	0.000	0.000	799.66	0.00	0.00
33	127.00	Sector Frames	3	24.212	26.633	0.56	0.75	33.75	1800.00	0.000	0.000	1438.17	0.00	0.00
34	127.00	ETCR-654L12H6	3	24.212	26.633	0.57	0.80	26.77	356.40	0.000	0.000	1140.73	0.00	0.00
35	127.00	Horizon Duo	4	24.212	26.633	0.50	1.00	1.18	33.60	0.000	0.000	50.28	0.00	0.00
36	127.00	1900MHz RRH	3	24.212	26.633	0.79	0.80	6.58	216.00	0.000	0.000	280.45	0.00	0.00
37	127.00	800 MHz RRH	6	24.212	26.633	0.74	0.80	11.00	381.60	0.000	0.000	468.56	0.00	0.00
38	127.00	TD-RRH8x20-25	3	24.212	26.633	0.55	0.80	6.71	252.00	0.000	0.000	285.79	0.00	0.00
39	127.00	VHLP2-11	3	24.212	26.633	1.00	1.00	14.04	97.20	1.455	0.000	598.28	544.06	0.00
40	127.00	VHLP800-11	1	24.212	26.633	1.00	1.00	8.43	57.60	1.455	0.000	359.22	326.67	0.00
41	117.00	CM-30S-72	1	23.651	26.016	1.00	1.00	5.00	420.00	0.000	0.000	208.13	0.00	0.00
42	117.00	HG2409U-PRO	1	23.728	26.101	1.00	1.00	0.38	3.36	0.000	1.346	15.87	0.00	21.36
							Totals:		**12,479.52**			**18,887.89**		

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Total Applied Force Summary

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 13

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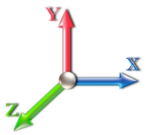
Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		431.69	1917.94	0.00	0.00
10.00		423.93	1889.59	0.00	0.00
15.00		416.18	1861.23	0.00	0.00
20.00		408.42	1832.88	0.00	0.00
25.00		400.67	1804.53	0.00	0.00
30.00		393.25	1776.17	0.00	0.00
35.00		402.84	1747.82	0.00	0.00
40.00		410.08	1719.46	0.00	0.00
40.75		61.11	255.47	0.00	0.00
45.00		358.09	2426.64	0.00	0.00
47.00		168.42	1128.78	0.00	0.00
50.00		254.43	894.22	0.00	0.00
55.00		428.38	1470.92	0.00	0.00
60.00		429.70	1446.61	0.00	0.00
65.00		429.97	1422.31	0.00	0.00
70.00		429.28	1398.01	0.00	0.00
75.00		427.74	1373.70	0.00	0.00
80.00		425.43	1349.40	0.00	0.00
85.00		422.42	1325.10	0.00	0.00
89.25		355.76	1107.22	0.00	0.00
90.00		62.93	288.95	0.00	0.00
91.50		125.74	575.17	0.00	0.00
94.25		229.96	1045.01	0.00	0.00
95.00		62.29	145.73	0.00	0.00
96.75		145.16	338.61	0.00	0.00
97.00		20.64	48.21	0.00	0.00
100.00		247.76	575.37	0.00	0.00
102.25		184.40	427.70	0.00	0.00
105.00		224.04	518.29	0.00	0.00
110.00		404.09	929.78	0.00	0.00
115.00		397.86	913.58	0.00	0.00
117.00	(2) attachments	380.72	784.26	0.00	21.36
120.00		233.33	532.74	0.00	0.00
125.00		384.12	874.93	0.00	0.00
127.00	(26) attachments	4772.55	3539.84	870.74	0.00
130.00		224.57	497.25	0.00	0.00
135.00		368.80	815.79	0.00	0.00
137.00	(9) attachments	1546.27	1383.06	0.00	0.00
139.00		143.46	304.21	0.00	0.00
140.00		72.06	223.34	0.00	0.00
142.75		196.77	608.33	0.00	0.00
145.00		158.98	284.30	0.00	0.00
148.00	(45) attachments	5289.39	3753.96	0.00	0.00
150.00	(1) attachments	294.06	335.72	0.00	0.00
155.00		338.67	530.78	0.00	0.00
157.00	(26) attachments	4185.70	2227.55	0.00	0.00

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Total Applied Force Summary

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 14

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160.00		196.04	237.79	0.00	0.00
165.00		319.51	386.60	0.00	0.00
167.00	(18) attachments	3475.95	2434.36	0.00	262.66
169.00		123.09	116.70	0.00	0.00
	Totals:	**32,286.73**	**55,825.92**	**870.74**	**284.02**

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Linear Appurtenance Segment Forces (Factored)

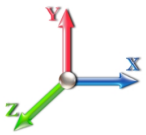
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.035	0.000	16.018	0.00	37.44
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	16.018	0.00	37.44
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	16.018	0.00	37.44
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.037	0.000	16.018	0.00	37.44
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	16.018	0.00	37.44
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	16.031	0.00	37.44
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.039	0.000	16.753	0.00	37.44
40.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.040	0.000	17.405	0.00	37.44
40.75	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.041	0.000	17.497	0.00	5.62
45.00	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.041	0.000	18.000	0.00	31.82
47.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.042	0.000	18.225	0.00	14.98
50.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.041	0.000	18.551	0.00	22.46
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.042	0.000	19.063	0.00	37.44
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.043	0.000	19.543	0.00	37.44
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.044	0.000	19.995	0.00	37.44
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.045	0.000	20.422	0.00	37.44
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.046	0.000	20.829	0.00	37.44
80.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.047	0.000	21.217	0.00	37.44
85.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.048	0.000	21.587	0.00	37.44
89.25	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.049	0.000	21.890	0.00	31.82
90.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.075	0.000	21.943	0.00	5.62
90.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.075	0.000	21.943	0.00	0.00
91.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.076	0.000	22.047	0.00	11.23
91.50	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.13	0.00	0.076	0.000	22.047	0.00	0.00
94.25	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.077	0.000	22.234	0.00	20.59
94.25	1" Reinforcing plate	Yes	2.75	0.000	1.00	0.23	0.00	0.077	0.000	22.234	0.00	0.00
95.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.076	0.000	22.284	0.00	5.62
95.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.076	0.000	22.284	0.00	0.00
96.75	1 5/8" Coax	Yes	1.75	0.000	1.98	0.29	0.00	0.077	0.000	22.401	0.00	13.10
96.75	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.077	0.000	22.401	0.00	0.00
97.00	1 5/8" Coax	Yes	0.25	0.000	1.98	0.04	0.00	0.077	0.000	22.417	0.00	1.87
97.00	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.077	0.000	22.417	0.00	0.00
100.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.078	0.000	22.613	0.00	22.46
100.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.078	0.000	22.613	0.00	0.00
100.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.078	0.000	22.613	0.00	0.00
102.25	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.079	0.000	22.758	0.00	16.85
102.25	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.079	0.000	22.758	0.00	0.00
105.00	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.075	0.000	22.931	0.00	20.59
105.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.075	0.000	22.931	0.00	0.00
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.054	0.000	23.238	0.00	37.44
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.056	0.000	23.535	0.00	37.44
117.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.057	0.000	23.651	0.00	14.98
120.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.058	0.000	23.823	0.00	22.46
125.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.059	0.000	24.102	0.00	37.44
127.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.061	0.000	24.212	0.00	14.98
130.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.061	0.000	24.374	0.00	22.46
135.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.063	0.000	24.638	0.00	37.44

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Linear Appurtenance Segment Forces (Factored)

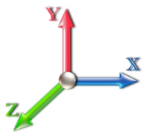
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
137.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.065	0.000	24.742	0.00	14.98
139.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.065	0.000	24.844	0.00	14.98
140.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.066	0.000	24.895	0.00	7.49
142.75	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.067	0.000	25.034	0.00	20.59
145.00	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.067	0.000	25.146	0.00	16.85
148.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.068	0.000	25.294	0.00	22.46
150.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.070	0.000	25.391	0.00	14.98
155.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.071	0.000	25.630	0.00	37.44
157.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.073	0.000	25.724	0.00	14.98
										Totals:	**0.0**	**1,175.6**

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Calculated Forces

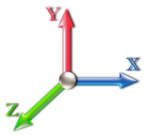
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 27

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-55.77	-32.38	-0.86	-4083.6	-0.02	4083.67	5324.18	2662.09	12195.0	6106.56	0.00	0.000	0.000	0.679
5.00	-53.75	-32.12	-0.86	-3921.7	-0.02	3921.77	5261.08	2630.54	11832.5	5925.09	0.10	-0.187	0.000	0.672
10.00	-51.76	-31.86	-0.86	-3761.1	-0.02	3761.17	5196.80	2598.40	11472.7	5744.92	0.40	-0.377	0.000	0.665
15.00	-49.79	-31.60	-0.86	-3601.8	-0.02	3601.86	5131.34	2565.67	11115.7	5566.13	0.90	-0.570	0.000	0.657
20.00	-47.86	-31.33	-0.86	-3443.8	-0.02	3443.88	5064.69	2532.35	10761.6	5388.80	1.60	-0.764	0.000	0.649
25.00	-45.95	-31.06	-0.86	-3287.2	-0.02	3287.22	4996.86	2498.43	10410.5	5212.99	2.50	-0.961	0.000	0.640
30.00	-44.08	-30.79	-0.86	-3131.9	-0.02	3131.90	4927.84	2463.92	10062.6	5038.79	3.62	-1.160	0.000	0.631
35.00	-42.23	-30.50	-0.86	-2977.9	-0.02	2977.95	4857.63	2428.82	9718.08	4866.26	4.94	-1.362	0.000	0.621
40.00	-40.46	-30.13	-0.86	-2825.4	-0.02	2825.45	4786.24	2393.12	9377.03	4695.49	6.48	-1.565	0.000	0.610
40.75	-40.15	-30.13	-0.86	-2802.8	-0.02	2802.86	4775.43	2387.72	9326.19	4670.03	6.72	-1.596	0.000	0.609
45.00	-37.67	-29.79	-0.86	-2674.8	-0.02	2674.80	4713.67	2356.83	9039.63	4526.53	8.22	-1.771	0.000	0.599
47.00	-36.49	-29.65	-0.86	-2615.2	-0.02	2615.22	3877.89	1938.95	7512.92	3762.05	8.99	-1.856	0.000	0.705
50.00	-35.52	-29.48	-0.86	-2526.2	-0.02	2526.27	3845.09	1922.55	7353.82	3682.38	10.19	-1.981	-0.001	0.696
55.00	-33.94	-29.13	-0.86	-2378.8	-0.02	2378.88	3789.47	1894.74	7090.51	3550.52	12.39	-2.211	-0.001	0.679
60.00	-32.40	-28.78	-0.86	-2233.2	-0.02	2233.22	3732.67	1866.34	6829.63	3419.89	14.83	-2.442	-0.001	0.662
65.00	-30.88	-28.41	-0.86	-2089.3	-0.03	2089.35	3674.68	1837.34	6571.34	3290.55	17.51	-2.673	-0.001	0.644
70.00	-29.40	-28.03	-0.86	-1947.3	-0.03	1947.31	3615.51	1807.76	6315.78	3162.58	20.43	-2.904	-0.001	0.624
75.00	-27.94	-27.64	-0.86	-1807.1	-0.03	1807.17	3555.15	1777.58	6063.10	3036.06	23.60	-3.135	-0.001	0.603
80.00	-26.50	-27.25	-0.86	-1668.9	-0.03	1668.96	3493.61	1746.80	5813.45	2911.05	27.00	-3.364	-0.001	0.581
85.00	-25.11	-26.84	-0.86	-1532.7	-0.03	1532.73	3430.88	1715.44	5566.98	2787.63	30.64	-3.591	-0.001	0.557
89.25	-23.98	-26.46	-0.86	-1418.6	-0.03	1418.68	3376.63	1688.32	5360.08	2684.02	33.93	-3.783	-0.001	0.536
90.00	-23.67	-26.40	-0.86	-1398.8	-0.03	1398.84	3366.97	1683.48	5323.83	2665.87	34.52	-3.817	-0.001	0.532
91.50	-23.07	-26.26	-0.86	-1359.2	-0.04	1359.25	3347.56	1673.78	5251.55	2629.68	35.73	-3.885	-0.001	0.393
94.25	-22.01	-25.99	-0.86	-1287.0	-0.04	1287.02	1944.87	972.44	3066.99	1535.78	38.00	-3.978	-0.001	0.444
95.00	-21.85	-25.93	-0.86	-1267.5	-0.04	1267.53	1940.65	970.33	3048.28	1526.41	38.62	-4.003	-0.002	0.566
96.75	-21.50	-25.78	-0.86	-1222.1	-0.04	1222.15	1930.70	965.35	3004.67	1504.57	40.10	-4.078	-0.002	0.387
97.00	-21.43	-25.78	-0.86	-1215.7	-0.04	1215.71	1929.27	964.63	2998.44	1501.45	40.32	-4.085	-0.002	0.502
100.00	-20.83	-25.53	-0.86	-1138.3	-0.04	1138.37	1911.84	955.92	2923.84	1464.09	42.92	-4.198	-0.002	0.479
102.25	-20.38	-25.34	-0.86	-1080.9	-0.04	1080.94	1898.49	949.24	2868.04	1436.15	44.92	-4.282	-0.002	0.461
102.25	-20.38	-25.34	-0.86	-1080.9	-0.04	1080.94	1898.49	949.24	2868.04	1436.15	44.92	-4.282	-0.002	0.461
105.00	-19.79	-25.15	-0.87	-1011.2	-0.04	1011.25	1881.84	940.92	2800.02	1402.09	47.41	-4.381	-0.002	0.732
110.00	-18.78	-24.76	-0.87	-885.52	-0.04	885.52	1850.66	925.33	2676.97	1340.48	52.15	-4.666	-0.002	0.671
115.00	-17.82	-24.35	-0.87	-761.71	-0.05	761.71	1818.29	909.14	2554.84	1279.32	57.18	-4.934	-0.003	0.606
117.00	-17.02	-23.94	-0.87	-713.00	-0.05	713.00	1805.01	902.50	2506.28	1255.00	59.27	-5.039	-0.003	0.578
120.00	-16.43	-23.71	-0.87	-641.19	-0.05	641.19	1784.73	892.37	2433.78	1218.70	62.48	-5.189	-0.003	0.536
125.00	-15.53	-23.29	-0.87	-522.63	-0.06	522.63	1749.99	875.00	2313.93	1158.68	68.03	-5.415	-0.003	0.461
127.00	-12.43	-18.22	0.00	-476.06	0.02	476.06	1735.77	867.88	2266.36	1134.86	70.31	-5.500	-0.003	0.427
130.00	-11.91	-17.98	0.00	-421.38	0.02	421.38	1714.07	857.04	2195.44	1099.35	73.80	-5.619	-0.003	0.391
135.00	-11.10	-17.56	0.00	-331.47	0.02	331.47	1676.96	838.48	2078.45	1040.77	79.78	-5.795	-0.003	0.326
137.00	-9.86	-15.89	0.00	-296.35	0.02	296.35	1661.79	830.89	2032.11	1017.57	82.21	-5.860	-0.003	0.298
139.00	-9.56	-15.72	0.00	-264.57	0.01	264.57	1646.42	823.21	1986.05	994.50	84.68	-5.920	-0.003	0.272
140.00	-9.34	-15.64	0.00	-248.85	0.01	248.85	1638.67	819.33	1963.12	983.02	85.92	-5.949	-0.003	0.259
142.75	-8.73	-15.39	0.00	-205.85	0.01	205.85	1100.62	550.31	1316.21	659.08	89.36	-6.020	-0.003	0.321
145.00	-8.45	-15.21	0.00	-171.22	0.01	171.22	1091.20	545.60	1284.61	643.26	92.21	-6.072	-0.003	0.275
148.00	-5.27	-9.55	0.00	-125.60	0.01	125.60	1078.27	539.14	1242.60	622.22	96.04	-6.144	-0.003	0.207
150.00	-4.96	-9.23	0.00	-106.49	0.01	106.49	1069.42	534.71	1214.68	608.24	98.62	-6.184	-0.003	0.180
155.00	-4.46	-8.84	0.00	-60.33	0.00	60.33	1046.45	523.23	1145.25	573.48	105.13	-6.259	-0.003	0.110
157.00	-2.71	-4.44	0.00	-42.65	0.00	42.65	1036.93	518.47	1117.66	559.66	107.75	-6.279	-0.003	0.079

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Calculated Forces

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

160.00	-2.49	-4.22	0.00	-29.34	0.00	29.34	1022.30	511.15	1076.48	539.04	111.69	-6.302	-0.003	0.057
165.00	-2.14	-3.86	0.00	-8.25	0.00	8.25	996.96	498.48	1008.51	505.00	118.29	-6.323	-0.003	0.019
167.00	-0.10	-0.14	0.00	-0.27	0.00	0.27	986.50	493.25	981.58	491.52	120.94	-6.325	-0.003	0.001
169.00	0.00	-0.12	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	123.58	-6.325	-0.003	0.000

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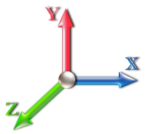
Wind Loading - Shaft

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 27

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	16.018	17.62	385.81	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	16.018	17.62	378.94	0.650	0.000	5.00	23.558	15.31	431.7	0.0	1174.6
10.00		1.00	0.70	16.018	17.62	372.07	0.650	0.000	5.00	23.135	15.04	423.9	0.0	1153.3
15.00		1.00	0.70	16.018	17.62	365.20	0.650	0.000	5.00	22.712	14.76	416.2	0.0	1132.1
20.00		1.00	0.70	16.018	17.62	358.33	0.650	0.000	5.00	22.288	14.49	408.4	0.0	1110.8
25.00		1.00	0.70	16.018	17.62	351.46	0.650	0.000	5.00	21.865	14.21	400.7	0.0	1089.5
30.00		1.00	0.70	16.031	17.63	344.74	0.650	0.000	5.00	21.442	13.94	393.2	0.0	1068.3
35.00		1.00	0.73	16.753	18.43	345.39	0.650	0.000	5.00	21.019	13.66	402.8	0.0	1047.0
40.00		1.00	0.76	17.405	19.15	344.89	0.650	0.000	5.00	20.596	13.39	410.1	0.0	1025.7
40.75	Bot - Section 2	1.00	0.76	17.497	19.25	344.73	0.650	0.000	0.75	3.053	1.98	61.1	0.0	152.0
45.00		1.00	0.79	18.000	19.80	343.46	0.650	0.000	4.25	17.389	11.30	358.1	0.0	1595.7
47.00	Top - Section 1	1.00	0.80	18.225	20.05	342.67	0.650	0.000	2.00	8.077	5.25	168.4	0.0	741.0
50.00		1.00	0.81	18.551	20.41	346.82	0.650	0.000	3.00	11.989	7.79	254.4	0.0	512.3
55.00		1.00	0.83	19.063	20.97	344.08	0.650	0.000	5.00	19.644	12.77	428.4	0.0	839.3
60.00		1.00	0.85	19.543	21.50	340.80	0.650	0.000	5.00	19.220	12.49	429.7	0.0	821.1
65.00		1.00	0.87	19.995	21.99	337.04	0.650	0.000	5.00	18.797	12.22	430.0	0.0	802.9
70.00		1.00	0.89	20.422	22.46	332.87	0.650	0.000	5.00	18.374	11.94	429.3	0.0	784.6
75.00		1.00	0.91	20.829	22.91	328.34	0.650	0.000	5.00	17.951	11.67	427.7	0.0	766.4
80.00		1.00	0.93	21.217	23.34	323.47	0.650	0.000	5.00	17.528	11.39	425.4	0.0	748.2
85.00		1.00	0.94	21.587	23.75	318.32	0.650	0.000	5.00	17.105	11.12	422.4	0.0	730.0
89.25	Bot - Section 3	1.00	0.96	21.890	24.08	313.72	0.650	0.000	4.25	14.206	9.23	355.8	0.0	606.1
90.00		1.00	0.96	21.943	24.14	312.89	0.650	0.000	0.75	2.507	1.63	62.9	0.0	177.1
91.50	RB1	1.00	0.96	22.047	24.25	311.21	0.650	0.000	1.50	4.985	3.24	125.7	0.0	352.2
94.25	Top - Section 2	1.00	0.97	22.234	24.46	308.08	0.650	0.000	2.75	9.041	5.88	230.0	0.0	638.6
95.00		1.00	0.97	22.284	24.51	311.26	0.650	0.000	0.75	2.444	1.59	62.3	0.0	69.7
96.75	RB2	1.00	0.98	22.401	24.64	309.23	0.650	0.000	1.75	5.664	3.68	145.2	0.0	161.6
97.00	RT1	1.00	0.98	22.417	24.66	308.94	0.650	0.000	0.25	0.805	0.52	20.6	0.0	23.0
100.00		1.00	0.99	22.613	24.87	305.39	0.650	0.000	3.00	9.577	6.23	247.8	0.0	273.2
102.25	RT2	1.00	0.99	22.758	25.03	302.68	0.650	0.000	2.25	7.083	4.60	184.4	0.0	202.0
105.00		1.00	1.00	22.931	25.22	299.31	0.650	0.000	2.75	8.541	5.55	224.0	0.0	243.6
110.00		1.00	1.02	23.238	25.56	293.03	0.650	0.000	5.00	15.200	9.88	404.1	0.0	433.5
115.00		1.00	1.03	23.535	25.89	286.57	0.650	0.000	5.00	14.777	9.61	397.9	0.0	421.3
117.00	Appurtenance(s)	1.00	1.03	23.651	26.02	283.94	0.650	0.000	2.00	5.792	3.77	156.7	0.0	165.1
120.00		1.00	1.04	23.823	26.20	279.94	0.650	0.000	3.00	8.562	5.57	233.3	0.0	244.0
125.00		1.00	1.05	24.102	26.51	273.16	0.650	0.000	5.00	13.931	9.06	384.1	0.0	397.0
127.00	Appurtenance(s)	1.00	1.06	24.212	26.63	270.40	0.650	0.000	2.00	5.454	3.55	151.1	0.0	155.4
130.00		1.00	1.07	24.374	26.81	266.22	0.650	0.000	3.00	8.054	5.24	224.6	0.0	229.5
135.00		1.00	1.08	24.638	27.10	259.14	0.650	0.000	5.00	13.085	8.51	368.8	0.0	372.7
137.00	Appurtenance(s)	1.00	1.08	24.742	27.22	256.27	0.650	0.000	2.00	5.115	3.32	144.8	0.0	145.7
139.00	Bot - Section 4	1.00	1.09	24.844	27.33	253.38	0.650	0.000	2.00	5.048	3.28	143.5	0.0	143.7
140.00		1.00	1.09	24.895	27.38	251.93	0.650	0.000	1.00	2.530	1.64	72.1	0.0	125.3
142.75	Top - Section 3	1.00	1.09	25.034	27.54	247.90	0.650	0.000	2.75	6.871	4.47	196.8	0.0	340.2
145.00		1.00	1.10	25.146	27.66	247.81	0.650	0.000	2.25	5.526	3.59	159.0	0.0	118.3
148.00	Appurtenance(s)	1.00	1.11	25.294	27.82	243.36	0.650	0.000	3.00	7.235	4.70	209.4	0.0	154.8
150.00	Appurtenance(s)	1.00	1.11	25.391	27.93	240.37	0.650	0.000	2.00	4.739	3.08	137.6	0.0	101.4
155.00		1.00	1.12	25.630	28.19	232.81	0.650	0.000	5.00	11.551	7.51	338.7	0.0	247.1
157.00	Appurtenance(s)	1.00	1.12	25.724	28.30	229.75	0.650	0.000	2.00	4.502	2.93	132.5	0.0	96.3

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Wind Loading - Shaft

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Topography: 1
Code: EIA/TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/29/2018

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160.00	1.00	1.13	25.863	28.45	225.14	0.650	0.000	3.00	6.626	4.31	196.0	0.0	141.7
165.00	1.00	1.14	26.092	28.70	217.37	0.650	0.000	5.00	10.704	6.96	319.5	0.0	228.8
167.00 Appurtenance(s)	1.00	1.14	26.182	28.80	214.23	0.650	0.000	2.00	4.163	2.71	124.7	0.0	89.0
169.00	1.00	1.15	26.271	28.90	211.07	0.650	0.000	2.00	4.096	2.66	123.1	0.0	87.5
							Totals:	**169.00**			**13,398.8**		**24,480.4**

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Discrete Appurtenance Forces

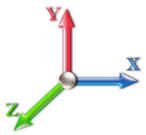
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	167.00	AIR B4A B2P	3	26.182	28.800	0.77	0.90	14.14	244.08	0.000	0.000	651.61	0.00	0.00
2	167.00	T-Arms/Commscope	3	26.204	28.825	0.56	0.75	11.39	918.00	0.000	0.500	525.33	0.00	262.66
3	167.00	AIR B2A B4P	3	26.182	28.800	0.77	0.90	14.14	247.05	0.000	0.000	651.61	0.00	0.00
4	167.00	Ericsson S11B12	3	26.182	28.800	0.63	0.90	6.26	137.70	0.000	0.000	288.27	0.00	0.00
5	167.00	LNX-6515DS	3	26.182	28.800	0.76	0.90	26.01	135.81	0.000	0.000	1198.72	0.00	0.00
6	167.00	Ericsson KRY 112 144/1	3	26.182	28.800	0.63	0.90	0.77	29.70	0.000	0.000	35.71	0.00	0.00
7	157.00	BXA-70063/6CF	1	25.724	28.296	0.63	0.90	4.77	15.30	0.000	0.000	215.92	0.00	0.00
8	157.00	T-Arms	3	25.724	28.296	0.56	0.75	13.50	945.00	0.000	0.000	611.20	0.00	0.00
9	157.00	SLCP 2x6014F	2	25.724	28.296	0.71	0.80	9.24	36.00	0.000	0.000	418.41	0.00	0.00
10	157.00	DB846F65ZAXY	4	25.724	28.296	0.74	0.80	20.98	75.60	0.000	0.000	949.89	0.00	0.00
11	157.00	DB846H80E-SX	2	25.724	28.296	0.88	0.80	8.82	28.80	0.000	0.000	399.21	0.00	0.00
12	157.00	HBX-6517DS-VTM	6	25.724	28.296	0.60	0.80	19.04	100.98	0.000	0.000	862.20	0.00	0.00
13	157.00	ALU RRH2X60-AWS RRH	3	25.724	28.296	0.61	0.80	6.38	162.00	0.000	0.000	289.03	0.00	0.00
14	157.00	RFS DB T1-6Z-8AB-OZ	1	25.724	28.296	0.80	0.80	2.56	17.10	0.000	0.000	115.90	0.00	0.00
15	157.00	GPS	1	25.724	28.296	0.80	0.80	0.80	9.00	0.000	0.000	36.22	0.00	0.00
16	157.00	ALU/900 RRH2X60W -	3	25.724	28.296	0.61	0.80	3.43	124.20	0.000	0.000	155.25	0.00	0.00
17	150.00	Collar Mount	1	25.391	27.930	1.00	1.00	3.50	90.00	0.000	0.000	156.41	0.00	0.00
18	148.00	Cci OPA-65R-LCUU-H8	2	25.294	27.823	0.63	0.80	16.12	158.40	0.000	0.000	717.43	0.00	0.00
19	148.00	Cci OPA-65R-LCUU-H6	1	25.294	27.823	0.63	0.80	6.11	65.70	0.000	0.000	271.78	0.00	0.00
20	148.00	Ericsson RRUS 32-RRU	9	25.294	27.823	0.56	0.80	8.32	623.70	0.000	0.000	370.20	0.00	0.00
21	148.00	Powerwave 1001940-Bias	3	25.294	27.823	0.72	0.80	0.15	5.40	0.000	0.000	6.73	0.00	0.00
22	148.00	CCI HPA-65R-BUU-H8	4	25.294	27.823	0.63	0.80	32.81	244.80	0.000	0.000	1460.75	0.00	0.00
23	148.00	CCI HPA-65R-BUU-H6	2	25.294	27.823	0.68	0.80	13.14	91.80	0.000	0.000	584.84	0.00	0.00
24	148.00	Powerwave LGP13519	6	25.294	27.823	0.60	0.80	1.22	28.62	0.000	0.000	54.49	0.00	0.00
25	148.00	Powerwave LGP21401	6	25.294	27.823	0.60	0.80	4.64	76.14	0.000	0.000	206.74	0.00	0.00
26	148.00	Commscope	1	25.294	27.823	0.50	0.80	0.60	5.94	0.000	0.000	26.70	0.00	0.00
27	148.00	Powerwave 7770	3	25.294	27.823	0.61	0.80	10.13	94.50	0.000	0.000	450.94	0.00	0.00
28	148.00	T-Arms	3	25.294	27.823	0.60	0.80	14.40	945.00	0.000	0.000	641.04	0.00	0.00
29	148.00	Raycap	2	25.294	27.823	0.64	0.80	1.88	59.04	0.000	0.000	83.76	0.00	0.00
30	148.00	Ericsson RRUS-11-RRU	3	25.294	27.823	0.61	0.80	4.60	135.00	0.000	0.000	204.62	0.00	0.00
31	137.00	T-Arms	3	24.742	27.216	0.56	0.75	13.82	653.40	0.000	0.000	601.82	0.00	0.00
32	137.00	APXV18-206517S-C	6	24.742	27.216	0.59	0.80	18.36	142.56	0.000	0.000	799.66	0.00	0.00
33	127.00	Sector Frames	3	24.212	26.633	0.56	0.75	33.75	1350.00	0.000	0.000	1438.17	0.00	0.00
34	127.00	ETCR-654L12H6	3	24.212	26.633	0.57	0.80	26.77	267.30	0.000	0.000	1140.73	0.00	0.00
35	127.00	Horizon Duo	4	24.212	26.633	0.50	1.00	1.18	25.20	0.000	0.000	50.28	0.00	0.00
36	127.00	1900MHz RRH	3	24.212	26.633	0.79	0.80	6.58	162.00	0.000	0.000	280.45	0.00	0.00
37	127.00	800 MHz RRH	6	24.212	26.633	0.74	0.80	11.00	286.20	0.000	0.000	468.56	0.00	0.00
38	127.00	TD-RRH8x20-25	3	24.212	26.633	0.55	0.80	6.71	189.00	0.000	0.000	285.79	0.00	0.00
39	127.00	VHLP2-11	3	24.212	26.633	1.00	1.00	14.04	72.90	1.455	0.000	598.28	544.06	0.00
40	127.00	VHLP800-11	1	24.212	26.633	1.00	1.00	8.43	43.20	1.455	0.000	359.22	326.67	0.00
41	117.00	CM-30S-72	1	23.651	26.016	1.00	1.00	5.00	315.00	0.000	0.000	208.13	0.00	0.00
42	117.00	HG2409U-PRO	1	23.728	26.101	1.00	1.00	0.38	2.52	0.000	1.346	15.87	0.00	21.36
							Totals:		**9,359.64**			**18,887.89**		

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Total Applied Force Summary

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 22

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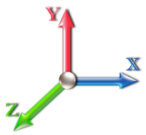
Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		431.69	1438.46	0.00	0.00
10.00		423.93	1417.19	0.00	0.00
15.00		416.18	1395.93	0.00	0.00
20.00		408.42	1374.66	0.00	0.00
25.00		400.67	1353.39	0.00	0.00
30.00		393.25	1332.13	0.00	0.00
35.00		402.84	1310.86	0.00	0.00
40.00		410.08	1289.60	0.00	0.00
40.75		61.11	191.61	0.00	0.00
45.00		358.09	1819.98	0.00	0.00
47.00		168.42	846.59	0.00	0.00
50.00		254.43	670.66	0.00	0.00
55.00		428.38	1103.19	0.00	0.00
60.00		429.70	1084.96	0.00	0.00
65.00		429.97	1066.73	0.00	0.00
70.00		429.28	1048.50	0.00	0.00
75.00		427.74	1030.28	0.00	0.00
80.00		425.43	1012.05	0.00	0.00
85.00		422.42	993.82	0.00	0.00
89.25		355.76	830.42	0.00	0.00
90.00		62.93	216.71	0.00	0.00
91.50		125.74	431.38	0.00	0.00
94.25		229.96	783.76	0.00	0.00
95.00		62.29	109.29	0.00	0.00
96.75		145.16	253.96	0.00	0.00
97.00		20.64	36.16	0.00	0.00
100.00		247.76	431.53	0.00	0.00
102.25		184.40	320.77	0.00	0.00
105.00		224.04	388.71	0.00	0.00
110.00		404.09	697.34	0.00	0.00
115.00		397.86	685.18	0.00	0.00
117.00	(2) attachments	380.72	588.19	0.00	21.36
120.00		233.33	399.55	0.00	0.00
125.00		384.12	656.20	0.00	0.00
127.00	(26) attachments	4772.55	2654.88	870.74	0.00
130.00		224.57	372.94	0.00	0.00
135.00		368.80	611.85	0.00	0.00
137.00	(9) attachments	1546.27	1037.30	0.00	0.00
139.00		143.46	228.16	0.00	0.00
140.00		72.06	167.50	0.00	0.00
142.75		196.77	456.25	0.00	0.00
145.00		158.98	213.23	0.00	0.00
148.00	(45) attachments	5289.39	2815.47	0.00	0.00
150.00	(1) attachments	294.06	251.79	0.00	0.00
155.00		338.67	398.09	0.00	0.00
157.00	(26) attachments	4185.70	1670.66	0.00	0.00

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Total Applied Force Summary

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 23

160.00		196.04	178.34	0.00	0.00
165.00		319.51	289.95	0.00	0.00
167.00	(18) attachments	3475.95	1825.77	0.00	262.66
169.00		123.09	87.53	0.00	0.00
	Totals:	**32,286.73**	**41,869.44**	**870.74**	**284.02**

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Linear Appurtenance Segment Forces (Factored)

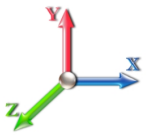
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.035	0.000	16.018	0.00	28.08
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	16.018	0.00	28.08
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	16.018	0.00	28.08
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.037	0.000	16.018	0.00	28.08
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	16.018	0.00	28.08
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	16.031	0.00	28.08
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.039	0.000	16.753	0.00	28.08
40.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.040	0.000	17.405	0.00	28.08
40.75	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.041	0.000	17.497	0.00	4.21
45.00	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.041	0.000	18.000	0.00	23.87
47.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.042	0.000	18.225	0.00	11.23
50.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.041	0.000	18.551	0.00	16.85
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.042	0.000	19.063	0.00	28.08
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.043	0.000	19.543	0.00	28.08
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.044	0.000	19.995	0.00	28.08
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.045	0.000	20.422	0.00	28.08
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.046	0.000	20.829	0.00	28.08
80.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.047	0.000	21.217	0.00	28.08
85.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.048	0.000	21.587	0.00	28.08
89.25	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.049	0.000	21.890	0.00	23.87
90.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.075	0.000	21.943	0.00	4.21
90.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.075	0.000	21.943	0.00	0.00
91.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.076	0.000	22.047	0.00	8.42
91.50	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.13	0.00	0.076	0.000	22.047	0.00	0.00
94.25	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.077	0.000	22.234	0.00	15.44
94.25	1" Reinforcing plate	Yes	2.75	0.000	1.00	0.23	0.00	0.077	0.000	22.234	0.00	0.00
95.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.076	0.000	22.284	0.00	4.21
95.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.076	0.000	22.284	0.00	0.00
96.75	1 5/8" Coax	Yes	1.75	0.000	1.98	0.29	0.00	0.077	0.000	22.401	0.00	9.83
96.75	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.077	0.000	22.401	0.00	0.00
97.00	1 5/8" Coax	Yes	0.25	0.000	1.98	0.04	0.00	0.077	0.000	22.417	0.00	1.40
97.00	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.077	0.000	22.417	0.00	0.00
100.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.078	0.000	22.613	0.00	16.85
100.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.078	0.000	22.613	0.00	0.00
100.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.078	0.000	22.613	0.00	0.00
102.25	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.079	0.000	22.758	0.00	12.64
102.25	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.079	0.000	22.758	0.00	0.00
105.00	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.075	0.000	22.931	0.00	15.44
105.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.075	0.000	22.931	0.00	0.00
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.054	0.000	23.238	0.00	28.08
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.056	0.000	23.535	0.00	28.08
117.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.057	0.000	23.651	0.00	11.23
120.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.058	0.000	23.823	0.00	16.85
125.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.059	0.000	24.102	0.00	28.08
127.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.061	0.000	24.212	0.00	11.23
130.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.061	0.000	24.374	0.00	16.85
135.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.063	0.000	24.638	0.00	28.08

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Linear Appurtenance Segment Forces (Factored)

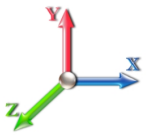
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
137.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.065	0.000	24.742	0.00	11.23
139.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.065	0.000	24.844	0.00	11.23
140.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.066	0.000	24.895	0.00	5.62
142.75	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.067	0.000	25.034	0.00	15.44
145.00	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.067	0.000	25.146	0.00	12.64
148.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.068	0.000	25.294	0.00	16.85
150.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.070	0.000	25.391	0.00	11.23
155.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.071	0.000	25.630	0.00	28.08
157.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.073	0.000	25.724	0.00	11.23
									Totals:		**0.0**	**881.7**

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Calculated Forces

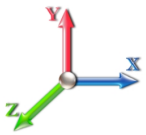
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 27

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-41.82	-32.36	-0.86	-4032.0	-0.01	4032.03	5324.18	2662.09	12195.0	6106.56	0.00	0.000	0.000	0.668
5.00	-40.27	-32.05	-0.86	-3870.2	-0.01	3870.26	5261.08	2630.54	11832.5	5925.09	0.10	-0.185	0.000	0.661
10.00	-38.75	-31.75	-0.86	-3710.0	-0.01	3710.00	5196.80	2598.40	11472.7	5744.92	0.39	-0.372	0.000	0.653
15.00	-37.26	-31.45	-0.86	-3551.2	-0.01	3551.26	5131.34	2565.67	11115.7	5566.13	0.89	-0.562	0.000	0.645
20.00	-35.78	-31.14	-0.86	-3394.0	-0.01	3394.03	5064.69	2532.35	10761.6	5388.80	1.58	-0.754	0.000	0.637
25.00	-34.33	-30.84	-0.86	-3238.3	-0.01	3238.32	4996.86	2498.43	10410.5	5212.99	2.47	-0.948	0.000	0.628
30.00	-32.90	-30.53	-0.86	-3084.1	-0.01	3084.13	4927.84	2463.92	10062.6	5038.79	3.57	-1.144	0.000	0.619
35.00	-31.49	-30.21	-0.86	-2931.4	-0.01	2931.45	4857.63	2428.82	9718.08	4866.26	4.87	-1.342	0.000	0.609
40.00	-30.16	-29.83	-0.86	-2780.3	-0.01	2780.39	4786.24	2393.12	9377.03	4695.49	6.39	-1.542	0.000	0.599
40.75	-29.91	-29.82	-0.86	-2758.0	-0.02	2758.02	4775.43	2387.72	9326.19	4670.03	6.63	-1.573	0.000	0.597
45.00	-28.04	-29.47	-0.86	-2631.2	-0.02	2631.29	4713.67	2356.83	9039.63	4526.53	8.11	-1.746	0.000	0.587
47.00	-27.15	-29.32	-0.86	-2572.3	-0.02	2572.35	3877.89	1938.95	7512.92	3762.05	8.86	-1.828	0.000	0.691
50.00	-26.39	-29.13	-0.86	-2484.3	-0.02	2484.38	3845.09	1922.55	7353.82	3682.38	10.05	-1.952	-0.001	0.682
55.00	-25.19	-28.76	-0.86	-2338.7	-0.02	2338.74	3789.47	1894.74	7090.51	3550.52	12.21	-2.178	-0.001	0.666
60.00	-24.01	-28.38	-0.86	-2194.9	-0.02	2194.94	3732.67	1866.34	6829.63	3419.89	14.62	-2.405	-0.001	0.648
65.00	-22.86	-28.00	-0.86	-2053.0	-0.02	2053.03	3674.68	1837.34	6571.34	3290.55	17.25	-2.632	-0.001	0.630
70.00	-21.72	-27.60	-0.86	-1913.0	-0.02	1913.04	3615.51	1807.76	6315.78	3162.58	20.13	-2.859	-0.001	0.611
75.00	-20.61	-27.21	-0.86	-1775.0	-0.03	1775.02	3555.15	1777.58	6063.10	3036.06	23.25	-3.085	-0.001	0.591
80.00	-19.52	-26.80	-0.86	-1638.9	-0.03	1638.99	3493.61	1746.80	5813.45	2911.05	26.60	-3.311	-0.001	0.569
85.00	-18.45	-26.39	-0.86	-1504.9	-0.03	1504.99	3430.88	1715.44	5566.98	2787.63	30.18	-3.533	-0.001	0.546
89.25	-17.60	-26.01	-0.86	-1392.8	-0.03	1392.85	3376.63	1688.32	5360.08	2684.02	33.41	-3.722	-0.001	0.524
90.00	-17.36	-25.95	-0.86	-1373.3	-0.03	1373.34	3366.97	1683.48	5323.83	2665.87	34.00	-3.756	-0.001	0.521
91.50	-16.91	-25.82	-0.86	-1334.4	-0.03	1334.42	3347.56	1673.78	5251.55	2629.68	35.19	-3.823	-0.001	0.384
94.25	-16.11	-25.55	-0.86	-1263.4	-0.03	1263.41	1944.87	972.44	3066.99	1535.78	37.42	-3.913	-0.001	0.435
95.00	-15.99	-25.50	-0.86	-1244.2	-0.03	1244.25	1940.65	970.33	3048.28	1526.41	38.03	-3.938	-0.002	0.554
96.75	-15.73	-25.35	-0.86	-1199.6	-0.03	1199.63	1930.70	965.35	3004.67	1504.57	39.49	-4.011	-0.002	0.379
97.00	-15.67	-25.34	-0.86	-1193.2	-0.03	1193.29	1929.27	964.63	2998.44	1501.45	39.70	-4.019	-0.002	0.491
100.00	-15.21	-25.09	-0.86	-1117.2	-0.04	1117.27	1911.84	955.92	2923.84	1464.09	42.26	-4.130	-0.002	0.468
102.25	-14.86	-24.90	-0.87	-1060.8	-0.04	1060.83	1898.49	949.24	2868.04	1436.15	44.23	-4.212	-0.002	0.451
102.25	-14.86	-24.90	-0.87	-1060.8	-0.04	1060.83	1898.49	949.24	2868.04	1436.15	44.23	-4.212	-0.002	0.451
105.00	-14.41	-24.70	-0.87	-992.34	-0.04	992.34	1881.84	940.92	2800.02	1402.09	46.68	-4.309	-0.002	0.716
110.00	-13.63	-24.31	-0.87	-868.85	-0.04	868.85	1850.66	925.33	2676.97	1340.48	51.34	-4.588	-0.002	0.656
115.00	-12.91	-23.90	-0.87	-747.31	-0.05	747.31	1818.29	909.14	2554.84	1279.32	56.28	-4.852	-0.003	0.592
117.00	-12.30	-23.49	-0.87	-699.50	-0.05	699.50	1805.01	902.50	2506.28	1255.00	58.34	-4.955	-0.003	0.565
120.00	-11.85	-23.26	-0.87	-629.02	-0.05	629.02	1784.73	892.37	2433.78	1218.70	61.49	-5.101	-0.003	0.523
125.00	-11.17	-22.85	-0.87	-512.70	-0.05	512.70	1749.99	875.00	2313.93	1158.68	66.95	-5.323	-0.003	0.450
127.00	-8.94	-17.87	0.00	-467.00	0.03	467.00	1735.77	867.88	2266.36	1134.86	69.20	-5.407	-0.003	0.417
130.00	-8.55	-17.63	0.00	-413.40	0.02	413.40	1714.07	857.04	2195.44	1099.35	72.63	-5.523	-0.003	0.381
135.00	-7.94	-17.22	0.00	-325.25	0.02	325.25	1676.96	838.48	2078.45	1040.77	78.50	-5.696	-0.003	0.318
137.00	-7.05	-15.58	0.00	-290.82	0.02	290.82	1661.79	830.89	2032.11	1017.57	80.90	-5.760	-0.003	0.290
139.00	-6.82	-15.42	0.00	-259.65	0.01	259.65	1646.42	823.21	1986.05	994.50	83.32	-5.819	-0.003	0.266
140.00	-6.65	-15.34	0.00	-244.22	0.01	244.22	1638.67	819.33	1963.12	983.02	84.54	-5.847	-0.003	0.253
142.75	-6.20	-15.10	0.00	-202.04	0.01	202.04	1100.62	550.31	1316.21	659.08	87.93	-5.918	-0.003	0.313
145.00	-5.99	-14.93	0.00	-168.05	0.01	168.05	1091.20	545.60	1284.61	643.26	90.72	-5.968	-0.003	0.267
148.00	-3.73	-9.38	0.00	-123.26	0.01	123.26	1078.27	539.14	1242.60	622.22	94.49	-6.039	-0.003	0.202
150.00	-3.50	-9.06	0.00	-104.50	0.01	104.50	1069.42	534.71	1214.68	608.24	97.02	-6.078	-0.003	0.175
155.00	-3.14	-8.69	0.00	-59.18	0.00	59.18	1046.45	523.23	1145.25	573.48	103.42	-6.151	-0.003	0.106
157.00	-1.92	-4.35	0.00	-41.81	0.00	41.81	1036.93	518.47	1117.66	559.66	106.00	-6.172	-0.003	0.077

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Calculated Forces

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

160.00	-1.77	-4.13	0.00	-28.76	0.00	28.76	1022.30	511.15	1076.48	539.04	109.88	-6.194	-0.003	0.055
165.00	-1.51	-3.79	0.00	-8.10	0.00	8.10	996.96	498.48	1008.51	505.00	116.36	-6.215	-0.003	0.018
167.00	-0.07	-0.13	0.00	-0.26	0.00	0.26	986.50	493.25	981.58	491.52	118.96	-6.217	-0.003	0.001
169.00	0.00	-0.12	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	121.56	-6.217	-0.003	0.000

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Wind Loading - Shaft

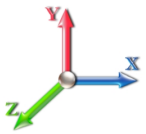
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.256	4.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.68	0.00	1.200	1.242	5.00	24.593	29.51	138.2	439.0	2005.1
10.00		1.00	0.70	4.256	4.68	0.00	1.200	1.331	5.00	24.244	29.09	136.2	462.9	2000.7
15.00		1.00	0.70	4.256	4.68	0.00	1.200	1.386	5.00	23.867	28.64	134.1	473.8	1983.3
20.00		1.00	0.70	4.256	4.68	0.00	1.200	1.427	5.00	23.477	28.17	131.9	479.1	1960.2
25.00		1.00	0.70	4.256	4.68	0.00	1.200	1.459	5.00	23.081	27.70	129.7	481.0	1933.8
30.00		1.00	0.70	4.260	4.69	0.00	1.200	1.486	5.00	22.680	27.22	127.5	480.8	1905.2
35.00		1.00	0.73	4.451	4.90	0.00	1.200	1.509	5.00	22.276	26.73	130.9	479.1	1875.1
40.00		1.00	0.76	4.625	5.09	0.00	1.200	1.529	5.00	21.870	26.24	133.5	476.1	1843.8
40.75	Bot - Section 2	1.00	0.76	4.649	5.11	0.00	1.200	1.532	0.75	3.244	3.89	19.9	71.3	274.0
45.00		1.00	0.79	4.783	5.26	0.00	1.200	1.547	4.25	18.485	22.18	116.7	407.6	2535.2
47.00	Top - Section 1	1.00	0.80	4.843	5.33	0.00	1.200	1.554	2.00	8.595	10.31	54.9	191.1	1179.2
50.00		1.00	0.81	4.929	5.42	0.00	1.200	1.564	3.00	12.771	15.33	83.1	285.0	968.1
55.00		1.00	0.83	5.065	5.57	0.00	1.200	1.579	5.00	20.959	25.15	140.1	469.7	1588.8
60.00		1.00	0.85	5.193	5.71	0.00	1.200	1.592	5.00	20.547	24.66	140.8	464.0	1558.8
65.00		1.00	0.87	5.313	5.84	0.00	1.200	1.605	5.00	20.135	24.16	141.2	457.8	1528.3
70.00		1.00	0.89	5.426	5.97	0.00	1.200	1.617	5.00	19.722	23.67	141.3	451.2	1497.4
75.00		1.00	0.91	5.534	6.09	0.00	1.200	1.628	5.00	19.308	23.17	141.1	444.2	1466.1
80.00		1.00	0.93	5.637	6.20	0.00	1.200	1.639	5.00	18.894	22.67	140.6	436.9	1434.5
85.00		1.00	0.94	5.736	6.31	0.00	1.200	1.649	5.00	18.479	22.17	139.9	429.3	1402.6
89.25	Bot - Section 3	1.00	0.96	5.816	6.40	0.00	1.200	1.657	4.25	15.380	18.46	118.1	359.3	1167.5
90.00		1.00	0.96	5.830	6.41	0.00	1.200	1.658	0.75	2.714	3.26	20.9	64.0	300.2
91.50	RB1	1.00	0.96	5.858	6.44	0.00	1.200	1.661	1.50	5.401	6.48	41.8	127.3	596.9
94.25	Top - Section 2	1.00	0.97	5.908	6.50	0.00	1.200	1.666	2.75	9.805	11.77	76.5	230.9	1082.4
95.00		1.00	0.97	5.921	6.51	0.00	1.200	1.667	0.75	2.652	3.18	20.7	62.8	155.8
96.75	RB2	1.00	0.98	5.952	6.55	0.00	1.200	1.670	1.75	6.152	7.38	48.3	145.5	361.0
97.00	RT1	1.00	0.98	5.956	6.55	0.00	1.200	1.671	0.25	0.875	1.05	6.9	20.8	51.4
100.00		1.00	0.99	6.008	6.61	0.00	1.200	1.676	3.00	10.415	12.50	82.6	246.2	610.5
102.25	RT2	1.00	0.99	6.047	6.65	0.00	1.200	1.680	2.25	7.713	9.26	61.6	183.0	452.4
105.00		1.00	1.00	6.093	6.70	0.00	1.200	1.684	2.75	9.312	11.17	74.9	221.1	545.9
110.00		1.00	1.02	6.174	6.79	0.00	1.200	1.692	5.00	16.610	19.93	135.4	393.3	971.2
115.00		1.00	1.03	6.253	6.88	0.00	1.200	1.699	5.00	16.193	19.43	133.7	384.5	946.2
117.00	Appurtenance(s)	1.00	1.03	6.284	6.91	0.00	1.200	1.702	2.00	6.360	7.63	52.8	152.4	372.5
120.00		1.00	1.04	6.330	6.96	0.00	1.200	1.707	3.00	9.415	11.30	78.7	225.3	550.7
125.00		1.00	1.05	6.404	7.04	0.00	1.200	1.714	5.00	15.359	18.43	129.8	366.4	895.7
127.00	Appurtenance(s)	1.00	1.06	6.433	7.08	0.00	1.200	1.716	2.00	6.026	7.23	51.2	145.1	352.3
130.00		1.00	1.07	6.476	7.12	0.00	1.200	1.720	3.00	8.914	10.70	76.2	214.2	520.2
135.00		1.00	1.08	6.546	7.20	0.00	1.200	1.727	5.00	14.524	17.43	125.5	347.7	844.6
137.00	Appurtenance(s)	1.00	1.08	6.574	7.23	0.00	1.200	1.729	2.00	5.692	6.83	49.4	137.6	331.8
139.00	Bot - Section 4	1.00	1.09	6.601	7.26	0.00	1.200	1.732	2.00	5.625	6.75	49.0	136.0	327.7
140.00		1.00	1.09	6.615	7.28	0.00	1.200	1.733	1.00	2.819	3.38	24.6	68.4	235.5
142.75	Top - Section 3	1.00	1.09	6.652	7.32	0.00	1.200	1.737	2.75	7.667	9.20	67.3	185.3	638.9
145.00		1.00	1.10	6.681	7.35	0.00	1.200	1.739	2.25	6.179	7.41	54.5	149.7	307.3
148.00	Appurtenance(s)	1.00	1.11	6.721	7.39	0.00	1.200	1.743	3.00	8.107	9.73	71.9	196.1	402.5
150.00	Appurtenance(s)	1.00	1.11	6.746	7.42	0.00	1.200	1.745	2.00	5.320	6.38	47.4	129.1	264.3
155.00		1.00	1.12	6.810	7.49	0.00	1.200	1.751	5.00	13.010	15.61	116.9	313.0	642.4
157.00	Appurtenance(s)	1.00	1.12	6.835	7.52	0.00	1.200	1.753	2.00	5.086	6.10	45.9	123.6	252.0

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Wind Loading - Shaft

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Topography: 1

Code: EIA/TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/29/2018

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160.00	1.00	1.13	6.872	7.56	0.00	1.200	1.757	3.00	7.504	9.00	68.1	181.8	370.7
165.00	1.00	1.14	6.933	7.63	0.00	1.200	1.762	5.00	12.173	14.61	111.4	293.0	598.1
167.00 Appurtenance(s)	1.00	1.14	6.957	7.65	0.00	1.200	1.764	2.00	4.751	5.70	43.6	115.6	234.2
169.00	1.00	1.15	6.980	7.68	0.00	1.200	1.766	2.00	4.684	5.62	43.2	114.0	230.7
							Totals:	**169.00**			**4,450.1**		**46,553.3**

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Discrete Appurtenance Forces

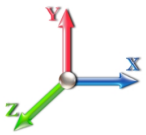
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	167.00	AIR B4A B2P	3	6.957	7.652	0.77	0.90	16.72	838.64	0.000	0.000	127.93	0.00	0.00
2	167.00	T-Arms/Commscope	3	6.963	7.659	0.56	0.75	21.44	1703.73	0.000	0.500	164.18	0.00	82.09
3	167.00	AIR B2A B4P	3	6.957	7.652	0.77	0.90	16.72	842.60	0.000	0.000	127.93	0.00	0.00
4	167.00	Ericsson S11B12	3	6.957	7.652	0.65	0.90	6.86	446.58	0.000	0.000	52.49	0.00	0.00
5	167.00	LNX-6515DS	3	6.957	7.652	0.76	0.90	33.50	688.26	0.000	0.000	256.37	0.00	0.00
6	167.00	Ericsson KRY 112 144/1	3	6.957	7.652	0.65	0.90	1.73	62.99	0.000	0.000	13.24	0.00	0.00
7	157.00	BXA-70063/6CF	1	6.835	7.518	0.63	0.90	6.52	122.16	0.000	0.000	49.01	0.00	0.00
8	157.00	T-Arms	3	6.835	7.518	0.56	0.75	25.33	1786.34	0.000	0.000	190.47	0.00	0.00
9	157.00	SLCP 2x6014F	2	6.835	7.518	0.71	0.80	12.21	301.29	0.000	0.000	91.80	0.00	0.00
10	157.00	DB846F65ZAXY	4	6.835	7.518	0.74	0.80	24.66	894.70	0.000	0.000	185.42	0.00	0.00
11	157.00	DB846H80E-SX	2	6.835	7.518	0.88	0.80	10.97	359.21	0.000	0.000	82.45	0.00	0.00
12	157.00	HBX-6517DS-VTM	6	6.835	7.518	0.60	0.80	23.70	866.16	0.000	0.000	178.19	0.00	0.00
13	157.00	ALU RRH2X60-AWS RRH	3	6.835	7.518	0.62	0.80	8.04	418.76	0.000	0.000	60.42	0.00	0.00
14	157.00	RFS DB T1-6Z-8AB-OZ	1	6.835	7.518	0.80	0.80	3.23	81.95	0.000	0.000	24.27	0.00	0.00
15	157.00	GPS	1	6.835	7.518	0.80	0.80	1.37	33.45	0.000	0.000	10.32	0.00	0.00
16	157.00	ALU/900 RRH2X60W -	3	6.835	7.518	0.62	0.80	4.62	374.13	0.000	0.000	34.75	0.00	0.00
17	150.00	Collar Mount	1	6.746	7.421	1.00	1.00	5.94	-146.23	0.000	0.000	44.11	0.00	0.00
18	148.00	Cci OPA-65R-LCUU-H8	2	6.721	7.393	0.63	0.80	18.45	782.38	0.000	0.000	136.36	0.00	0.00
19	148.00	Cci OPA-65R-LCUU-H6	1	6.721	7.393	0.63	0.80	6.97	319.00	0.000	0.000	51.51	0.00	0.00
20	148.00	Ericsson RRUS 32-RRU	9	6.721	7.393	0.58	0.80	11.55	1267.24	0.000	0.000	85.41	0.00	0.00
21	148.00	Powerwave 1001940-Bias	3	6.721	7.393	0.73	0.80	0.65	31.38	0.000	0.000	4.84	0.00	0.00
22	148.00	CCI HPA-65R-BUU-H8	4	6.721	7.393	0.63	0.80	36.89	1488.76	0.000	0.000	272.72	0.00	0.00
23	148.00	CCI HPA-65R-BUU-H6	2	6.721	7.393	0.68	0.80	14.99	617.83	0.000	0.000	110.84	0.00	0.00
24	148.00	Powerwave LGP13519	6	6.721	7.393	0.62	0.80	2.93	78.87	0.000	0.000	21.68	0.00	0.00
25	148.00	Powerwave LGP21401	6	6.721	7.393	0.62	0.80	7.85	208.73	0.000	0.000	58.05	0.00	0.00
26	148.00	Commscope	1	6.721	7.393	0.52	0.80	1.03	25.23	0.000	0.000	7.59	0.00	0.00
27	148.00	Powerwave 7770	3	6.721	7.393	0.64	0.80	12.54	635.80	0.000	0.000	92.74	0.00	0.00
28	148.00	T-Arms	3	6.721	7.393	0.60	0.80	26.95	1782.01	0.000	0.000	199.22	0.00	0.00
29	148.00	Raycap	2	6.721	7.393	0.66	0.80	2.85	172.69	0.000	0.000	21.04	0.00	0.00
30	148.00	Ericsson RRUS-11-RRU	3	6.721	7.393	0.62	0.80	6.03	450.24	0.000	0.000	44.56	0.00	0.00
31	137.00	T-Arms	3	6.574	7.231	0.56	0.75	30.98	1306.43	0.000	0.000	224.04	0.00	0.00
32	137.00	APXV18-206517S-C	6	6.574	7.231	0.59	0.80	26.72	582.54	0.000	0.000	193.24	0.00	0.00
33	127.00	Sector Frames	3	6.433	7.076	0.56	0.75	60.17	3259.69	0.000	0.000	425.76	0.00	0.00
34	127.00	ETCR-654L12H6	3	6.433	7.076	0.58	0.80	30.42	1306.58	0.000	0.000	215.23	0.00	0.00
35	127.00	Horizon Duo	4	6.433	7.076	0.50	1.00	2.29	77.05	0.000	0.000	16.17	0.00	0.00
36	127.00	1900MHz RRH	3	6.433	7.076	0.79	0.80	9.55	390.47	0.000	0.000	67.55	0.00	0.00
37	127.00	800 MHz RRH	6	6.433	7.076	0.74	0.80	15.96	691.44	0.000	0.000	112.96	0.00	0.00
38	127.00	TD-RRH8x20-25	3	6.433	7.076	0.57	0.80	8.26	576.79	0.000	0.000	58.47	0.00	0.00
39	127.00	VHLP2-11	3	6.433	7.076	1.00	1.00	17.80	301.94	1.455	0.000	125.96	183.27	0.00
40	127.00	VHLP800-11	1	6.433	7.076	1.00	1.00	10.11	179.87	1.455	0.000	71.53	104.08	0.00
41	117.00	CM-30S-72	1	6.284	6.913	1.00	1.00	8.40	606.00	0.000	0.000	58.10	0.00	0.00
42	117.00	HG2409U-PRO	1	6.305	6.935	1.00	1.00	0.98	28.84	0.000	1.346	6.80	0.00	9.15
							Totals:		**26,842.51**			**4,375.73**		

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Total Applied Force Summary

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 31

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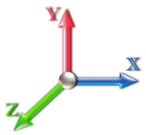
Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		138.16	2433.57	0.00	0.00
10.00		136.20	2434.64	0.00	0.00
15.00		134.08	2420.68	0.00	0.00
20.00		131.89	2400.14	0.00	0.00
25.00		129.67	2375.79	0.00	0.00
30.00		127.52	2348.95	0.00	0.00
35.00		130.89	2320.31	0.00	0.00
40.00		133.50	2290.31	0.00	0.00
40.75		19.91	341.05	0.00	0.00
45.00		116.70	2915.74	0.00	0.00
47.00		54.94	1358.43	0.00	0.00
50.00		83.09	1237.37	0.00	0.00
55.00		140.13	2038.62	0.00	0.00
60.00		140.83	2009.48	0.00	0.00
65.00		141.20	1979.81	0.00	0.00
70.00		141.26	1949.68	0.00	0.00
75.00		141.05	1919.15	0.00	0.00
80.00		140.59	1888.26	0.00	0.00
85.00		139.91	1857.04	0.00	0.00
89.25		118.08	1554.18	0.00	0.00
90.00		20.89	371.99	0.00	0.00
91.50		41.76	740.61	0.00	0.00
94.25		76.46	1346.12	0.00	0.00
95.00		20.73	227.68	0.00	0.00
96.75		48.33	528.93	0.00	0.00
97.00		6.88	75.38	0.00	0.00
100.00		82.60	898.70	0.00	0.00
102.25		61.56	668.65	0.00	0.00
105.00		74.90	808.00	0.00	0.00
110.00		135.38	1428.53	0.00	0.00
115.00		133.67	1404.02	0.00	0.00
117.00	(2) attachments	117.65	1190.56	0.00	9.15
120.00		78.67	821.90	0.00	0.00
125.00		129.83	1348.21	0.00	0.00
127.00	(26) attachments	1144.79	7317.17	287.35	0.00
130.00		76.20	775.93	0.00	0.00
135.00		125.50	1271.29	0.00	0.00
137.00	(9) attachments	466.67	2391.50	0.00	0.00
139.00		49.01	483.50	0.00	0.00
140.00		24.61	313.43	0.00	0.00
142.75		67.31	853.30	0.00	0.00
145.00		54.49	482.86	0.00	0.00
148.00	(45) attachments	1178.48	8496.78	0.00	0.00
150.00	(1) attachments	91.49	242.24	0.00	0.00
155.00		116.95	953.21	0.00	0.00
157.00	(26) attachments	952.99	5614.49	0.00	0.00

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Total Applied Force Summary

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 32

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160.00		68.07	419.61	0.00	0.00
165.00		111.39	679.59	0.00	0.00
167.00	(18) attachments	785.78	4849.62	0.00	82.09
169.00		43.16	230.65	0.00	0.00
	Totals:	**8,825.84**	**87,307.66**	**287.35**	**91.24**

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Linear Appurtenance Segment Forces (Factored)

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 33	

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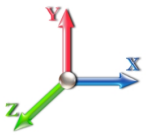
Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.86	0.00	0.035	0.000	4.256	0.00	114.06
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.93	0.00	0.036	0.000	4.256	0.00	119.58
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.98	0.00	0.036	0.000	4.256	0.00	123.04
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.01	0.00	0.037	0.000	4.256	0.00	125.61
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.04	0.00	0.038	0.000	4.256	0.00	127.66
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.06	0.00	0.038	0.000	4.260	0.00	129.38
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.08	0.00	0.039	0.000	4.451	0.00	130.87
40.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.10	0.00	0.040	0.000	4.625	0.00	132.19
40.75	1 5/8" Coax	Yes	0.75	0.000	1.98	0.32	0.00	0.041	0.000	4.649	0.00	19.86
45.00	1 5/8" Coax	Yes	4.25	0.000	1.98	1.80	0.00	0.041	0.000	4.783	0.00	113.36
47.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.85	0.00	0.042	0.000	4.843	0.00	53.52
50.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.28	0.00	0.041	0.000	4.929	0.00	80.66
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.14	0.00	0.042	0.000	5.065	0.00	135.41
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.15	0.00	0.043	0.000	5.193	0.00	136.31
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.16	0.00	0.044	0.000	5.313	0.00	137.16
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.17	0.00	0.045	0.000	5.426	0.00	137.94
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.18	0.00	0.046	0.000	5.534	0.00	138.68
80.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.19	0.00	0.047	0.000	5.637	0.00	139.38
85.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.20	0.00	0.048	0.000	5.736	0.00	140.04
89.25	1 5/8" Coax	Yes	4.25	0.000	1.98	1.87	0.00	0.049	0.000	5.816	0.00	119.49
90.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.33	0.00	0.075	0.000	5.830	0.00	21.10
90.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.27	0.00	0.075	0.000	5.830	0.00	3.55
91.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.66	0.00	0.076	0.000	5.858	0.00	42.26
91.50	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.54	0.00	0.076	0.000	5.858	0.00	7.12
94.25	1 5/8" Coax	Yes	2.75	0.000	1.98	1.22	0.00	0.077	0.000	5.908	0.00	77.65
94.25	1" Reinforcing plate	Yes	2.75	0.000	1.00	0.99	0.00	0.077	0.000	5.908	0.00	13.12
95.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.33	0.00	0.076	0.000	5.921	0.00	21.19
95.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.27	0.00	0.076	0.000	5.921	0.00	3.58
96.75	1 5/8" Coax	Yes	1.75	0.000	1.98	0.78	0.00	0.077	0.000	5.952	0.00	49.51
96.75	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.63	0.00	0.077	0.000	5.952	0.00	8.38
97.00	1 5/8" Coax	Yes	0.25	0.000	1.98	0.11	0.00	0.077	0.000	5.956	0.00	7.07
97.00	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.09	0.00	0.077	0.000	5.956	0.00	1.20
100.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.33	0.00	0.078	0.000	6.008	0.00	85.10
100.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.27	0.00	0.078	0.000	6.008	0.00	3.61
100.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.82	0.00	0.078	0.000	6.008	0.00	10.84
102.25	1 5/8" Coax	Yes	2.25	0.000	1.98	1.00	0.00	0.079	0.000	6.047	0.00	63.94
102.25	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.82	0.00	0.079	0.000	6.047	0.00	10.88
105.00	1 5/8" Coax	Yes	2.75	0.000	1.98	1.23	0.00	0.075	0.000	6.093	0.00	78.31
105.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.82	0.00	0.075	0.000	6.093	0.00	10.93
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.23	0.00	0.054	0.000	6.174	0.00	142.91
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.24	0.00	0.056	0.000	6.253	0.00	143.41
117.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.90	0.00	0.057	0.000	6.284	0.00	57.44
120.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.35	0.00	0.058	0.000	6.330	0.00	86.34
125.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.25	0.00	0.059	0.000	6.404	0.00	144.37
127.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.90	0.00	0.061	0.000	6.433	0.00	57.82
130.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.36	0.00	0.061	0.000	6.476	0.00	86.89
135.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.26	0.00	0.063	0.000	6.546	0.00	145.26

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Linear Appurtenance Segment Forces (Factored)

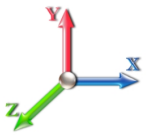
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
137.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.91	0.00	0.065	0.000	6.574	0.00	58.17
139.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.91	0.00	0.065	0.000	6.601	0.00	58.24
140.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.45	0.00	0.066	0.000	6.615	0.00	29.14
142.75	1 5/8" Coax	Yes	2.75	0.000	1.98	1.25	0.00	0.067	0.000	6.652	0.00	80.25
145.00	1 5/8" Coax	Yes	2.25	0.000	1.98	1.02	0.00	0.067	0.000	6.681	0.00	65.74
148.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.37	0.00	0.068	0.000	6.721	0.00	87.80
150.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.91	0.00	0.070	0.000	6.746	0.00	58.60
155.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.28	0.00	0.071	0.000	6.810	0.00	146.88
157.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.91	0.00	0.073	0.000	6.835	0.00	58.81
										Totals:	**0.0**	**4,381.6**

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Calculated Forces

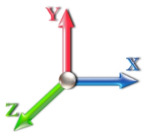
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-87.30	-8.87	-0.29	-1115.0	0.00	1115.01	5324.18	2662.09	12195.0	6106.56	0.00	0.000	0.000	0.199
5.00	-84.86	-8.80	-0.29	-1070.6	0.00	1070.68	5261.08	2630.54	11832.5	5925.09	0.03	-0.051	0.000	0.197
10.00	-82.42	-8.74	-0.29	-1026.6	0.00	1026.68	5196.80	2598.40	11472.7	5744.92	0.11	-0.103	0.000	0.195
15.00	-79.99	-8.67	-0.29	-982.99	0.00	982.99	5131.34	2565.67	11115.7	5566.13	0.24	-0.155	0.000	0.192
20.00	-77.58	-8.60	-0.29	-939.63	0.00	939.63	5064.69	2532.35	10761.6	5388.80	0.44	-0.209	0.000	0.190
25.00	-75.20	-8.54	-0.29	-896.61	0.00	896.61	4996.86	2498.43	10410.5	5212.99	0.68	-0.262	0.000	0.187
30.00	-72.84	-8.47	-0.29	-853.93	0.00	853.93	4927.84	2463.92	10062.6	5038.79	0.99	-0.317	0.000	0.184
35.00	-70.52	-8.39	-0.29	-811.60	0.00	811.60	4857.63	2428.82	9718.08	4866.26	1.35	-0.372	0.000	0.181
40.00	-68.22	-8.28	-0.29	-769.65	0.00	769.65	4786.24	2393.12	9377.03	4695.49	1.77	-0.427	0.000	0.178
40.75	-67.88	-8.29	-0.29	-763.44	0.00	763.44	4775.43	2387.72	9326.19	4670.03	1.84	-0.435	0.000	0.178
45.00	-64.96	-8.19	-0.29	-728.22	0.00	728.22	4713.67	2356.83	9039.63	4526.53	2.24	-0.483	0.000	0.175
47.00	-63.60	-8.15	-0.29	-711.84	0.00	711.84	3877.89	1938.95	7512.92	3762.05	2.45	-0.506	0.000	0.206
50.00	-62.35	-8.11	-0.29	-687.38	0.00	687.38	3845.09	1922.55	7353.82	3682.38	2.78	-0.540	0.000	0.203
55.00	-60.31	-8.02	-0.29	-646.82	0.00	646.82	3789.47	1894.74	7090.51	3550.52	3.38	-0.603	0.000	0.198
60.00	-58.29	-7.92	-0.29	-606.74	0.00	606.74	3732.67	1866.34	6829.63	3419.89	4.05	-0.666	0.000	0.193
65.00	-56.30	-7.81	-0.29	-567.15	0.00	567.15	3674.68	1837.34	6571.34	3290.55	4.78	-0.728	0.000	0.188
70.00	-54.35	-7.71	-0.29	-528.08	0.00	528.08	3615.51	1807.76	6315.78	3162.58	5.57	-0.791	0.000	0.182
75.00	-52.42	-7.60	-0.29	-489.54	0.00	489.54	3555.15	1777.58	6063.10	3036.06	6.43	-0.853	0.000	0.176
80.00	-50.53	-7.48	-0.29	-451.57	0.00	451.57	3493.61	1746.80	5813.45	2911.05	7.36	-0.915	0.000	0.170
85.00	-48.67	-7.36	-0.29	-414.17	0.00	414.17	3430.88	1715.44	5566.98	2787.63	8.35	-0.977	0.000	0.163
89.25	-47.11	-7.24	-0.29	-382.90	0.00	382.90	3376.63	1688.32	5360.08	2684.02	9.25	-1.029	0.000	0.157
90.00	-46.74	-7.22	-0.29	-377.47	0.00	377.47	3366.97	1683.48	5323.83	2665.87	9.41	-1.038	0.000	0.155
91.50	-46.00	-7.18	-0.29	-366.64	0.00	366.64	3347.56	1673.78	5251.55	2629.68	9.74	-1.056	0.000	0.114
94.25	-44.65	-7.09	-0.29	-346.89	0.00	346.89	1944.87	972.44	3066.99	1535.78	10.35	-1.081	0.000	0.129
95.00	-44.42	-7.08	-0.29	-341.57	0.00	341.57	1940.65	970.33	3048.28	1526.41	10.52	-1.088	-0.001	0.165
96.75	-43.89	-7.03	-0.29	-329.18	0.00	329.18	1930.70	965.35	3004.67	1504.57	10.93	-1.108	-0.001	0.113
97.00	-43.81	-7.03	-0.29	-327.43	0.00	327.43	1929.27	964.63	2998.44	1501.45	10.99	-1.110	-0.001	0.147
100.00	-42.91	-6.95	-0.29	-306.33	0.00	306.33	1911.84	955.92	2923.84	1464.09	11.69	-1.141	-0.001	0.141
102.25	-42.24	-6.90	-0.29	-290.68	0.00	290.68	1898.49	949.24	2868.04	1436.15	12.24	-1.163	-0.001	0.136
102.25	-42.24	-6.90	-0.29	-290.68	0.00	290.68	1898.49	949.24	2868.04	1436.15	12.24	-1.163	-0.001	0.136
105.00	-41.43	-6.84	-0.29	-271.72	0.00	271.72	1881.84	940.92	2800.02	1402.09	12.91	-1.190	-0.001	0.216
110.00	-40.00	-6.73	-0.29	-237.51	0.00	237.51	1850.66	925.33	2676.97	1340.48	14.20	-1.266	-0.001	0.199
115.00	-38.59	-6.60	-0.29	-203.87	-0.01	203.87	1818.29	909.14	2554.84	1279.32	15.57	-1.338	-0.001	0.181
117.00	-37.40	-6.47	-0.29	-190.67	-0.01	190.67	1805.01	902.50	2506.28	1255.00	16.13	-1.366	-0.001	0.173
120.00	-36.57	-6.41	-0.29	-171.25	-0.01	171.25	1784.73	892.37	2433.78	1218.70	17.01	-1.406	-0.001	0.161
125.00	-35.23	-6.27	-0.29	-139.22	-0.01	139.22	1749.99	875.00	2313.93	1158.68	18.51	-1.467	-0.001	0.140
127.00	-27.94	-4.95	0.00	-126.69	0.00	126.69	1735.77	867.88	2266.36	1134.86	19.13	-1.489	-0.001	0.128
130.00	-27.16	-4.87	0.00	-111.84	0.00	111.84	1714.07	857.04	2195.44	1099.35	20.08	-1.521	-0.001	0.118
135.00	-25.89	-4.72	0.00	-87.49	0.00	87.49	1676.96	838.48	2078.45	1040.77	21.70	-1.568	-0.001	0.100
137.00	-23.51	-4.20	0.00	-78.05	0.00	78.05	1661.79	830.89	2032.11	1017.57	22.36	-1.585	-0.001	0.091
139.00	-23.03	-4.14	0.00	-69.65	0.00	69.65	1646.42	823.21	1986.05	994.50	23.02	-1.600	-0.001	0.084
140.00	-22.72	-4.11	0.00	-65.51	0.00	65.51	1638.67	819.33	1963.12	983.02	23.36	-1.608	-0.001	0.081
142.75	-21.86	-4.03	0.00	-54.20	0.00	54.20	1100.62	550.31	1316.21	659.08	24.29	-1.627	-0.001	0.102
145.00	-21.38	-3.97	0.00	-45.13	0.00	45.13	1091.20	545.60	1284.61	643.26	25.06	-1.640	-0.001	0.090
148.00	-12.92	-2.55	0.00	-33.24	0.00	33.24	1078.27	539.14	1242.60	622.22	26.10	-1.659	-0.001	0.065
150.00	-12.68	-2.45	0.00	-28.14	0.00	28.14	1069.42	534.71	1214.68	608.24	26.80	-1.670	-0.001	0.058
155.00	-11.73	-2.31	0.00	-15.89	0.00	15.89	1046.45	523.23	1145.25	573.48	28.56	-1.690	-0.001	0.039
157.00	-6.15	-1.19	0.00	-11.27	0.00	11.27	1036.93	518.47	1117.66	559.66	29.27	-1.695	-0.001	0.026

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Calculated Forces

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 36

Tower Engineering Solutions

160.00	-5.73	-1.11	0.00	-7.70	0.00	7.70	1022.30	511.15	1076.48	539.04	30.33	-1.701	-0.001	0.020
165.00	-5.05	-0.98	0.00	-2.14	0.00	2.14	996.96	498.48	1008.51	505.00	32.12	-1.707	-0.001	0.009
167.00	-0.23	-0.05	0.00	-0.10	0.00	0.10	986.50	493.25	981.58	491.52	32.83	-1.707	-0.001	0.000
169.00	0.00	-0.04	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	33.55	-1.707	-0.001	0.000

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Seismic Segment Forces (Factored)

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 37

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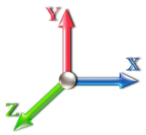
Load Case: 1.2D + 1.0E

Gust Response Factor	1.10			**Sds**	0.20	**Iterations**	24
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10	**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency**	0.31	**SA**	0.03	**S1**	0.06
						Seismic Importance Factor	1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1305.1	0.00	0.03	0.02	25.63	
10.00		1281.4	0.01	0.05	0.03	36.54	
15.00		1257.8	0.01	0.06	0.04	41.59	
20.00		1234.2	0.03	0.07	0.04	43.82	
25.00		1210.5	0.04	0.07	0.04	44.67	
30.00		1186.9	0.06	0.07	0.04	44.92	
35.00		1163.3	0.08	0.07	0.04	44.99	
40.00		1139.7	0.11	0.07	0.04	45.03	
40.75	Bot - Section 2	168.92	0.11	0.07	0.04	6.70	
45.00		1773.0	0.13	0.07	0.03	71.55	
47.00	Top - Section 1	823.38	0.15	0.07	0.03	33.48	
50.00		569.27	0.17	0.07	0.03	23.36	
55.00		932.58	0.20	0.06	0.02	38.47	
60.00		912.33	0.24	0.06	0.02	36.99	
65.00		892.08	0.28	0.05	0.01	34.19	
70.00		871.83	0.32	0.04	0.01	29.52	
75.00		851.57	0.37	0.03	0.01	22.52	
80.00		831.32	0.42	0.01	0.01	13.11	
85.00		811.07	0.48	-0.01	0.01	1.90	
89.25	Bot - Section 3	673.48	0.53	-0.03	0.01	-6.77	
90.00		196.82	0.54	-0.03	0.01	-2.40	
91.50	RB1	391.36	0.55	-0.04	0.01	-6.45	
94.25	Top - Section 2	709.60	0.59	-0.05	0.01	-16.90	
95.00		77.46	0.60	-0.05	0.01	-1.99	
96.75	RB2	179.56	0.62	-0.06	0.02	-5.34	
97.00	RT1	25.52	0.62	-0.06	0.02	-0.77	
100.00		303.57	0.66	-0.07	0.02	-10.95	
102.25	RT2	224.48	0.69	-0.08	0.03	-8.86	
105.00		270.66	0.73	-0.10	0.04	-11.46	
110.00		481.64	0.80	-0.11	0.05	-21.28	
115.00		468.14	0.88	-0.12	0.08	-19.48	
117.00	Appurtenance(s)	536.27	0.91	-0.12	0.09	-21.13	
120.00		271.16	0.95	-0.12	0.11	-9.45	
125.00		441.13	1.03	-0.10	0.15	-10.58	
127.00	Appurtenance(s)	2834.6	1.07	-0.09	0.17	-52.51	
130.00		254.96	1.12	-0.06	0.20	-2.33	
135.00		414.13	1.21	0.01	0.26	4.02	
137.00	Appurtenance(s)	1046.2	1.24	0.05	0.29	19.21	
139.00	Bot - Section 4	159.71	1.28	0.09	0.32	4.42	
140.00		139.21	1.30	0.12	0.33	4.53	
142.75	Top - Section 3	377.97	1.35	0.19	0.38	17.71	
145.00		131.39	1.39	0.27	0.42	7.82	
148.00	Appurtenance(s)	2987.6	1.45	0.38	0.48	231.95	
150.00	Appurtenance(s)	212.64	1.49	0.47	0.53	19.26	
155.00		274.52	1.59	0.75	0.66	34.57	

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Seismic Segment Forces (Factored)

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 38

157.00	Appurtenance(s)	1789.1	1.63	0.88	0.71	252.73			
160.00		157.42	1.69	1.10	0.81	26.07			
165.00		254.27	1.80	1.55	0.98	53.32			
167.00	Appurtenance(s)	2001.4	1.85	1.75	1.06	457.57			
169.00		97.25	1.89	1.98	1.14	24.14			
	Totals:	**37,600.1**				**1,587.7**	**Total Wind:**	**32,286.7**	

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

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Calculated Forces

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 39	

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Load Case: 1.2D + 1.0E

Gust Response Factor	1.10			**Sds**	0.20			**Iterations**	24
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency**	0.31	**SA**	0.03			**S1**	0.06
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-55.83	-1.80	0.00	-220.50	0.00	220.50	5324.18	2662.09	12195.0	6106.56		0.00	0.00	0.047
5.00	-53.91	-1.78	0.00	-211.49	0.00	211.49	5261.08	2630.54	11832.5	5925.09		0.01	-0.01	0.046
10.00	-52.02	-1.76	0.00	-202.57	0.00	202.57	5196.80	2598.40	11472.7	5744.92		0.02	-0.02	0.045
15.00	-50.16	-1.72	0.00	-193.79	0.00	193.79	5131.34	2565.67	11115.7	5566.13		0.05	-0.03	0.045
20.00	-48.32	-1.69	0.00	-185.17	0.00	185.17	5064.69	2532.35	10761.6	5388.80		0.09	-0.04	0.044
25.00	-46.52	-1.65	0.00	-176.74	0.00	176.74	4996.86	2498.43	10410.5	5212.99		0.13	-0.05	0.043
30.00	-44.74	-1.61	0.00	-168.49	0.00	168.49	4927.84	2463.92	10062.6	5038.79		0.19	-0.06	0.043
35.00	-42.99	-1.57	0.00	-160.43	0.00	160.43	4857.63	2428.82	9718.08	4866.26		0.27	-0.07	0.042
40.00	-41.27	-1.53	0.00	-152.57	0.00	152.57	4786.24	2393.12	9377.03	4695.49		0.35	-0.08	0.041
40.75	-41.02	-1.53	0.00	-151.42	0.00	151.42	4775.43	2387.72	9326.19	4670.03		0.36	-0.09	0.041
45.00	-38.59	-1.46	0.00	-144.93	0.00	144.93	4713.67	2356.83	9039.63	4526.53		0.44	-0.10	0.040
47.00	-37.46	-1.42	0.00	-142.02	0.00	142.02	3877.89	1938.95	7512.92	3762.05		0.48	-0.10	0.047
50.00	-36.57	-1.41	0.00	-137.75	0.00	137.75	3845.09	1922.55	7353.82	3682.38		0.55	-0.11	0.047
55.00	-35.10	-1.37	0.00	-130.72	0.00	130.72	3789.47	1894.74	7090.51	3550.52		0.67	-0.12	0.046
60.00	-33.65	-1.34	0.00	-123.86	0.00	123.86	3732.67	1866.34	6829.63	3419.89		0.80	-0.13	0.045
65.00	-32.23	-1.31	0.00	-117.16	0.00	117.16	3674.68	1837.34	6571.34	3290.55		0.94	-0.15	0.044
70.00	-30.83	-1.28	0.00	-110.62	0.00	110.62	3615.51	1807.76	6315.78	3162.58		1.10	-0.16	0.044
75.00	-29.46	-1.26	0.00	-104.20	0.00	104.20	3555.15	1777.58	6063.10	3036.06		1.28	-0.17	0.043
80.00	-28.11	-1.25	0.00	-97.89	0.00	97.89	3493.61	1746.80	5813.45	2911.05		1.46	-0.18	0.042
85.00	-26.78	-1.25	0.00	-91.63	0.00	91.63	3430.88	1715.44	5566.98	2787.63		1.66	-0.20	0.041
89.25	-25.67	-1.25	0.00	-86.31	0.00	86.31	3376.63	1688.32	5360.08	2684.02		1.84	-0.21	0.040
90.00	-25.38	-1.25	0.00	-85.37	0.00	85.37	3366.97	1683.48	5323.83	2665.87		1.88	-0.21	0.040
91.50	-24.81	-1.25	0.00	-83.49	0.00	83.49	3347.56	1673.78	5251.55	2629.68		1.95	-0.22	0.029
94.25	-23.76	-1.25	0.00	-80.05	0.00	80.05	1944.87	972.44	3066.99	1535.78		2.07	-0.22	0.033
95.00	-23.62	-1.25	0.00	-79.11	0.00	79.11	1940.65	970.33	3048.28	1526.41		2.11	-0.22	0.042
96.75	-23.28	-1.25	0.00	-76.93	0.00	76.93	1930.70	965.35	3004.67	1504.57		2.19	-0.23	0.029
97.00	-23.23	-1.25	0.00	-76.61	0.00	76.61	1929.27	964.63	2998.44	1501.45		2.20	-0.23	0.039
100.00	-22.66	-1.25	0.00	-72.86	0.00	72.86	1911.84	955.92	2923.84	1464.09		2.35	-0.24	0.038
102.25	-22.23	-1.25	0.00	-70.05	0.00	70.05	1898.49	949.24	2868.04	1436.15		2.46	-0.24	0.037
102.25	-22.23	-1.25	0.00	-70.05	0.00	70.05	1898.49	949.24	2868.04	1436.15		2.46	-0.24	0.037
105.00	-21.71	-1.25	0.00	-66.60	0.00	66.60	1881.84	940.92	2800.02	1402.09		2.60	-0.25	0.059
110.00	-20.78	-1.26	0.00	-60.33	0.00	60.33	1850.66	925.33	2676.97	1340.48		2.87	-0.27	0.056
115.00	-19.87	-1.26	0.00	-54.05	0.00	54.05	1818.29	909.14	2554.84	1279.32		3.16	-0.29	0.053
117.00	-19.08	-1.26	0.00	-51.54	0.00	51.54	1805.01	902.50	2506.28	1255.00		3.28	-0.29	0.052
120.00	-18.55	-1.26	0.00	-47.77	0.00	47.77	1784.73	892.37	2433.78	1218.70		3.47	-0.30	0.050
125.00	-17.67	-1.26	0.00	-41.48	0.00	41.48	1749.99	875.00	2313.93	1158.68		3.79	-0.32	0.046
127.00	-14.13	-1.24	0.00	-38.96	0.00	38.96	1735.77	867.88	2266.36	1134.86		3.93	-0.33	0.042
130.00	-13.64	-1.24	0.00	-35.25	0.00	35.25	1714.07	857.04	2195.44	1099.35		4.14	-0.34	0.040
135.00	-12.82	-1.23	0.00	-29.05	0.00	29.05	1676.96	838.48	2078.45	1040.77		4.50	-0.35	0.036
137.00	-11.44	-1.21	0.00	-26.59	0.00	26.59	1661.79	830.89	2032.11	1017.57		4.65	-0.36	0.033
139.00	-11.13	-1.20	0.00	-24.17	0.00	24.17	1646.42	823.21	1986.05	994.50		4.80	-0.36	0.031
140.00	-10.91	-1.20	0.00	-22.97	0.00	22.97	1638.67	819.33	1963.12	983.02		4.88	-0.37	0.030
142.75	-10.30	-1.17	0.00	-19.69	0.00	19.69	1100.62	550.31	1316.21	659.08		5.09	-0.37	0.039
145.00	-10.02	-1.17	0.00	-17.04	0.00	17.04	1091.20	545.60	1284.61	643.26		5.27	-0.38	0.036
148.00	-6.26	-0.91	0.00	-13.55	0.00	13.55	1078.27	539.14	1242.60	622.22		5.51	-0.39	0.028
150.00	-5.93	-0.89	0.00	-11.73	0.00	11.73	1069.42	534.71	1214.68	608.24		5.67	-0.39	0.025
155.00	-5.40	-0.85	0.00	-7.28	0.00	7.28	1046.45	523.23	1145.25	573.48		6.08	-0.40	0.018

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Calculated Forces

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 40	

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157.00	-3.17	-0.58	0.00	-5.58	0.00	5.58	1036.93	518.47	1117.66	559.66	6.25	-0.40	0.013
160.00	-2.93	-0.56	0.00	-3.83	0.00	3.83	1022.30	511.15	1076.48	539.04	6.50	-0.40	0.010
165.00	-2.55	-0.50	0.00	-1.05	0.00	1.05	996.96	498.48	1008.51	505.00	6.93	-0.41	0.005
167.00	-0.12	-0.02	0.00	-0.05	0.00	0.05	986.50	493.25	981.58	491.52	7.10	-0.41	0.000
169.00	0.00	-0.02	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	7.27	-0.41	0.000

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Seismic Segment Forces (Factored)

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 41	

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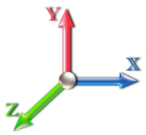
Load Case: 0.9D + 1.0E

Gust Response Factor	1.10			**Sds**	0.20	**Iterations**	23
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10	**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency**	0.31	**SA**	0.03	**S1**	0.06
						Seismic Importance Factor	1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1305.1	0.00	0.03	0.02	25.63	
10.00		1281.4	0.01	0.05	0.03	36.54	
15.00		1257.8	0.01	0.06	0.04	41.59	
20.00		1234.2	0.03	0.07	0.04	43.82	
25.00		1210.5	0.04	0.07	0.04	44.67	
30.00		1186.9	0.06	0.07	0.04	44.92	
35.00		1163.3	0.08	0.07	0.04	44.99	
40.00		1139.7	0.11	0.07	0.04	45.03	
40.75	Bot - Section 2	168.92	0.11	0.07	0.04	6.70	
45.00		1773.0	0.13	0.07	0.03	71.55	
47.00	Top - Section 1	823.38	0.15	0.07	0.03	33.48	
50.00		569.27	0.17	0.07	0.03	23.36	
55.00		932.58	0.20	0.06	0.02	38.47	
60.00		912.33	0.24	0.06	0.02	36.99	
65.00		892.08	0.28	0.05	0.01	34.19	
70.00		871.83	0.32	0.04	0.01	29.52	
75.00		851.57	0.37	0.03	0.01	22.52	
80.00		831.32	0.42	0.01	0.01	13.11	
85.00		811.07	0.48	-0.01	0.01	1.90	
89.25	Bot - Section 3	673.48	0.53	-0.03	0.01	-6.77	
90.00		196.82	0.54	-0.03	0.01	-2.40	
91.50	RB1	391.36	0.55	-0.04	0.01	-6.45	
94.25	Top - Section 2	709.60	0.59	-0.05	0.01	-16.90	
95.00		77.46	0.60	-0.05	0.01	-1.99	
96.75	RB2	179.56	0.62	-0.06	0.02	-5.34	
97.00	RT1	25.52	0.62	-0.06	0.02	-0.77	
100.00		303.57	0.66	-0.07	0.02	-10.95	
102.25	RT2	224.48	0.69	-0.08	0.03	-8.86	
105.00		270.66	0.73	-0.10	0.04	-11.46	
110.00		481.64	0.80	-0.11	0.05	-21.28	
115.00		468.14	0.88	-0.12	0.08	-19.48	
117.00	Appurtenance(s)	536.27	0.91	-0.12	0.09	-21.13	
120.00		271.16	0.95	-0.12	0.11	-9.45	
125.00		441.13	1.03	-0.10	0.15	-10.58	
127.00	Appurtenance(s)	2834.6	1.07	-0.09	0.17	-52.51	
130.00		254.96	1.12	-0.06	0.20	-2.33	
135.00		414.13	1.21	0.01	0.26	4.02	
137.00	Appurtenance(s)	1046.2	1.24	0.05	0.29	19.21	
139.00	Bot - Section 4	159.71	1.28	0.09	0.32	4.42	
140.00		139.21	1.30	0.12	0.33	4.53	
142.75	Top - Section 3	377.97	1.35	0.19	0.38	17.71	
145.00		131.39	1.39	0.27	0.42	7.82	
148.00	Appurtenance(s)	2987.6	1.45	0.38	0.48	231.95	
150.00	Appurtenance(s)	212.64	1.49	0.47	0.53	19.26	
155.00		274.52	1.59	0.75	0.66	34.57	

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Seismic Segment Forces (Factored)

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 42

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157.00	Appurtenance(s)	1789.1	1.63	0.88	0.71	252.73			
160.00		157.42	1.69	1.10	0.81	26.07			
165.00		254.27	1.80	1.55	0.98	53.32			
167.00	Appurtenance(s)	2001.4	1.85	1.75	1.06	457.57			
169.00		97.25	1.89	1.98	1.14	24.14			
	Totals:	**37,600.1**				**1,587.7**	**Total Wind:**	**32,286.7**	

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

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Calculated Forces

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 43	

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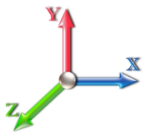
Load Case: 0.9D + 1.0E



Gust Response Factor	1.10			**Sds**	0.20			**Iterations**	23
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency**	0.31	**SA**	0.03			**S1**	0.06
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-41.87	-1.80	0.00	-217.40	0.00	217.40	5324.18	2662.09	12195.0	6106.56		0.00	0.00	0.043
5.00	-40.43	-1.78	0.00	-208.41	0.00	208.41	5261.08	2630.54	11832.5	5925.09		0.01	-0.01	0.043
10.00	-39.01	-1.75	0.00	-199.51	0.00	199.51	5196.80	2598.40	11472.7	5744.92		0.02	-0.02	0.042
15.00	-37.62	-1.71	0.00	-190.77	0.00	190.77	5131.34	2565.67	11115.7	5566.13		0.05	-0.03	0.042
20.00	-36.24	-1.68	0.00	-182.20	0.00	182.20	5064.69	2532.35	10761.6	5388.80		0.08	-0.04	0.041
25.00	-34.89	-1.64	0.00	-173.82	0.00	173.82	4996.86	2498.43	10410.5	5212.99		0.13	-0.05	0.040
30.00	-33.56	-1.60	0.00	-165.64	0.00	165.64	4927.84	2463.92	10062.6	5038.79		0.19	-0.06	0.040
35.00	-32.24	-1.56	0.00	-157.66	0.00	157.66	4857.63	2428.82	9718.08	4866.26		0.26	-0.07	0.039
40.00	-30.96	-1.51	0.00	-149.88	0.00	149.88	4786.24	2393.12	9377.03	4695.49		0.34	-0.08	0.038
40.75	-30.76	-1.51	0.00	-148.74	0.00	148.74	4775.43	2387.72	9326.19	4670.03		0.36	-0.08	0.038
45.00	-28.94	-1.44	0.00	-142.33	0.00	142.33	4713.67	2356.83	9039.63	4526.53		0.44	-0.09	0.038
47.00	-28.10	-1.41	0.00	-139.46	0.00	139.46	3877.89	1938.95	7512.92	3762.05		0.48	-0.10	0.044
50.00	-27.43	-1.39	0.00	-135.24	0.00	135.24	3845.09	1922.55	7353.82	3682.38		0.54	-0.11	0.044
55.00	-26.32	-1.35	0.00	-128.31	0.00	128.31	3789.47	1894.74	7090.51	3550.52		0.66	-0.12	0.043
60.00	-25.24	-1.32	0.00	-121.56	0.00	121.56	3732.67	1866.34	6829.63	3419.89		0.79	-0.13	0.042
65.00	-24.17	-1.29	0.00	-114.97	0.00	114.97	3674.68	1837.34	6571.34	3290.55		0.93	-0.14	0.042
70.00	-23.12	-1.26	0.00	-108.55	0.00	108.55	3615.51	1807.76	6315.78	3162.58		1.09	-0.16	0.041
75.00	-22.09	-1.24	0.00	-102.26	0.00	102.26	3555.15	1777.58	6063.10	3036.06		1.26	-0.17	0.040
80.00	-21.08	-1.23	0.00	-96.07	0.00	96.07	3493.61	1746.80	5813.45	2911.05		1.44	-0.18	0.039
85.00	-20.08	-1.23	0.00	-89.93	0.00	89.93	3430.88	1715.44	5566.98	2787.63		1.64	-0.19	0.038
89.25	-19.25	-1.23	0.00	-84.72	0.00	84.72	3376.63	1688.32	5360.08	2684.02		1.81	-0.21	0.037
90.00	-19.04	-1.23	0.00	-83.80	0.00	83.80	3366.97	1683.48	5323.83	2665.87		1.85	-0.21	0.037
91.50	-18.61	-1.23	0.00	-81.97	0.00	81.97	3347.56	1673.78	5251.55	2629.68		1.91	-0.21	0.027
94.25	-17.82	-1.22	0.00	-78.60	0.00	78.60	1944.87	972.44	3066.99	1535.78		2.04	-0.22	0.031
95.00	-17.71	-1.22	0.00	-77.68	0.00	77.68	1940.65	970.33	3048.28	1526.41		2.07	-0.22	0.040
96.75	-17.46	-1.22	0.00	-75.54	0.00	75.54	1930.70	965.35	3004.67	1504.57		2.15	-0.22	0.028
97.00	-17.42	-1.23	0.00	-75.23	0.00	75.23	1929.27	964.63	2998.44	1501.45		2.16	-0.22	0.036
100.00	-16.99	-1.23	0.00	-71.55	0.00	71.55	1911.84	955.92	2923.84	1464.09		2.31	-0.23	0.035
102.25	-16.67	-1.23	0.00	-68.80	0.00	68.80	1898.49	949.24	2868.04	1436.15		2.42	-0.24	0.034
102.25	-16.67	-1.23	0.00	-68.80	0.00	68.80	1898.49	949.24	2868.04	1436.15		2.42	-0.24	0.034
105.00	-16.28	-1.23	0.00	-65.43	0.00	65.43	1881.84	940.92	2800.02	1402.09		2.56	-0.24	0.055
110.00	-15.58	-1.23	0.00	-59.29	0.00	59.29	1850.66	925.33	2676.97	1340.48		2.82	-0.26	0.053
115.00	-14.90	-1.23	0.00	-53.14	0.00	53.14	1818.29	909.14	2554.84	1279.32		3.10	-0.28	0.050
117.00	-14.31	-1.23	0.00	-50.68	0.00	50.68	1805.01	902.50	2506.28	1255.00		3.22	-0.29	0.048
120.00	-13.91	-1.23	0.00	-46.99	0.00	46.99	1784.73	892.37	2433.78	1218.70		3.41	-0.30	0.046
125.00	-13.25	-1.23	0.00	-40.84	0.00	40.84	1749.99	875.00	2313.93	1158.68		3.73	-0.32	0.043
127.00	-10.60	-1.22	0.00	-38.38	0.00	38.38	1735.77	867.88	2266.36	1134.86		3.86	-0.32	0.040
130.00	-10.22	-1.22	0.00	-34.73	0.00	34.73	1714.07	857.04	2195.44	1099.35		4.07	-0.33	0.038
135.00	-9.61	-1.21	0.00	-28.65	0.00	28.65	1676.96	838.48	2078.45	1040.77		4.42	-0.35	0.033
137.00	-8.58	-1.19	0.00	-26.22	0.00	26.22	1661.79	830.89	2032.11	1017.57		4.57	-0.35	0.031
139.00	-8.35	-1.18	0.00	-23.85	0.00	23.85	1646.42	823.21	1986.05	994.50		4.72	-0.36	0.029
140.00	-8.18	-1.18	0.00	-22.67	0.00	22.67	1638.67	819.33	1963.12	983.02		4.79	-0.36	0.028
142.75	-7.72	-1.16	0.00	-19.44	0.00	19.44	1100.62	550.31	1316.21	659.08		5.00	-0.37	0.037
145.00	-7.51	-1.15	0.00	-16.83	0.00	16.83	1091.20	545.60	1284.61	643.26		5.18	-0.37	0.033
148.00	-4.70	-0.90	0.00	-13.39	0.00	13.39	1078.27	539.14	1242.60	622.22		5.41	-0.38	0.026
150.00	-4.44	-0.88	0.00	-11.59	0.00	11.59	1069.42	534.71	1214.68	608.24		5.57	-0.38	0.023
155.00	-4.05	-0.84	0.00	-7.20	0.00	7.20	1046.45	523.23	1145.25	573.48		5.98	-0.39	0.016

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Calculated Forces

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 44	

157.00	-2.38	-0.58	0.00	-5.52	0.00	5.52	1036.93	518.47	1117.66	559.66	6.15	-0.39	0.012
160.00	-2.20	-0.55	0.00	-3.79	0.00	3.79	1022.30	511.15	1076.48	539.04	6.39	-0.40	0.009
165.00	-1.91	-0.49	0.00	-1.04	0.00	1.04	996.96	498.48	1008.51	505.00	6.81	-0.40	0.004
167.00	-0.09	-0.02	0.00	-0.05	0.00	0.05	986.50	493.25	981.58	491.52	6.98	-0.40	0.000
169.00	0.00	-0.02	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	7.15	-0.40	0.000

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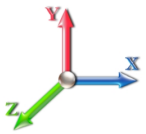
Wind Loading - Shaft

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: EIA/TIA-222-G 1/29/2018
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind
Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.129	6.74	238.64	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	234.39	0.650	0.000	5.00	23.558	15.31	103.2	0.0	1305.1
10.00		1.00	0.70	6.129	6.74	230.15	0.650	0.000	5.00	23.135	15.04	101.4	0.0	1281.5
15.00		1.00	0.70	6.129	6.74	225.90	0.650	0.000	5.00	22.712	14.76	99.5	0.0	1257.8
20.00		1.00	0.70	6.129	6.74	221.65	0.650	0.000	5.00	22.288	14.49	97.7	0.0	1234.2
25.00		1.00	0.70	6.129	6.74	217.40	0.650	0.000	5.00	21.865	14.21	95.8	0.0	1210.6
30.00		1.00	0.70	6.134	6.75	213.24	0.650	0.000	5.00	21.442	13.94	94.0	0.0	1187.0
35.00		1.00	0.73	6.410	7.05	213.65	0.650	0.000	5.00	21.019	13.66	96.3	0.0	1163.3
40.00		1.00	0.76	6.659	7.33	213.33	0.650	0.000	5.00	20.596	13.39	98.1	0.0	1139.7
40.75	Bot - Section 2	1.00	0.76	6.695	7.36	213.23	0.650	0.000	0.75	3.053	1.98	14.6	0.0	168.9
45.00		1.00	0.79	6.887	7.58	212.45	0.650	0.000	4.25	17.389	11.30	85.6	0.0	1773.0
47.00	Top - Section 1	1.00	0.80	6.973	7.67	211.96	0.650	0.000	2.00	8.077	5.25	40.3	0.0	823.4
50.00		1.00	0.81	7.098	7.81	214.53	0.650	0.000	3.00	11.989	7.79	60.8	0.0	569.3
55.00		1.00	0.83	7.294	8.02	212.83	0.650	0.000	5.00	19.644	12.77	102.4	0.0	932.6
60.00		1.00	0.85	7.477	8.22	210.80	0.650	0.000	5.00	19.220	12.49	102.8	0.0	912.3
65.00		1.00	0.87	7.650	8.42	208.48	0.650	0.000	5.00	18.797	12.22	102.8	0.0	892.1
70.00		1.00	0.89	7.814	8.60	205.90	0.650	0.000	5.00	18.374	11.94	102.7	0.0	871.8
75.00		1.00	0.91	7.969	8.77	203.10	0.650	0.000	5.00	17.951	11.67	102.3	0.0	851.6
80.00		1.00	0.93	8.118	8.93	200.09	0.650	0.000	5.00	17.528	11.39	101.7	0.0	831.3
85.00		1.00	0.94	8.260	9.09	196.90	0.650	0.000	5.00	17.105	11.12	101.0	0.0	811.1
89.25	Bot - Section 3	1.00	0.96	8.376	9.21	194.05	0.650	0.000	4.25	14.206	9.23	85.1	0.0	673.5
90.00		1.00	0.96	8.396	9.24	193.54	0.650	0.000	0.75	2.507	1.63	15.0	0.0	196.8
91.50	RB1	1.00	0.96	8.435	9.28	192.50	0.650	0.000	1.50	4.985	3.24	30.1	0.0	391.4
94.25	Top - Section 2	1.00	0.97	8.507	9.36	190.56	0.650	0.000	2.75	9.041	5.88	55.0	0.0	709.6
95.00		1.00	0.97	8.526	9.38	192.53	0.650	0.000	0.75	2.444	1.59	14.9	0.0	77.5
96.75	RB2	1.00	0.98	8.571	9.43	191.28	0.650	0.000	1.75	5.664	3.68	34.7	0.0	179.6
97.00	RT1	1.00	0.98	8.577	9.43	191.10	0.650	0.000	0.25	0.805	0.52	4.9	0.0	25.5
100.00		1.00	0.99	8.652	9.52	188.90	0.650	0.000	3.00	9.577	6.23	59.2	0.0	303.6
102.25	RT2	1.00	0.99	8.707	9.58	187.22	0.650	0.000	2.25	7.083	4.60	44.1	0.0	224.5
105.00		1.00	1.00	8.774	9.65	185.14	0.650	0.000	2.75	8.541	5.55	53.6	0.0	270.7
110.00		1.00	1.02	8.891	9.78	181.26	0.650	0.000	5.00	15.200	9.88	96.6	0.0	481.6
115.00		1.00	1.03	9.005	9.91	177.26	0.650	0.000	5.00	14.777	9.61	95.1	0.0	468.1
117.00	Appurtenance(s)	1.00	1.03	9.049	9.95	175.63	0.650	0.000	2.00	5.792	3.77	37.5	0.0	183.5
120.00		1.00	1.04	9.115	10.03	173.16	0.650	0.000	3.00	8.562	5.57	55.8	0.0	271.2
125.00		1.00	1.05	9.222	10.14	168.96	0.650	0.000	5.00	13.931	9.06	91.9	0.0	441.1
127.00	Appurtenance(s)	1.00	1.06	9.264	10.19	167.26	0.650	0.000	2.00	5.454	3.55	36.1	0.0	172.7
130.00		1.00	1.07	9.326	10.26	164.67	0.650	0.000	3.00	8.054	5.24	53.7	0.0	255.0
135.00		1.00	1.08	9.427	10.37	160.29	0.650	0.000	5.00	13.085	8.51	88.2	0.0	414.1
137.00	Appurtenance(s)	1.00	1.08	9.466	10.41	158.52	0.650	0.000	2.00	5.115	3.32	34.6	0.0	161.9
139.00	Bot - Section 4	1.00	1.09	9.506	10.46	156.73	0.650	0.000	2.00	5.048	3.28	34.3	0.0	159.7
140.00		1.00	1.09	9.525	10.48	155.83	0.650	0.000	1.00	2.530	1.64	17.2	0.0	139.2
142.75	Top - Section 3	1.00	1.09	9.578	10.54	153.34	0.650	0.000	2.75	6.871	4.47	47.1	0.0	378.0
145.00		1.00	1.10	9.621	10.58	153.29	0.650	0.000	2.25	5.526	3.59	38.0	0.0	131.4
148.00	Appurtenance(s)	1.00	1.11	9.678	10.65	150.53	0.650	0.000	3.00	7.235	4.70	50.1	0.0	172.0
150.00	Appurtenance(s)	1.00	1.11	9.715	10.69	148.68	0.650	0.000	2.00	4.739	3.08	32.9	0.0	112.6
155.00		1.00	1.12	9.806	10.79	144.01	0.650	0.000	5.00	11.551	7.51	81.0	0.0	274.5
157.00	Appurtenance(s)	1.00	1.12	9.842	10.83	142.12	0.650	0.000	2.00	4.502	2.93	31.7	0.0	107.0

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Wind Loading - Shaft

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Topography: 1

Code: EIA/TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/29/2018

Tower Engineering Solutions

160.00	1.00	1.13	9.896	10.89	139.26	0.650	0.000	3.00	6.626	4.31	46.9	0.0	157.4
165.00	1.00	1.14	9.983	10.98	134.45	0.650	0.000	5.00	10.704	6.96	76.4	0.0	254.3
167.00 Appurtenance(s)	1.00	1.14	10.017	11.02	132.51	0.650	0.000	2.00	4.163	2.71	29.8	0.0	98.9
169.00	1.00	1.15	10.052	11.06	130.56	0.650	0.000	2.00	4.096	2.66	29.4	0.0	97.3
							Totals:	**169.00**			**3,204.1**		**27,200.5**

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Discrete Appurtenance Forces

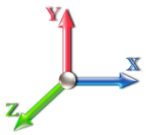
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 47	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	167.00	AIR B4A B2P	3	10.017	11.019	0.77	0.90	14.14	271.20	0.000	0.000	155.82	0.00	0.00
2	167.00	T-Arms/Commscope	3	10.026	11.029	0.56	0.75	11.39	1020.00	0.000	0.500	125.62	0.00	62.81
3	167.00	AIR B2A B4P	3	10.017	11.019	0.77	0.90	14.14	274.50	0.000	0.000	155.82	0.00	0.00
4	167.00	Ericsson S11B12	3	10.017	11.019	0.63	0.90	6.26	153.00	0.000	0.000	68.94	0.00	0.00
5	167.00	LNX-6515DS	3	10.017	11.019	0.76	0.90	26.01	150.90	0.000	0.000	286.65	0.00	0.00
6	167.00	Ericsson KRY 112 144/1	3	10.017	11.019	0.63	0.90	0.77	33.00	0.000	0.000	8.54	0.00	0.00
7	157.00	BXA-70063/6CF	1	9.842	10.827	0.63	0.90	4.77	17.00	0.000	0.000	51.63	0.00	0.00
8	157.00	T-Arms	3	9.842	10.827	0.56	0.75	13.50	1050.00	0.000	0.000	146.16	0.00	0.00
9	157.00	SLCP 2x6014F	2	9.842	10.827	0.71	0.80	9.24	40.00	0.000	0.000	100.06	0.00	0.00
10	157.00	DB846F65ZAXY	4	9.842	10.827	0.74	0.80	20.98	84.00	0.000	0.000	227.15	0.00	0.00
11	157.00	DB846H80E-SX	2	9.842	10.827	0.88	0.80	8.82	32.00	0.000	0.000	95.46	0.00	0.00
12	157.00	HBX-6517DS-VTM	6	9.842	10.827	0.60	0.80	19.04	112.20	0.000	0.000	206.18	0.00	0.00
13	157.00	ALU RRH2X60-AWS RRH	3	9.842	10.827	0.61	0.80	6.38	180.00	0.000	0.000	69.12	0.00	0.00
14	157.00	RFS DB T1-6Z-8AB-OZ	1	9.842	10.827	0.80	0.80	2.56	19.00	0.000	0.000	27.72	0.00	0.00
15	157.00	GPS	1	9.842	10.827	0.80	0.80	0.80	10.00	0.000	0.000	8.66	0.00	0.00
16	157.00	ALU/900 RRH2X60W -	3	9.842	10.827	0.61	0.80	3.43	138.00	0.000	0.000	37.13	0.00	0.00
17	150.00	Collar Mount	1	9.715	10.686	1.00	1.00	3.50	100.00	0.000	0.000	37.40	0.00	0.00
18	148.00	Cci OPA-65R-LCUU-H8	2	9.678	10.645	0.63	0.80	16.12	176.00	0.000	0.000	171.56	0.00	0.00
19	148.00	Cci OPA-65R-LCUU-H6	1	9.678	10.645	0.63	0.80	6.11	73.00	0.000	0.000	64.99	0.00	0.00
20	148.00	Ericsson RRUS 32-RRU	9	9.678	10.645	0.56	0.80	8.32	693.00	0.000	0.000	88.53	0.00	0.00
21	148.00	Powerwave 1001940-Bias	3	9.678	10.645	0.72	0.80	0.15	6.00	0.000	0.000	1.61	0.00	0.00
22	148.00	CCI HPA-65R-BUU-H8	4	9.678	10.645	0.63	0.80	32.81	272.00	0.000	0.000	349.31	0.00	0.00
23	148.00	CCI HPA-65R-BUU-H6	2	9.678	10.645	0.68	0.80	13.14	102.00	0.000	0.000	139.86	0.00	0.00
24	148.00	Powerwave LGP13519	6	9.678	10.645	0.60	0.80	1.22	31.80	0.000	0.000	13.03	0.00	0.00
25	148.00	Powerwave LGP21401	6	9.678	10.645	0.60	0.80	4.64	84.60	0.000	0.000	49.44	0.00	0.00
26	148.00	Commscope	1	9.678	10.645	0.50	0.80	0.60	6.60	0.000	0.000	6.38	0.00	0.00
27	148.00	Powerwave 7770	3	9.678	10.645	0.61	0.80	10.13	105.00	0.000	0.000	107.83	0.00	0.00
28	148.00	T-Arms	3	9.678	10.645	0.60	0.80	14.40	1050.00	0.000	0.000	153.29	0.00	0.00
29	148.00	Raycap	2	9.678	10.645	0.64	0.80	1.88	65.60	0.000	0.000	20.03	0.00	0.00
30	148.00	Ericsson RRUS-11-RRU	3	9.678	10.645	0.61	0.80	4.60	150.00	0.000	0.000	48.93	0.00	0.00
31	137.00	T-Arms	3	9.466	10.413	0.56	0.75	13.82	726.00	0.000	0.000	143.92	0.00	0.00
32	137.00	APXV18-206517S-C	6	9.466	10.413	0.59	0.80	18.36	158.40	0.000	0.000	191.22	0.00	0.00
33	127.00	Sector Frames	3	9.264	10.190	0.56	0.75	33.75	1500.00	0.000	0.000	343.91	0.00	0.00
34	127.00	ETCR-654L12H6	3	9.264	10.190	0.57	0.80	26.77	297.00	0.000	0.000	272.79	0.00	0.00
35	127.00	Horizon Duo	4	9.264	10.190	0.50	1.00	1.18	28.00	0.000	0.000	12.02	0.00	0.00
36	127.00	1900MHz RRH	3	9.264	10.190	0.79	0.80	6.58	180.00	0.000	0.000	67.07	0.00	0.00
37	127.00	800 MHz RRH	6	9.264	10.190	0.74	0.80	11.00	318.00	0.000	0.000	112.05	0.00	0.00
38	127.00	TD-RRH8x20-25	3	9.264	10.190	0.55	0.80	6.71	210.00	0.000	0.000	68.34	0.00	0.00
39	127.00	VHLP2-11	3	9.264	10.190	1.00	1.00	14.04	81.00	1.455	0.000	143.07	208.17	0.00
40	127.00	VHLP800-11	1	9.264	10.190	1.00	1.00	8.43	48.00	1.455	0.000	85.90	124.99	0.00
41	117.00	CM-30S-72	1	9.049	9.954	1.00	1.00	5.00	350.00	0.000	0.000	49.77	0.00	0.00
42	117.00	HG2409U-PRO	1	9.079	9.987	1.00	1.00	0.38	2.80	0.000	1.346	3.79	0.00	5.11
							Totals:		**10,399.60**			**4,516.71**		

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Total Applied Force Summary

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 48

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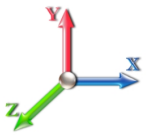
Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		103.23	1598.29	0.00	0.00
10.00		101.38	1574.66	0.00	0.00
15.00		99.52	1551.03	0.00	0.00
20.00		97.67	1527.40	0.00	0.00
25.00		95.81	1503.77	0.00	0.00
30.00		94.04	1480.14	0.00	0.00
35.00		96.33	1456.51	0.00	0.00
40.00		98.06	1432.89	0.00	0.00
40.75		14.61	212.89	0.00	0.00
45.00		85.63	2022.20	0.00	0.00
47.00		40.27	940.65	0.00	0.00
50.00		60.84	745.18	0.00	0.00
55.00		102.44	1225.76	0.00	0.00
60.00		102.76	1205.51	0.00	0.00
65.00		102.82	1185.26	0.00	0.00
70.00		102.66	1165.01	0.00	0.00
75.00		102.29	1144.75	0.00	0.00
80.00		101.73	1124.50	0.00	0.00
85.00		101.01	1104.25	0.00	0.00
89.25		85.07	922.69	0.00	0.00
90.00		15.05	240.79	0.00	0.00
91.50		30.07	479.31	0.00	0.00
94.25		54.99	870.84	0.00	0.00
95.00		14.90	121.44	0.00	0.00
96.75		34.71	282.17	0.00	0.00
97.00		4.94	40.18	0.00	0.00
100.00		59.25	479.47	0.00	0.00
102.25		44.10	356.42	0.00	0.00
105.00		53.58	431.91	0.00	0.00
110.00		96.63	774.82	0.00	0.00
115.00		95.14	761.32	0.00	0.00
117.00	(2) attachments	91.04	653.55	0.00	5.11
120.00		55.80	443.95	0.00	0.00
125.00		91.85	729.11	0.00	0.00
127.00	(26) attachments	1141.27	2949.86	333.15	0.00
130.00		53.70	414.38	0.00	0.00
135.00		88.19	679.83	0.00	0.00
137.00	(9) attachments	369.76	1152.55	0.00	0.00
139.00		34.31	253.51	0.00	0.00
140.00		17.23	186.11	0.00	0.00
142.75		47.05	506.94	0.00	0.00
145.00		38.02	236.92	0.00	0.00
148.00	(45) attachments	1264.87	3128.30	0.00	0.00
150.00	(1) attachments	70.32	279.76	0.00	0.00
155.00		80.99	442.32	0.00	0.00
157.00	(26) attachments	1000.94	1856.29	0.00	0.00

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Total Applied Force Summary

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 49

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160.00		46.88	198.16	0.00	0.00
165.00		76.41	322.17	0.00	0.00
167.00	(18) attachments	831.21	2028.63	0.00	62.81
169.00		29.43	97.25	0.00	0.00
	Totals:	**7,720.81**	**46,521.60**	**333.15**	**67.92**

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Linear Appurtenance Segment Forces (Factored)

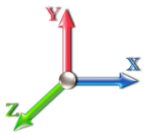
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 50	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.035	0.000	6.129	0.00	31.20
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	6.129	0.00	31.20
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	6.129	0.00	31.20
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.037	0.000	6.129	0.00	31.20
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	6.129	0.00	31.20
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	6.134	0.00	31.20
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.039	0.000	6.410	0.00	31.20
40.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.040	0.000	6.659	0.00	31.20
40.75	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.041	0.000	6.695	0.00	4.68
45.00	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.041	0.000	6.887	0.00	26.52
47.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.042	0.000	6.973	0.00	12.48
50.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.041	0.000	7.098	0.00	18.72
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.042	0.000	7.294	0.00	31.20
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.043	0.000	7.477	0.00	31.20
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.044	0.000	7.650	0.00	31.20
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.045	0.000	7.814	0.00	31.20
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.046	0.000	7.969	0.00	31.20
80.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.047	0.000	8.118	0.00	31.20
85.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.048	0.000	8.260	0.00	31.20
89.25	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.049	0.000	8.376	0.00	26.52
90.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.075	0.000	8.396	0.00	4.68
90.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.075	0.000	8.396	0.00	0.00
91.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.076	0.000	8.435	0.00	9.36
91.50	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.13	0.00	0.076	0.000	8.435	0.00	0.00
94.25	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.077	0.000	8.507	0.00	17.16
94.25	1" Reinforcing plate	Yes	2.75	0.000	1.00	0.23	0.00	0.077	0.000	8.507	0.00	0.00
95.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.076	0.000	8.526	0.00	4.68
95.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.076	0.000	8.526	0.00	0.00
96.75	1 5/8" Coax	Yes	1.75	0.000	1.98	0.29	0.00	0.077	0.000	8.571	0.00	10.92
96.75	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.077	0.000	8.571	0.00	0.00
97.00	1 5/8" Coax	Yes	0.25	0.000	1.98	0.04	0.00	0.077	0.000	8.577	0.00	1.56
97.00	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.077	0.000	8.577	0.00	0.00
100.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.078	0.000	8.652	0.00	18.72
100.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.078	0.000	8.652	0.00	0.00
100.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.078	0.000	8.652	0.00	0.00
102.25	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.079	0.000	8.707	0.00	14.04
102.25	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.079	0.000	8.707	0.00	0.00
105.00	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.075	0.000	8.774	0.00	17.16
105.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.075	0.000	8.774	0.00	0.00
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.054	0.000	8.891	0.00	31.20
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.056	0.000	9.005	0.00	31.20
117.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.057	0.000	9.049	0.00	12.48
120.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.058	0.000	9.115	0.00	18.72
125.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.059	0.000	9.222	0.00	31.20
127.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.061	0.000	9.264	0.00	12.48
130.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.061	0.000	9.326	0.00	18.72
135.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.063	0.000	9.427	0.00	31.20

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Linear Appurtenance Segment Forces (Factored)

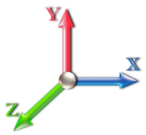
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 51	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
137.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.065	0.000	9.466	0.00	12.48
139.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.065	0.000	9.506	0.00	12.48
140.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.066	0.000	9.525	0.00	6.24
142.75	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.067	0.000	9.578	0.00	17.16
145.00	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.067	0.000	9.621	0.00	14.04
148.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.068	0.000	9.678	0.00	18.72
150.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.070	0.000	9.715	0.00	12.48
155.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.071	0.000	9.806	0.00	31.20
157.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.073	0.000	9.842	0.00	12.48
										Totals:	**0.0**	**979.7**

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Calculated Forces

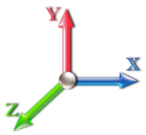
Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 52	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-46.52	-7.74	-0.33	-969.79	0.00	969.79	5324.18	2662.09	12195.0	6106.56	0.00	0.000	0.000	0.168
5.00	-44.91	-7.67	-0.33	-931.10	0.00	931.10	5261.08	2630.54	11832.5	5925.09	0.02	-0.044	0.000	0.166
10.00	-43.33	-7.60	-0.33	-892.75	0.00	892.75	5196.80	2598.40	11472.7	5744.92	0.09	-0.090	0.000	0.164
15.00	-41.78	-7.53	-0.33	-854.75	0.00	854.75	5131.34	2565.67	11115.7	5566.13	0.21	-0.135	0.000	0.162
20.00	-40.24	-7.46	-0.33	-817.09	0.00	817.09	5064.69	2532.35	10761.6	5388.80	0.38	-0.181	0.000	0.160
25.00	-38.73	-7.39	-0.33	-779.78	0.00	779.78	4996.86	2498.43	10410.5	5212.99	0.59	-0.228	0.000	0.157
30.00	-37.25	-7.32	-0.33	-742.82	0.00	742.82	4927.84	2463.92	10062.6	5038.79	0.86	-0.275	0.000	0.155
35.00	-35.79	-7.25	-0.33	-706.20	0.00	706.20	4857.63	2428.82	9718.08	4866.26	1.17	-0.323	0.000	0.152
40.00	-34.35	-7.16	-0.33	-669.96	0.00	669.96	4786.24	2393.12	9377.03	4695.49	1.54	-0.371	0.000	0.150
40.75	-34.13	-7.16	-0.33	-664.59	0.00	664.59	4775.43	2387.72	9326.19	4670.03	1.60	-0.379	0.000	0.149
45.00	-32.11	-7.08	-0.33	-634.17	0.00	634.17	4713.67	2356.83	9039.63	4526.53	1.95	-0.420	0.000	0.147
47.00	-31.17	-7.04	-0.33	-620.02	0.00	620.02	3877.89	1938.95	7512.92	3762.05	2.13	-0.440	0.000	0.173
50.00	-30.42	-7.00	-0.33	-598.90	0.00	598.90	3845.09	1922.55	7353.82	3682.38	2.42	-0.470	0.000	0.171
55.00	-29.18	-6.91	-0.33	-563.91	0.00	563.91	3789.47	1894.74	7090.51	3550.52	2.94	-0.525	0.000	0.167
60.00	-27.97	-6.82	-0.33	-529.35	0.00	529.35	3732.67	1866.34	6829.63	3419.89	3.52	-0.579	0.000	0.162
65.00	-26.78	-6.73	-0.33	-495.23	0.00	495.23	3674.68	1837.34	6571.34	3290.55	4.16	-0.634	0.000	0.158
70.00	-25.61	-6.64	-0.33	-461.56	0.00	461.56	3615.51	1807.76	6315.78	3162.58	4.85	-0.689	0.000	0.153
75.00	-24.46	-6.55	-0.33	-428.35	0.00	428.35	3555.15	1777.58	6063.10	3036.06	5.60	-0.743	0.000	0.148
80.00	-23.33	-6.45	-0.33	-395.60	0.00	395.60	3493.61	1746.80	5813.45	2911.05	6.41	-0.798	0.000	0.143
85.00	-22.23	-6.36	-0.33	-363.33	0.00	363.33	3430.88	1715.44	5566.98	2787.63	7.27	-0.852	0.000	0.137
89.25	-21.30	-6.27	-0.33	-336.31	0.00	336.31	3376.63	1688.32	5360.08	2684.02	8.05	-0.897	-0.001	0.132
90.00	-21.06	-6.25	-0.33	-331.61	0.00	331.61	3366.97	1683.48	5323.83	2665.87	8.19	-0.905	-0.001	0.131
91.50	-20.58	-6.22	-0.33	-322.23	0.00	322.23	3347.56	1673.78	5251.55	2629.68	8.48	-0.921	-0.001	0.096
94.25	-19.71	-6.16	-0.33	-305.12	0.00	305.12	1944.87	972.44	3066.99	1535.78	9.02	-0.943	-0.001	0.109
95.00	-19.59	-6.15	-0.33	-300.50	0.00	300.50	1940.65	970.33	3048.28	1526.41	9.17	-0.949	-0.001	0.139
96.75	-19.30	-6.11	-0.33	-289.75	0.00	289.75	1930.70	965.35	3004.67	1504.57	9.52	-0.967	-0.001	0.095
97.00	-19.26	-6.11	-0.33	-288.22	0.00	288.22	1929.27	964.63	2998.44	1501.45	9.57	-0.969	-0.001	0.123
100.00	-18.78	-6.05	-0.33	-269.89	0.00	269.89	1911.84	955.92	2923.84	1464.09	10.18	-0.996	-0.001	0.118
102.25	-18.42	-6.01	-0.33	-256.28	0.00	256.28	1898.49	949.24	2868.04	1436.15	10.66	-1.015	-0.001	0.114
102.25	-18.42	-6.01	-0.33	-256.28	0.00	256.28	1898.49	949.24	2868.04	1436.15	10.66	-1.015	-0.001	0.114
105.00	-17.99	-5.96	-0.33	-239.77	0.00	239.77	1881.84	940.92	2800.02	1402.09	11.25	-1.039	-0.001	0.181
110.00	-17.21	-5.87	-0.33	-209.98	0.00	209.98	1850.66	925.33	2676.97	1340.48	12.38	-1.106	-0.001	0.166
115.00	-16.44	-5.77	-0.33	-180.64	0.00	180.64	1818.29	909.14	2554.84	1279.32	13.57	-1.170	-0.001	0.150
117.00	-15.79	-5.67	-0.33	-169.10	0.00	169.10	1805.01	902.50	2506.28	1255.00	14.06	-1.195	-0.001	0.144
120.00	-15.34	-5.62	-0.33	-152.08	0.00	152.08	1784.73	892.37	2433.78	1218.70	14.83	-1.230	-0.001	0.133
125.00	-14.61	-5.52	-0.33	-123.98	-0.01	123.98	1749.99	875.00	2313.93	1158.68	16.15	-1.284	-0.001	0.115
127.00	-11.69	-4.32	0.00	-112.94	0.00	112.94	1735.77	867.88	2266.36	1134.86	16.69	-1.304	-0.001	0.106
130.00	-11.27	-4.26	0.00	-99.98	0.00	99.98	1714.07	857.04	2195.44	1099.35	17.52	-1.332	-0.001	0.098
135.00	-10.59	-4.16	0.00	-78.67	0.00	78.67	1676.96	838.48	2078.45	1040.77	18.94	-1.374	-0.001	0.082
137.00	-9.45	-3.77	0.00	-70.34	0.00	70.34	1661.79	830.89	2032.11	1017.57	19.51	-1.390	-0.001	0.075
139.00	-9.19	-3.73	0.00	-62.80	0.00	62.80	1646.42	823.21	1986.05	994.50	20.10	-1.404	-0.001	0.069
140.00	-9.01	-3.71	0.00	-59.07	0.00	59.07	1638.67	819.33	1963.12	983.02	20.39	-1.411	-0.001	0.066
142.75	-8.50	-3.65	0.00	-48.87	0.00	48.87	1100.62	550.31	1316.21	659.08	21.21	-1.428	-0.001	0.082
145.00	-8.26	-3.61	0.00	-40.65	0.00	40.65	1091.20	545.60	1284.61	643.26	21.89	-1.440	-0.001	0.071
148.00	-5.17	-2.27	0.00	-29.82	0.00	29.82	1078.27	539.14	1242.60	622.22	22.80	-1.457	-0.001	0.053
150.00	-4.89	-2.19	0.00	-25.28	0.00	25.28	1069.42	534.71	1214.68	608.24	23.41	-1.466	-0.001	0.046
155.00	-4.45	-2.10	0.00	-14.32	0.00	14.32	1046.45	523.23	1145.25	573.48	24.96	-1.484	-0.001	0.029
157.00	-2.62	-1.05	0.00	-10.12	0.00	10.12	1036.93	518.47	1117.66	559.66	25.58	-1.489	-0.001	0.021

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Calculated Forces

Structure:	CT13071-A-SBA	**Code:**	EIA/TIA-222-G	1/29/2018	
Site Name:	Woodbridge	**Exposure:**	B		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 53	

160.00	-2.42	-1.00	0.00	-6.96	0.00	6.96	1022.30	511.15	1076.48	539.04	26.52	-1.495	-0.001	0.015
165.00	-2.10	-0.92	0.00	-1.96	0.00	1.96	996.96	498.48	1008.51	505.00	28.09	-1.500	-0.001	0.006
167.00	-0.10	-0.03	0.00	-0.06	0.00	0.06	986.50	493.25	981.58	491.52	28.72	-1.500	-0.001	0.000
169.00	0.00	-0.03	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	29.34	-1.500	-0.001	0.000

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Final Analysis Summary

Structure:	CT13071-A-SBA		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 54

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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 97 mph Wind	32.4	0.00	55.77	0.02	0.86	4083.67
0.9D + 1.6W 97 mph Wind	32.4	0.00	41.82	0.01	0.86	4032.03
1.2D + 1.0Di + 1.0Wi 50 mph Wind	8.9	0.00	87.30	0.00	0.29	1115.01
1.2D + 1.0E	1.8	0.00	55.83	0.00	0.00	220.50
0.9D + 1.0E	1.8	0.00	41.87	0.00	0.00	217.40
1.0D + 1.0W 60 mph Wind	7.7	0.00	46.52	0.00	0.33	969.79

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 97 mph Wind	-19.79	-25.15	-0.87	-1011.2	-0.04	-1011.2	1881.84	940.92	2800.02	1402.09	105.00	0.732
0.9D + 1.6W 97 mph Wind	-14.41	-24.70	-0.87	-992.34	-0.04	-992.34	1881.84	940.92	2800.02	1402.09	105.00	0.716
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.43	-6.84	-0.29	-271.72	0.00	-271.72	1881.84	940.92	2800.02	1402.09	105.00	0.216
1.2D + 1.0E	-21.71	-1.25	0.00	-66.60	0.00	-66.60	1881.84	940.92	2800.02	1402.09	105.00	0.059
0.9D + 1.0E	-16.28	-1.23	0.00	-65.43	0.00	-65.43	1881.84	940.92	2800.02	1402.09	105.00	0.055
1.0D + 1.0W 60 mph Wind	-17.99	-5.96	-0.33	-239.77	0.00	-239.77	1881.84	940.92	2800.02	1402.09	105.00	0.181

Additional Steel Summary

			Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
Elev From (ft)	Elev To (ft)	Member	VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
91.5	97.0	(3) LNP-LP6X100-G-10TT	-349.7	-8.04	25.3	166.1	25.3	7	9	141.2	25.3	6	9	203.27	301.8	292.50	0.695
96.8	102.3	(3) LNP-LP6X100-G-10TT	350.4	8.06	25.3	145.0	25.3	6	9	179.4	25.3	8	9	192.79	301.8	292.50	0.659

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Base Plate Summary

Structure:	CT13071-A-SB		**Code:**	EIA/TIA-222-G	1/29/2018
Site Name:	Woodbridge		**Exposure:**	B	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 55

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Reactions		Base Plate		Anchor Bolts	
Original Design		**Yield (ksi):**	60.00	**Bolt Circle:**	62.75
Moment (kip-ft):	4977.00	**Width (in):**	61.25	**Number Bolts:**	16.00
Axial (kip):	60.20	**Style:**	Clipped	**Bolt Type:**	2.25" 18J
Shear (kip):	43.70	**Polygon Sides:**	0.00	**Bolt Diameter (in):**	2.25
Analysis		**Clip Length (in):**	6.00	**Yield (ksi):**	75.00
Moment (kip-ft):	4083.67	**Effective Len (in):**	8.31	**Ultimate (ksi):**	100.00
Axial (kip):	87.30	**Moment (kip-in):**	566.97	**Arrangement:**	Clustered
Shear (kip):	32.38	**Allow Stress (ksi):**	81.00	**Cluster Dist (in):**	6.00
		Applied Stress (ksi):	0.00	**Start Angle (deg):**	45.00
Moment Design %:	82.05	**Stress Ratio:**	0.56	Compression	
				Force (kip):	171.39
				Allowable (kip):	260.00
				Ratio:	0.67
				Tension	
				Force (kip):	160.48
				Allowable (kip):	260.00
				Ratio:	0.63

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Monopole Mat Foundation Design

				Date
				1/29/2018
Customer Name:	AT&T	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	169
Site Number:	CT13071-A-SBA	**Engineer Name:**	K. Wyant
Engr. Number:	46631	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

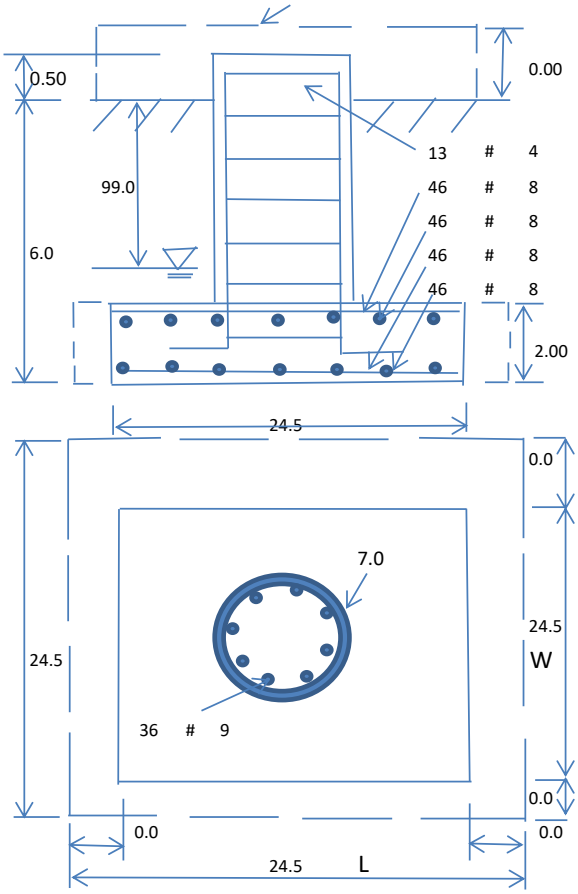
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	87.3	Shear Force (Kips):	32.4
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4083.7
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	24.5	Width of Pad (ft.):	24.5
Final Length of pad (ft)	24.5	Final width of pad (ft):	24.5
Control Value for Cell D18:	0	Control Value for Cell F18:	0



Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	46	Qty. of Rebar in Pad (W):	46	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	46	Qty. of Rebar in Pad (W):	46	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	10000	Ultimate Skin Friction:	200	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	2247.06	Total Dry Soil Weight (Kips):	269.65
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	269.65	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1373.68	Total Dry Concrete Weight (Kips):	206.05
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	206.05	Total Vertical Load on Base (Kips):	563.00

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	3281	<	Allowable Factored Soil Bearing (psf):	7500	0.44	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	6314.0	>	Design Factored Momont (kips-ft):	4294	0.68	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.47	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00		
				Load/ Capacity Ratio	
(1) Concrete Pier:					
Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	6026.1 >	Design Factored Moment (Mu, Kips-F	4229.5	0.70	OK!
Calculated Shear Capacity (Kips):	794.5 >	Design Factored Shear (Kips):	32.4	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	1944.0 >	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9734.2 >	Design Factored Axial Load (Pu Kips):	87.3	0.01	OK!
Moment & Axial Strength Combination:	0.70 OK!	Check Tie Spacing (Design/Required):		0.5	OK!
Pier Reinforcement Ratio:	0.006	Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:					
One-Way Design Shear Capacity (L-Direction, Kips):	571.8 >	One-Way Factored Shear (L-D. Kips):	286.4	0.50	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	571.8 >	One-Way Factored Shear (W-D., Kips)	286.4	0.50	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	645.2 >	One-Way Factored Shear (C-C, Kips):	294.3	0.46	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0060 OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0060		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3174.0 >	Moment at Bottom (L-Direct. K-Ft):	1008.3	0.32	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3174.0 >	Moment at Bottom (W-Direct. K-Ft):	1008.3	0.32	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4424.9 >	Moment at Bottom (C-C Dir. K-Ft):	1425.9	0.32	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0060 OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0060		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	3174.0 >	Moment at the top (L-Dir Kips-Ft):	320.1	0.10	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	3174.0 >	Moment at the top (W-Dir Kips-Ft):	320.1	0.10	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4424.9 >	Moment at the top (C-C Direc. K-Ft):	467.2	0.11	OK!

City of Ansonia, CT

Property Listing Report | Map Block Lot 10000020000 | Account 16660

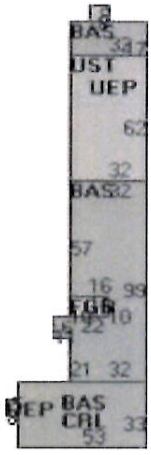
Property Information

Property Location	1 DEERFIELD LA
Owner	MACABEE PROPERTIES LLC
Co-Owner	
Mailing Address	11 HEMLOCK HOLLOW RD WOODBRIDGE CT 06525
Land Use	104 4 Family
Land Class	R
Zoning Code	AA
Census Tract	
Sub Lot	

Neighborhood	
Acreage	16.2
Utilities	Public Water,Septic
Lot Setting/Desc	Level
Survey Map	
Additional Info	

Photo

Sketch



Primary Construction Details

Year Built	1958
Stories	1
Building Style	Family Flat
Building Use	Residential
Building Condition	Below Average
Floors	Carpet
Total Rooms	12

Bedrooms	5 Bedrooms
Full Bathrooms	4
Half Bathrooms	0
Bath Style	Average
Kitchen Style	Average
Roof Style	Flat
Roof Cover	Tar + Gravel

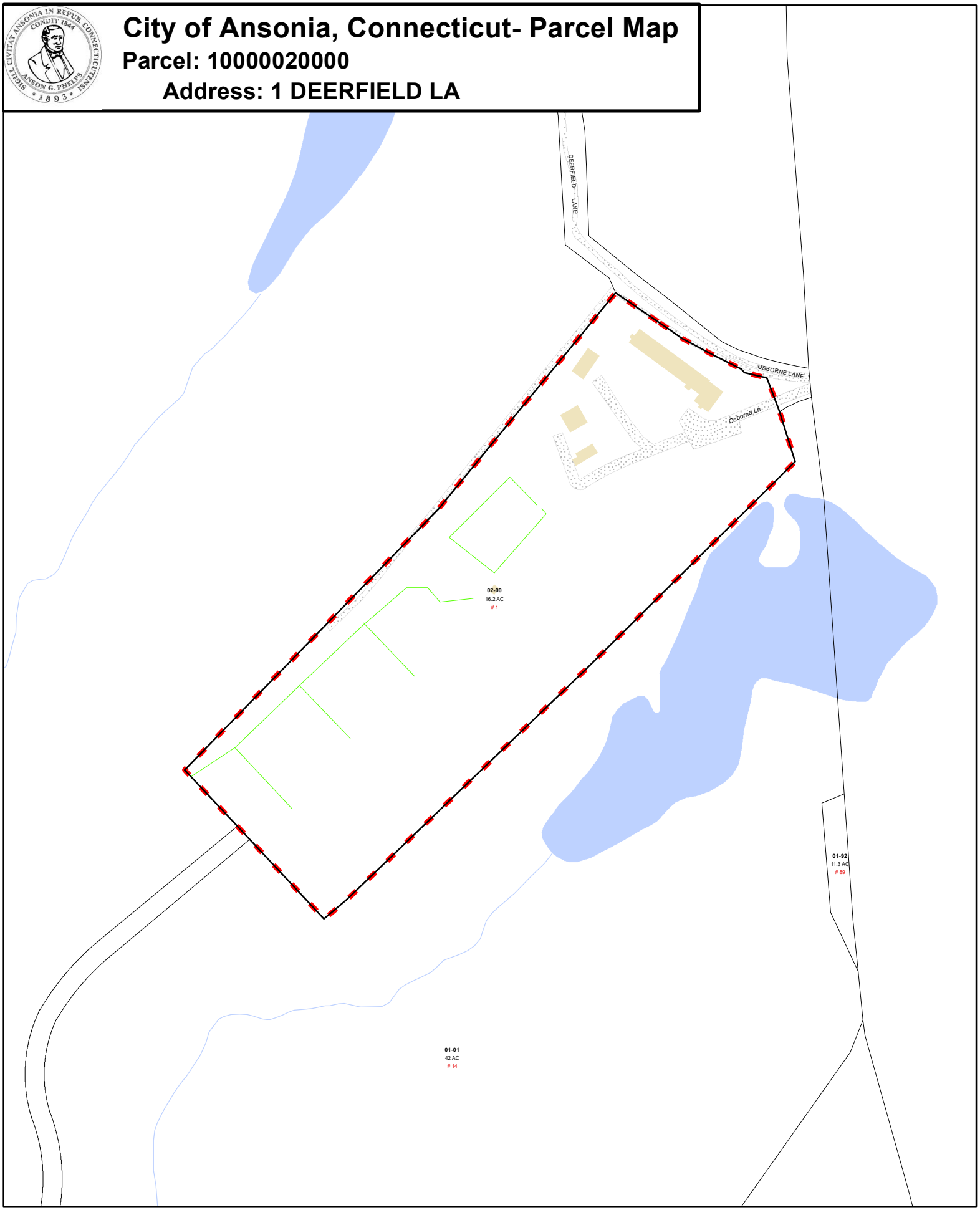
Exterior Walls	Concr/Cinder
Interior Walls	Plaster
Heating Type	Hot Water
Heating Fuel	Oil
AC Type	None
Gross Bldg Area	9364
Total Living Area	5367

Report Created On 2/27/2018

City of Ansonia, Connecticut- Parcel Map

Parcel: 10000020000

Address: 1 DEERFIELD LA

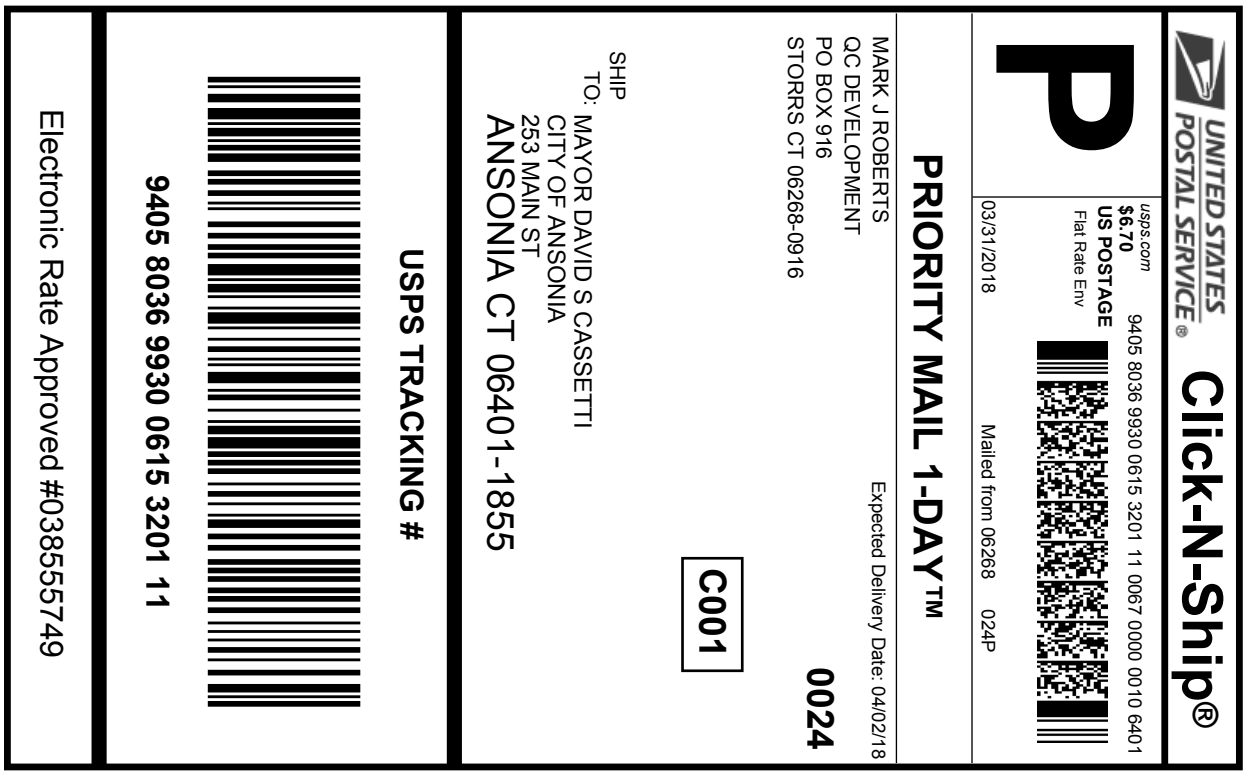


Approximate Scale: 1 inch = 250 feet

0 140 280 420 560 Feet

Map Produced: August 2016

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



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3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # / Insurance Number:
9405 8036 9930 0615 3201 11

Trans. #:	431300899
Print Date:	03/30/2018
Ship Date:	03/31/2018
Expected Delivery Date:	04/02/2018
Insured Value:	$50.00

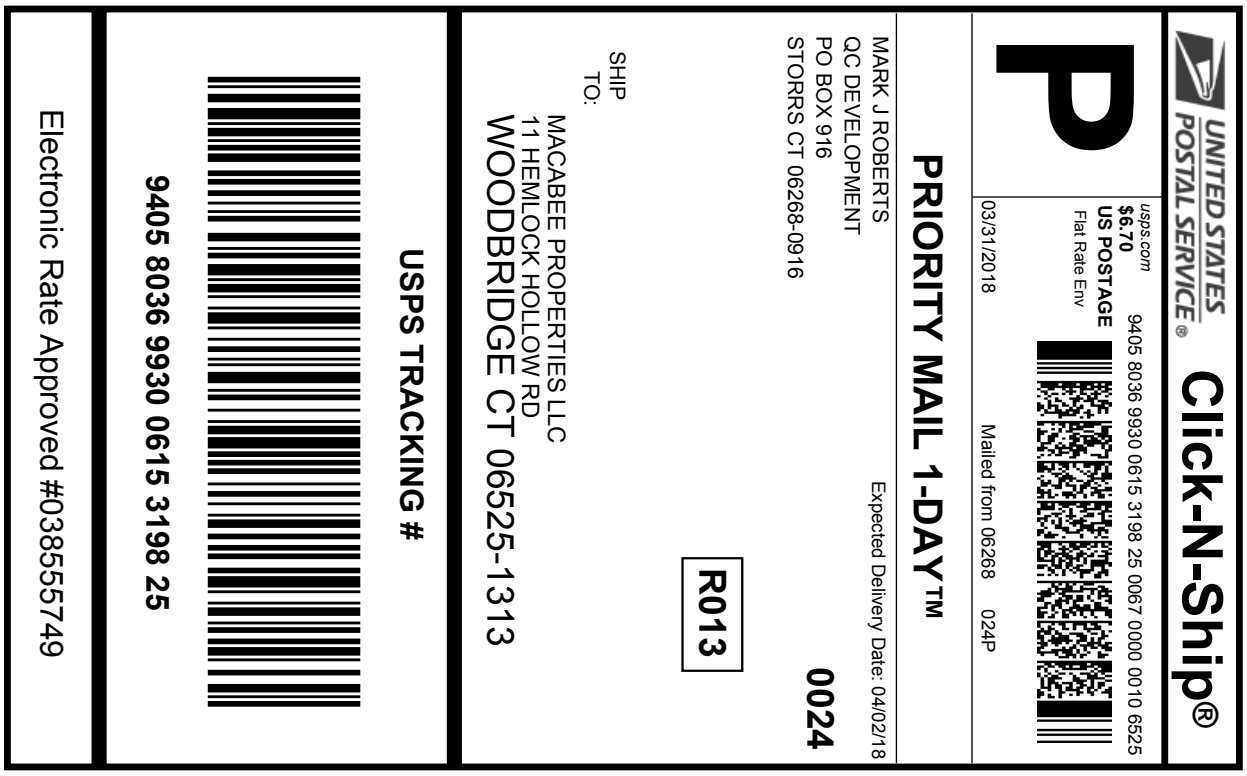
Priority Mail® Postage:	**$6.70**
Insurance Fee	**$0.00**
Total	**$6.70**

From: MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

To: MAYOR DAVID S CASSETTI
CITY OF ANSONIA
253 MAIN ST
ANSONIA CT 06401-1855

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # / Insurance Number:
9405 8036 9930 0615 3198 25

Trans. #:	431300899
Print Date:	03/30/2018
Ship Date:	03/31/2018
Expected Delivery Date:	04/02/2018
Insured Value:	$50.00

Priority Mail® Postage:	**$6.70**
Insurance Fee	**$0.00**
Total	**$6.70**

From: MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

To: MACABEE PROPERTIES LLC
11 HEMLOCK HOLLOW RD
WOODBRIDGE CT 06525-1313

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