



Filed by:

Kri Pelletier, Property Specialist - SBA Communications  
134 Flanders Rd., Suite 125, Westborough, MA 01581  
508.251.0720 x 3804 - kpelletier@sbasite.com

October 3, 2016

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

**Notice of Exempt Modification**

**29 Bogus Hill Road, New Fairfield, CT 06812**

**41 30 42.6 N**

**-73 27 1.9 W**

**AT&T #: 10042330\_LTE – CT2006**

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 141-foot level of the existing 149' Monopole Tower at 29 Bogus Hill Rd., New Fairfield, CT. The tower is owned by SBA Towers IV, LLC. The property is owned by the Girl Scout Council of Southwestern Connecticut. AT&T now intends to swap (3) existing antennas with three (3) new antennas. These antennas would be installed at the 141-foot level of the tower. AT&T also intends to:

Remove: None

Remove and Replace:

- Swap (3) Powerwave P65-16-XLH-RR Panel Antennas with (3) CCI HPA-65R-Buu-H6 Panel Antennas
- Swap (3) Ericsson RRUS-11 for (3) Ericsson RRUS-12

Install:

- (3) Ericsson RRUS-A2
- (6) Powerwave LGP21901
- (3) Powerwave 1001983

Existing Equipment to Remain (Entitlements):

- (9) Powerwave 7780 Panel Antennas (3 are entitlements only)
- (9) Powerwave LG21401
- (3) Powerwave TT19-08BP-111-001
- (3) Ericsson RRUS-11
- (1) Raycap DC6-48-60-18-8F
- (12) 1/5/8" fiber
- (1) 1/2" fiber
- (2) 3/4" DC





This facility was approved by the Council in Docket # 315 on 9/28/2006 and revised 4/10/2007. Approval was given for a 150' monopole to provide services to both public and private entities, designed to incorporate a yield point in order to reduce the size of the setback radius. A D&M plan was be served and any future non-functioning equipment was to be removed. This modification complies with the aforementioned conditions.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to Susan Chapman, First Selectman for the Town of New Fairfield, as well as the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

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 modification 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 modification 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 telecommunication facility constitute an exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kri Pelletier  
Property Specialist  
SBA COMMUNICATIONS CORPORATION  
134 Flanders Rd., Suite 125  
Westborough, MA 01581

508.251.0720 x3804 + T

508.366.2610 + F

203.446.7700 + C

kpelletier@sbsite.com

Attachments

cc: First Selectman Susan Chapman—as elected official

*Town of New Fairfield, 4 Brush Hill Road, New Fairfield, CT 06812*

Girl Scout Council of Southwestern Connecticut, Inc. — as property owner

*340 Washington Street, Hartford, CT 06106*



[illegible]



## EXEMPT PROPERTY

|               |                           |                     |             |              |          |
|---------------|---------------------------|---------------------|-------------|--------------|----------|
| SIDE<br>6-16A | STREET<br>BOGUS HILL ROAD | ASSESSORS' MAP<br>6 | BLOCK<br>41 | PARCEL<br>84 | CARD NO. |
| ZONE          | OWNER                     | DEVELOPERS' MAP     | LOT NUMBERS | NO. OF CDS   | CD NO.   |

| RECORD OF TRANSFER                    | DATE | BK | PG | I.R.S. | REMARKS: | SUMMARY  |        |     |  |
|---------------------------------------|------|----|----|--------|----------|----------|--------|-----|--|
| The Southern Conn. Girl Scout Council |      |    |    |        |          |          | AMOUNT | NO. |  |
|                                       |      |    |    |        |          | DWLG.    |        | 1   |  |
|                                       |      |    |    |        |          | OUTBLDG. |        | 2   |  |
|                                       |      |    |    |        |          | LOTS     |        | 3   |  |
|                                       |      |    |    |        |          | COMM.    |        | 4   |  |
|                                       |      |    |    |        |          | INDUST.  |        | 5   |  |
|                                       |      |    |    |        |          | ACRES    |        | 6   |  |
|                                       |      |    |    |        |          | TOTAL    |        |     |  |
|                                       |      |    |    |        |          | DWLG.    |        | 1   |  |
|                                       |      |    |    |        |          | OUTBLDG. |        | 2   |  |
|                                       |      |    |    |        |          | LOTS     |        | 3   |  |
|                                       |      |    |    |        |          | COMM.    |        | 4   |  |
|                                       |      |    |    |        |          | INDUST.  |        | 5   |  |
|                                       |      |    |    |        |          | ACRES    |        | 6   |  |
|                                       |      |    |    |        |          | TOTAL    |        |     |  |

INTERIOR INSPECTED:

DATE:

## ACREAGE COMPUTATIONS

| LAND TYPE   | # OF ACRES | PRICE | TOTAL | DEPR. | VALUE | Eq. Fact. | ASSESSMENT |
|-------------|------------|-------|-------|-------|-------|-----------|------------|
| HOUSE LOT   |            |       |       |       |       |           |            |
| FRONT ACRES |            |       |       |       |       |           |            |
| REAR ACRES  |            |       |       |       |       |           |            |
| WASTE       |            |       |       |       |       |           |            |

## LAND FACTORS

|       |      |      |        |           |         |                  |       |            |      |        |  |
|-------|------|------|--------|-----------|---------|------------------|-------|------------|------|--------|--|
| HILLY |      | HIGH |        | SWAMPY    |         | CITY SEWER       |       | GRAVEL RD. |      | NO RD. |  |
| ROUGH |      | LOW  |        | LEVEL     |         | CITY WATER       |       | DIRT RD.   |      | PAYED  |  |
| FRONT | REAR | FIG. | AV. D. | UNIT VAL. | DEPTH % | FRONT FOOT PRICE | TOTAL | DEPR.      | COR. |        |  |
|       |      |      |        |           |         |                  |       |            |      |        |  |
|       |      |      |        |           |         |                  |       |            |      |        |  |
|       |      |      |        |           |         |                  |       |            |      |        |  |
|       |      |      |        |           |         |                  |       |            |      |        |  |



| FOUNDATION             |     |                     |      | CEILINGS            |                   | TILING                  |             | BUILDING COMPUTATION |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
|------------------------|-----|---------------------|------|---------------------|-------------------|-------------------------|-------------|----------------------|---------------------------|----------------------|--|--------|--|-------|--|------------|--|-----------|--|-------------|--|-------------|--|-------------|--|-----------|--|------------|--|
| CONCRETE WALLS         |     |                     |      | LATH & PLASTER      |                   | BATH RM. FL. & WAINS.   |             | S. F.                |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| CEMENT BLK. WALLS      |     |                     |      | COMPO. BOARD        |                   | TOILET RM. FL. & WAINS. |             | S. F.                |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| BRICK WALLS            |     |                     |      | ACOUSTICAL          |                   | BATH ROOM FLR           |             | S. F.                |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| STONE WALLS            |     |                     |      |                     |                   | TOILET ROOM FLR.        |             | S. F.                |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
|                        |     |                     |      | INTERIOR FINISH     |                   |                         |             | S. F.                |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| BASEMENT AREA          |     |                     |      | LATH & PLASTER      |                   | MISCELLANEOUS           |             | S. F.                |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| 1/4                    | 1/2 | 3/4                 | FULL | DRYWALL             |                   | FIREPROOF CONSTR.       |             | S. F.                |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| EXTERIOR WALLS         |     |                     |      | WALLBOARD           |                   | MILL CONSTRUCTION       |             | S. F.                |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| SOLID COM. BRICK       |     |                     |      | UNFIN. INT.         |                   | FIRE RESISTING          |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| COM. BR. ON C. B.      |     |                     |      |                     |                   | STEEL FRAME             |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| FACE BR. ON COM. BR.   |     |                     |      | PARTITIONS          |                   | STEEL BEAMS & COLS.     |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| FACE BR. ON C. B.      |     |                     |      | LATH AND PLASTER    |                   | TIMBER BEAMS & COLS.    |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| FACE BR. VEN.          |     |                     |      | DRYWALL             |                   | STEEL TRUSSES           |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| CEMENT OR CINDER BLK   |     |                     |      | BRICK               |                   |                         |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| REIN. CONCRETE         |     |                     |      | C. BLK.             |                   | SPRINKLER SYST.         |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| CUT STONE FACING       |     |                     |      |                     |                   | PASSENGER ELEV.         |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| STONE OR T. C. TRIM    |     |                     |      | HEATING             |                   | FREIGHT ELEV.           |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| STUCCO ON              |     |                     |      | STEAM               |                   | INCINERATOR             |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| SIDING OR SHINGLES     |     |                     |      | HOT WATER           |                   | FIREPLACES              |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| PARTY WALLS            |     |                     |      | HOT AIR             |                   | CHIMNEYS                |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| PLATE GLASS FRONT      |     |                     |      | GAS                 |                   |                         |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| ROOFING                |     |                     |      | OIL BURNER          |                   | STEEL FRAME SASH        |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| COMPOSITION OR T. & G. |     |                     |      | COAL STOKER         |                   | WOOD FRAME SASH         |             | REPLACEMENT VALUE    |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| METAL                  |     |                     |      | NO HEATING          |                   | RENTAL CAPITALIZATION   |             |                      |                           | LOCATION             |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| WOOD DECK              |     |                     |      | AIR COND. — REFRIG. |                   | LAND                    |             |                      |                           | GOOD                 |  | FAIR   |  | POOR  |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| METAL DECK             |     |                     |      | AIR COND. — WATER   |                   | VACANCY                 |             |                      |                           | LISTER               |  | DATE   |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
|                        |     |                     |      |                     |                   | HEATING                 |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| FLOORS                 |     |                     |      | WIRING              |                   | WATER                   |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
|                        | B   | 1ST                 | 2ND  | 3RD                 | FLEXLUME OR EQUAL |                         | ELECTRICITY |                      | OCCUPANCY DETAIL & INCOME |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| CONCRETE               |     |                     |      |                     |                   |                         |             | PIPE CONDUIT         |                           | JANITOR              |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| EARTH                  |     |                     |      |                     |                   |                         |             | PLUMBING             |                           | MANAGEMENT           |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| PINE                   |     |                     |      |                     |                   |                         |             | BATH ROOMS           |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| HARDWOOD               |     |                     |      |                     |                   |                         |             | TOILET ROOMS         |                           | TOTAL FLAT EXPENSES  |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| SINGLE FL.             |     |                     |      |                     |                   |                         |             | WATER CLOSET EXTRA   |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| ASPH. TILE             |     |                     |      |                     |                   |                         |             | LAVATORY EXTRA       |                           | GROSS ANNUAL INCOME  |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| TERRAZZO               |     |                     |      |                     |                   |                         |             | SINK EXTRA           |                           | LESS FLAT EXPENSES   |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| WOOD JOIST             |     |                     |      |                     |                   |                         |             | URINALS              |                           | BALANCE FOR CAP.     |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| STEEL JOIST            |     |                     |      |                     |                   |                         |             | NO PLUMBING          |                           | CAP. RATE            |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| REIN. CONC.            |     |                     |      |                     |                   |                         |             |                      |                           | REFLECTED CAP. VALUE |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |
| OCCUPANCY              |     | CONSTRUCTION        |      | SIZE                |                   | AREA                    |             | CLASS                |                           | AGE                  |  | REMOD. |  | COND. |  | REPL. VAL. |  | Phy. Dep. |  | PHYS. VALUE |  | Funct. Dep. |  | ACTUAL VAL. |  | Eq. Fact. |  | ASSESSMENT |  |
| 1 Pavilion             |     | FR Root             |      | 50x40               |                   | 2000                    |             | 160                  |                           |                      |  |        |  | F+    |  | 3200       |  | 15        |  | 2720        |  | ✓           |  | 2720        |  | 65        |  | 1750       |  |
| 2 Shelter              |     | CBLK                |      | 10x40               |                   | 400                     |             | 450                  |                           |                      |  |        |  | F+    |  | 1800       |  | 15        |  | 1530        |  | ✓           |  | 1530        |  | 65        |  | 1000       |  |
| 3 Office               |     | 1 <sup>st</sup> FR  |      | 22x48               |                   | 1056                    |             | 1220                 |                           |                      |  |        |  | F+    |  | 13094      |  | 15        |  | 11130       |  | ✓           |  | 11130       |  | 65        |  | 7250       |  |
| 4 Sick Bay             |     | 1 <sup>st</sup> FR  |      | 22x36               |                   | 792                     |             | 1320                 |                           |                      |  |        |  | F+    |  | 10454      |  | 15        |  | 8885        |  | ✓           |  | 8885        |  | 65        |  | 5800       |  |
| 5 Board Hsc            |     | 1 <sup>st</sup> Med |      | 10x40               |                   | 400                     |             | 480                  |                           |                      |  |        |  | F+    |  | 1920       |  | 15        |  | 1632        |  | ✓           |  | 1632        |  | 65        |  | 1050       |  |
| 6 Gallery              |     |                     |      |                     |                   |                         |             |                      |                           |                      |  |        |  |       |  |            |  |           |  |             |  |             |  |             |  |           |  |            |  |



| FOUNDATION             |     |     |      | CEILINGS             |                   |  |  | TILING                  |             |       |     | BUILDING COMPUTATION |                           |            |           |             |             |             |           |            |
|------------------------|-----|-----|------|----------------------|-------------------|--|--|-------------------------|-------------|-------|-----|----------------------|---------------------------|------------|-----------|-------------|-------------|-------------|-----------|------------|
| CONCRETE WALLS         |     |     |      | LATH & PLASTER       |                   |  |  | BATH RM. FL. & WAINS.   |             |       |     | S. F.                |                           |            |           |             |             |             |           |            |
| CEMENT BLK. WALLS      |     |     |      | COMPO. BOARD         |                   |  |  | TOILET RM. FL. & WAINS. |             |       |     | S. F.                |                           |            |           |             |             |             |           |            |
| BRICK WALLS            |     |     |      | ACOUSTICAL           |                   |  |  | BATH ROOM FLR           |             |       |     | S. F.                |                           |            |           |             |             |             |           |            |
| STONE WALLS            |     |     |      |                      |                   |  |  | TOILET ROOM FLR.        |             |       |     | S. F.                |                           |            |           |             |             |             |           |            |
|                        |     |     |      | INTERIOR FINISH      |                   |  |  |                         |             |       |     | S. F.                |                           |            |           |             |             |             |           |            |
| BASEMENT AREA          |     |     |      | LATH & PLASTER       |                   |  |  | MISCELLANEOUS           |             |       |     | S. F.                |                           |            |           |             |             |             |           |            |
| 1/4                    | 1/2 | 3/4 | FULL | DRYWALL              |                   |  |  | FIREPROOF CONSTR.       |             |       |     | S. F.                |                           |            |           |             |             |             |           |            |
| EXTERIOR WALLS         |     |     |      | WALLBOARD            |                   |  |  | MILL CONSTRUCTION       |             |       |     | S. F.                |                           |            |           |             |             |             |           |            |
| SOLID COM. BRICK       |     |     |      | UNFIN. INT.          |                   |  |  | FIRE RESISTING          |             |       |     |                      |                           |            |           |             |             |             |           |            |
| COM. BR. ON C. B.      |     |     |      |                      |                   |  |  | STEEL FRAME             |             |       |     |                      |                           |            |           |             |             |             |           |            |
| FACE BR. ON COM. BR.   |     |     |      | PARTITIONS           |                   |  |  | STEEL BEAMS & COLS.     |             |       |     |                      |                           |            |           |             |             |             |           |            |
| FACE BR. ON C. B.      |     |     |      | LATH AND PLASTER     |                   |  |  | TIMBER BEAMS & COLS.    |             |       |     |                      |                           |            |           |             |             |             |           |            |
| FACE BR. VEN.          |     |     |      | DRYWALL              |                   |  |  | STEEL TRUSSES           |             |       |     |                      |                           |            |           |             |             |             |           |            |
| CEMENT OR CINDER BLK   |     |     |      | BRICK                |                   |  |  |                         |             |       |     |                      |                           |            |           |             |             |             |           |            |
| REIN. CONCRETE         |     |     |      | C. BLK.              |                   |  |  | SPRINKLER SYST.         |             |       |     |                      |                           |            |           |             |             |             |           |            |
| CUT STONE FACING       |     |     |      |                      |                   |  |  | PASSENGER ELEV.         |             |       |     |                      |                           |            |           |             |             |             |           |            |
| STONE OR T. C. TRIM    |     |     |      | HEATING              |                   |  |  | FREIGHT ELEV.           |             |       |     |                      |                           |            |           |             |             |             |           |            |
| STUCCO ON              |     |     |      | STEAM                |                   |  |  | INCINERATOR             |             |       |     |                      |                           |            |           |             |             |             |           |            |
| SIDING OR SHINGLES     |     |     |      | HOT WATER            |                   |  |  | FIREPLACES              |             |       |     |                      |                           |            |           |             |             |             |           |            |
| PARTY WALLS            |     |     |      | HOT AIR              |                   |  |  | CHIMNEYS                |             |       |     |                      |                           |            |           |             |             |             |           |            |
| PLATE GLASS FRONT      |     |     |      | GAS                  |                   |  |  |                         |             |       |     |                      |                           |            |           |             |             |             |           |            |
| ROOFING                |     |     |      | OIL BURNER           |                   |  |  | STEEL FRAME SASH        |             |       |     |                      |                           |            |           |             |             |             |           |            |
| COMPOSITION OR T. & G. |     |     |      | COAL STOKER          |                   |  |  | WOOD FRAME SASH         |             |       |     | REPLACEMENT VALUE    |                           |            |           |             |             |             |           |            |
| METAL                  |     |     |      | NO HEATING           |                   |  |  | RENTAL CAPITALIZATION   |             |       |     | LOCATION             |                           |            |           |             |             |             |           |            |
| WOOD DECK              |     |     |      | AIR COND. — REFRIG.  |                   |  |  | LAND                    |             |       |     | GOOD FAIR POOR       |                           |            |           |             |             |             |           |            |
| METAL DECK             |     |     |      | AIR COND. — WATER    |                   |  |  | VACANCY                 |             |       |     | LISTER DATE          |                           |            |           |             |             |             |           |            |
|                        |     |     |      |                      |                   |  |  | HEATING                 |             |       |     |                      |                           |            |           |             |             |             |           |            |
| FLOORS                 |     |     |      | WIRING               |                   |  |  | WATER                   |             |       |     |                      |                           |            |           |             |             |             |           |            |
|                        | B   | 1ST | 2ND  | 3RD                  | FLEXLUME OR EQUAL |  |  |                         | ELECTRICITY |       |     |                      | OCCUPANCY DETAIL & INCOME |            |           |             |             |             |           |            |
| CONCRETE               |     |     |      | PIPE CONDUIT         |                   |  |  | JANITOR                 |             |       |     |                      |                           |            |           |             |             |             |           |            |
| EARTH                  |     |     |      | PLUMBING             |                   |  |  | MANAGEMENT              |             |       |     |                      |                           |            |           |             |             |             |           |            |
| PINE                   |     |     |      | BATH ROOMS           |                   |  |  |                         |             |       |     |                      |                           |            |           |             |             |             |           |            |
| HARDWOOD               |     |     |      | TOILET ROOMS         |                   |  |  | TOTAL FLAT EXPENSES     |             |       |     |                      |                           |            |           |             |             |             |           |            |
| SINGLE FL.             |     |     |      | WATER CLOSET EXTRA   |                   |  |  |                         |             |       |     |                      |                           |            |           |             |             |             |           |            |
| ASPH. TILE             |     |     |      | LAVATORY EXTRA       |                   |  |  | GROSS ANNUAL INCOME     |             |       |     |                      |                           |            |           |             |             |             |           |            |
| TERRAZZO               |     |     |      | SINK EXTRA           |                   |  |  | LESS FLAT EXPENSES      |             |       |     |                      |                           |            |           |             |             |             |           |            |
| WOOD JOIST             |     |     |      | URINALS              |                   |  |  | BALANCE FOR CAP.        |             |       |     |                      |                           |            |           |             |             |             |           |            |
| STEEL JOIST            |     |     |      | NO PLUMBING          |                   |  |  | CAP. RATE               |             |       |     |                      |                           |            |           |             |             |             |           |            |
| REIN. CONC.            |     |     |      |                      |                   |  |  | REFLECTED CAP. VALUE    |             |       |     |                      |                           |            |           |             |             |             |           |            |
| OCCUPANCY              |     |     |      | CONSTRUCTION         |                   |  |  | SIZE                    | AREA        | CLASS | AGE | REMOD.               | COND.                     | REPL. VAL. | Phy. Dep. | PHYS. VALUE | Funct. Dep. | ACTUAL VAL. | Eq. Fact. | ASSESSMENT |
| 9 Pavillion            |     |     |      | FR Roof              |                   |  |  | 22x36                   | 792         | 160   |     |                      | F                         | 1267       | 15        | 1077        | ✓           | 1077        | 65        | 700        |
| 10a Shelter            |     |     |      | 1 1/2 CBK            |                   |  |  | 12x22                   | 264         | 510   |     |                      | F                         | 1346       | 15        | 1144        | ✓           | 1144        | 65        | 750        |
| 11a Pavillion          |     |     |      | FR Roof              |                   |  |  | 22x24                   | 528         | 160   |     |                      | F                         | 845        | 15        | 718         | ✓           | 718         | 65        | 450        |
| 12a Shelter            |     |     |      | 1 1/2 CBK            |                   |  |  | 12x22                   | 264         | 510   |     |                      | F                         | 1346       | 15        | 1144        | ✓           | 1144        | 65        | 750        |
| 13a Rest Rooms         |     |     |      | FR (4x8) 32' x (7) * |                   |  |  | 224                     | 450         |       |     | F                    | 1008                      | 15         | 857       | ✓           | 857         | 65          | 550       |            |
| 14a Shelters           |     |     |      | - See SK             |                   |  |  | 170                     | 2500        |       |     | F                    | 425                       | 15         | 361       | ✓           | 361         | 65          | 250       |            |
| 7.                     |     |     |      |                      |                   |  |  |                         |             |       |     |                      |                           |            |           |             |             |             |           |            |
| 8                      |     |     |      |                      |                   |  |  |                         |             |       |     |                      |                           |            |           |             |             |             |           |            |
| TOTAL                  |     |     |      |                      |                   |  |  |                         |             |       |     |                      |                           |            |           |             |             |             |           |            |

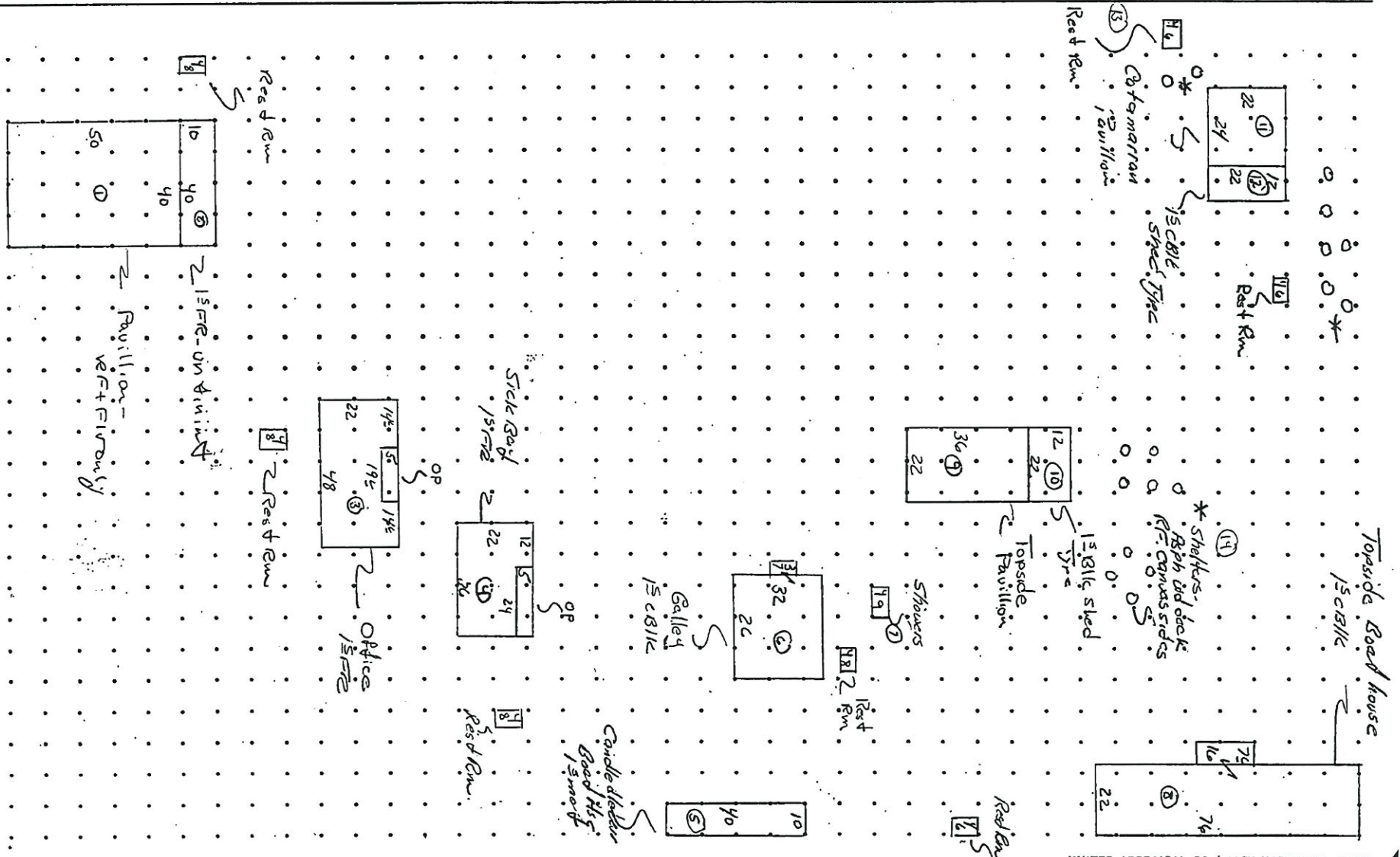


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## PROPERTY STREET CARD

| SIDE                              | LOCATION | MAP | BLOCK | PARCEL | NO. OF CDS      |         |
|-----------------------------------|----------|-----|-------|--------|-----------------|---------|
| L                                 | 16-B     | 60  | 41    | 84     | CD              | FOLLOWS |
| OWNER OF RECORD                   |          |     |       |        | OWNER OF RECORD |         |
| SOUTHERN CONN. GIRL SCOUT COUNCIL |          |     |       |        |                 |         |

## BUILDING DIAGRAM







**Tower Engineering Solutions**

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

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## **Structural Analysis Report**

**Existing 149 ft. Sabre Monopole**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT13061-A**

**Customer Site Name: New Fairfield**

**Carrier Name: AT&T**

**Carrier Site ID / Name: 10042330 - CT2006**

**Site Location: 29 Bogus Hill Road**

**New Fairfield, Connecticut**

**Fairfield County**

**Latitude: 41.511850**

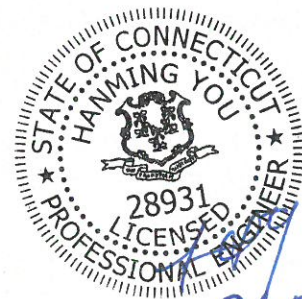
**Longitude: -73.467220**

### **Analysis Result:**

**Max Structural Usage: 68.0% [Pass]**

**Max Foundation Usage: 69.0% [Pass]**

**Report Prepared By : Walter Velez**



9/15/16



## Introduction

The purpose of this report is to summarize the analysis results on the 149 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

|                              |  |
|------------------------------|--|
| <b>Tower Drawings</b>        | Monopole original structural design report & tower section data prepared by Sabre Communications Corporation. Dated 11-07-2006. Drawing No 07-11088-PE. Job No 07-11088.<br>Monopole previous structural report prepared by FDH Engineering, Inc. Dated 03-12-2015. Project No 15BFZD1400. |
| <b>Foundation Drawing</b>    | Monopole original foundation design prepared by Sabre Communications Corporation. Dated 11-07-2006. Job No 07-11088.   |
| <b>Geotechnical Report</b>   | Monopole geotechnical report prepared by JGI Eastern, Inc. Dated 10-12-2006. Project No 06645G.  |
| <b>Modification Drawings</b> | N/A  |

## Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA-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.

|   |  |
|---|--|
| <b>Wind Speed Used in the Analysis:</b><br><b>(Based on IBC 2012)</b> | Ultimate Design Wind Speed $V_{ult} = 115.0$ mph (3-Sec. Gust)<br>Nominal Design Wind Speed $V_{asd} = 89.0$ mph (3-Sec. Gust) |
| <b>Wind Speed with Ice:</b>   | 50 mph (3-Sec. Gust) with 3/4" radial ice concurrent   |
| <b>Operational Wind Speed:</b>  | 60 mph + 0" Radial ice   |
| <b>Standard/Codes:</b>  | ANSI/TIA-222-G, 2012 IBC & 2016 Connecticut State Building Code  |
| <b>Exposure Category:</b>   | C  |
| <b>Structure Class:</b>   | II   |
| <b>Topographic Category:</b>  | 1  |
| <b>Crest Height:</b>  | 0 ft.  |
| <b>Seismic Parameters:</b>  | $S_S = 0.206$ , $S_1 = 0.066$  |



## 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     | 151.3           | 1    | RFS BA1010 - Whip                  | (1) Standoff Mount   | (1) 7/8" <sup>1</sup>                          | Town Of New Fairfield |
| 2     | 150.0           | 3    | Commscope LNX-6515DS-VTM - Panel   | Low Profile Platform | (18) 1 5/8"                                    | T-Mobile              |
| 3     |                 | 3    | RFS APXV18-209014 - Panel          |                      |  |                       |
| 4     |                 | 3    | RFS APXV18-206517S-A20 - Panel     |                      |  |                       |
| 5     |                 | 3    | Ericsson KRY 112 489/2             |                      |  |                       |
| 6     |                 | 3    | Kathrein 782 11056                 |                      |  |                       |
| 7     | 141.0           | 9    | Powerwave 7770 - Panel             | Low Profile Platform | (12) 1 5/8";<br>(1) 1/2" Fiber;<br>(2) 3/4" DC | AT&T                  |
| 8     |                 | 3    | Powerwave P65-16-XLH-RR - Panel    |                      |  |                       |
| 9     |                 | 9    | Powerwave LGP21401                 |                      |  |                       |
| 10    |                 | 3    | Powerwave TT19-08BP-111-001        |                      |  |                       |
| 11    |                 | 6    | Ericsson RRUS-11                   |                      |  |                       |
| 12    |                 | 1    | Raycap DC6-48-60-18-8F             |                      |  |                       |
| 13    | 134.8           | 1    | RFS BA40-01 - Whip                 | (1) Standoff Mount   | (1) 7/8"                                       | Town Of New Fairfield |
| 14    | 119.5           | 6    | Antel LPA-80080/4CF - Panel        | Low Profile Platform | (12) 1 5/8"                                    | Verizon               |
| 15    |                 | 3    | Antel BXA-70063-6CF_2 - Panel      |                      |  |                       |
| 16    |                 | 3    | Antel BXA-171085-12CF-2 - Panel    |                      |  |                       |
| 17    |                 | 6    | RFS FD9R6004/2C-3L                 |                      |  |                       |
| 18    | 100.0           | 1    | Sinclair SD210-SF3P2LDF – 16' Whip | (1) Single Arm Mount | (1) 7/8"                                       | Town Of New Fairfield |
| 19    | 99.5            | 2    | RFS 1142- 13' Whip                 | (2) Single Arm Mount | (2) 7/8"                                       |                       |

<sup>1</sup> The (1) 7/8" feed line is installed on the outside of the pole's shaft from 94.0' to the mount elevation.



### **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 |
|-------|-----------------|------|-----------------------------|----------------------|--|-------|
| 20    | 141.0           | 9    | Powerwave 7770 - Panel      | Low Profile Platform | (12) 1 5/8";<br>(1) 1/2" Fiber;<br>(2) 3/4" DC | AT&T  |
| 22    |                 | 3    | CCI HPA-65R-BUU-H6 - Panel  |                      |  |       |
| 22    |                 | 9    | Powerwave LGP21401          |                      |  |       |
| 23    |                 | 3    | Powerwave TT19-08BP-111-001 |                      |  |       |
| 24    |                 | 3    | Ericsson RRUS-11            |                      |  |       |
| 25    |                 | 3    | Ericsson RRUS-12            |                      |  |       |
| 26    |                 | 3    | Ericsson RRUS-A2            |                      |  |       |
| 27    |                 | 6    | Powerwave LGP21901          |                      |  |       |
| 28    |                 | 1    | Raycap DC6-48-60-18-8F      |                      |  |       |
| 29    |                 | 3    | Powerwave 1001983           |                      |  |       |

All transmission lines are considered running inside of the pole shafts.



## **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: | <b>68.0%</b> | <b>65.4%</b> | <b>47.4%</b> |
| Pass/Fail   | <b>Pass</b>  | <b>Pass</b>  | <b>Pass</b>  |

## **Foundations**

|                           | Moment (Kip-Ft) | Shear (Kips) | Axial (Kips) |
|---------------------------|-----------------|--------------|--------------|
| Original Design Reactions | 3340.0          | 29.9         | 43.9         |
| Analysis Reactions        | 2509.4          | 23.5         | 37.8         |

\* 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):**

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA-222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.4580 degrees under the operational wind speed as specified in the Analysis Criteria.

## **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-222-G standards, the 2012 IBC and the 2016 Connecticut State Building Code under the design basic wind speed 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 68.02% at 0.0ft

**Structure:** CT13061-A-SBA  
**Site Name:** New Fairfield  
**Height:** 149.00 (ft)  
**Base Elev:** 1.000 (ft)

**Code:** EIA/TIA-222-G  
**Exposure:** C  
**Gh:** 1.1

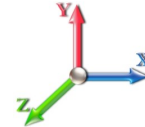
9/15/2016

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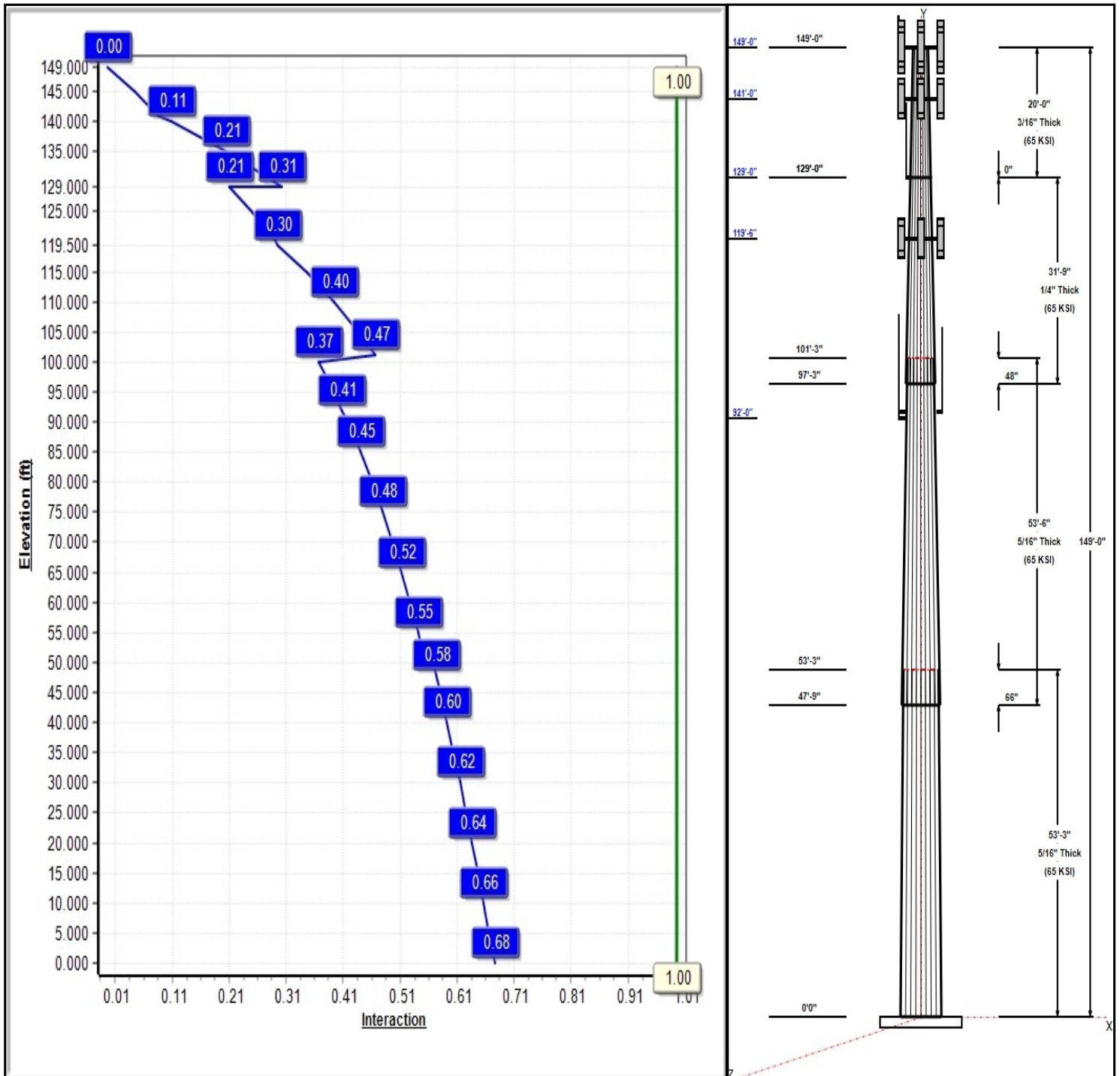
**Dead Load Factor:** 1.20  
**Wind Load Factor:** 1.60

**Load Case : 1.2D + 1.6W 89 mph Wind**



**Iterations:** 24

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# Structure: CT13061-A-SBA

**Type:** Tapered  
**Site Name:** New Fairfield  
**Height:** 149.00 (ft)  
**Base Elev:** 1.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.25534

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## Shaft Properties

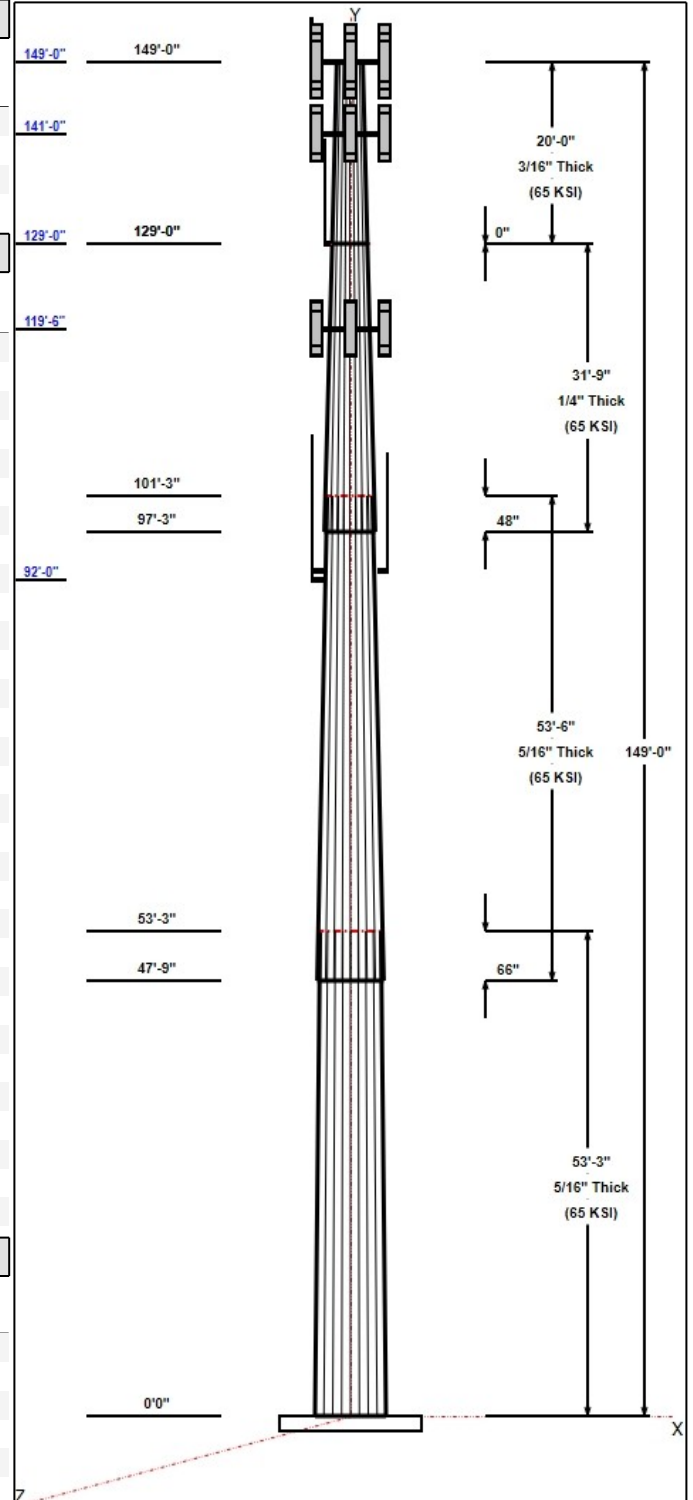
| Seq | Length (ft) | Top (in) | Bottom (in) | Thick (in) | Joint Type | Taper   | Grade (ksi) |
|-----|-------------|----------|-------------|------------|------------|---------|-------------|
| 1   | 53.25       | 42.32    | 55.92       | 0.313      |            | 0.25534 | 65          |
| 2   | 53.50       | 30.69    | 44.35       | 0.313      | Slip       | 0.25534 | 65          |
| 3   | 31.75       | 24.11    | 32.21       | 0.250      | Slip       | 0.25534 | 65          |
| 4   | 20.00       | 19.00    | 24.11       | 0.188      | Butt       | 0.25534 | 65          |

## Discrete Appurtenances

| Attach Elev (ft) | Force Elev (ft) | Qty | Description             | Carrier             |
|------------------|-----------------|-----|-------------------------|---------------------|
| 149.00           | 152.50          | 1   | Lightning Rod           | ---                 |
| 149.00           | 151.35          | 1   | RFS BA1010              | T. Of New Fairfield |
| 149.00           | 149.00          | 3   | Commscope               | T-Mobile            |
| 149.00           | 149.00          | 3   | RFS APXV18-209014       | T-Mobile            |
| 149.00           | 149.00          | 3   | RFS                     | T-Mobile            |
| 149.00           | 149.00          | 3   | Ericsson KRY 112 489/2  | T-Mobile            |
| 149.00           | 149.00          | 3   | Kathrein 782 11056      | T-Mobile            |
| 149.00           | 149.00          | 1   | Low Profile Platform    | T-Mobile            |
| 149.00           | 149.00          | 1   | Standoff Mount          | T. Of New Fairfield |
| 141.00           | 141.00          | 9   | Powerwave 7770          | AT&T                |
| 141.00           | 141.00          | 3   | CCI HPA-65R-BUU-H6      | AT&T                |
| 141.00           | 141.00          | 9   | Powerwave LGP21401      | AT&T                |
| 141.00           | 141.00          | 3   | Powerwave               | AT&T                |
| 141.00           | 141.00          | 3   | Ericsson RRUS-11        | AT&T                |
| 141.00           | 141.00          | 3   | Ericsson RRUS-12        | AT&T                |
| 141.00           | 141.00          | 3   | Ericsson RRUS-A2        | AT&T                |
| 141.00           | 141.00          | 6   | Powerwave LGP21901      | AT&T                |
| 141.00           | 141.00          | 1   | Raycap DC6-48-60-18-8F  | AT&T                |
| 141.00           | 141.00          | 3   | Powerwave 1001983       | AT&T                |
| 141.00           | 141.00          | 1   | Low Profile Platform    | AT&T                |
| 129.00           | 134.75          | 1   | RFS BA40-01             | T. Of New Fairfield |
| 129.00           | 129.00          | 1   | Standoff Mount          | T. Of New Fairfield |
| 119.50           | 119.50          | 6   | Antel LPA-80080/4CF     | Verizon             |
| 119.50           | 119.50          | 3   | Antel BXA-70063-6CF_2   | Verizon             |
| 119.50           | 119.50          | 3   | Antel BXA-171085-12CF-2 | Verizon             |
| 119.50           | 119.50          | 6   | RFS FD9R6004/2C-3L      | Verizon             |
| 119.50           | 119.50          | 1   | Low Profile Platform    | Verizon             |
| 93.00            | 99.50           | 2   | RFS 1142                | T. Of New Fairfield |
| 93.00            | 93.00           | 2   | Single Arm Mount        | T. Of New Fairfield |
| 92.00            | 100.00          | 1   | Sinclair SD210-SF3P2LDF | T. Of New Fairfield |
| 92.00            | 92.00           | 1   | Single Arm Mount        | T. Of New Fairfield |

## Linear Appurtenances

| Elev From (ft) | Elev To (ft) | Placement | Description | Carrier             |
|----------------|--------------|-----------|-------------|---------------------|
| 3.00           | 149.00       | Inside    | 1 5/8" Coax | T-Mobile            |
| 3.00           | 149.00       | Inside    | 7/8" Coax   | T. Of New Fairfield |
| 94.00          | 149.00       | Outside   | 7/8" Coax   | T. Of New Fairfield |
| 3.00           | 141.00       | Inside    | 1 5/8" Coax | AT&T                |
| 3.00           | 141.00       | Inside    | 1/2" Fiber  | AT&T                |
| 3.00           | 141.00       | Inside    | 3/4" DC     | AT&T                |
| 3.00           | 129.00       | Inside    | 7/8" Coax   | T. Of New Fairfield |
| 3.00           | 119.50       | Inside    | 1 5/8" Coax | Verizon             |
| 3.00           | 93.00        | Inside    | 7/8" Coax   | T. Of New Fairfield |
| 3.00           | 92.00        | Inside    | 7/8" Coax   | T. Of New Fairfield |





**Structure: CT13061-A-SBA**

**Type:** Tapered  
**Site Name:** New Fairfield  
**Height:** 149.00 (ft)  
**Base Elev:** 1.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.25534

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**Anchor Bolts**

| Qty | Specifications | Grade<br>(ksi) | Arrangement |
|-----|----------------|----------------|-------------|
| 12  | 2.25" 18J      | 75.0           | Cluster     |

**Base Plate**

| Thickness<br>(in) | Specifications<br>(in) | Grade<br>(ksi) | Geometry |
|-------------------|------------------------|----------------|----------|
| 2.7500            | 59.8                   | 60.0           | Clipped  |

**Reactions**

| Load Case                        | Moment | Shear | Axial |
|----------------------------------|--------|-------|-------|
| 1.2D + 1.6W 89 mph Wind          | 2509.4 | 23.5  | 37.8  |
| 0.9D + 1.6W 89 mph Wind          | 2483.5 | 23.5  | 28.4  |
| 1.2D + 1.0Di + 1.0Wi 50 mph Wind | 889.1  | 8.4   | 57.3  |
| 1.2D + 1.0E                      | 126.0  | 1.1   | 37.9  |
| 0.9D + 1.0E                      | 124.6  | 1.1   | 28.4  |
| 1.0D + 1.0W 60 mph Wind          | 708.5  | 6.7   | 31.5  |

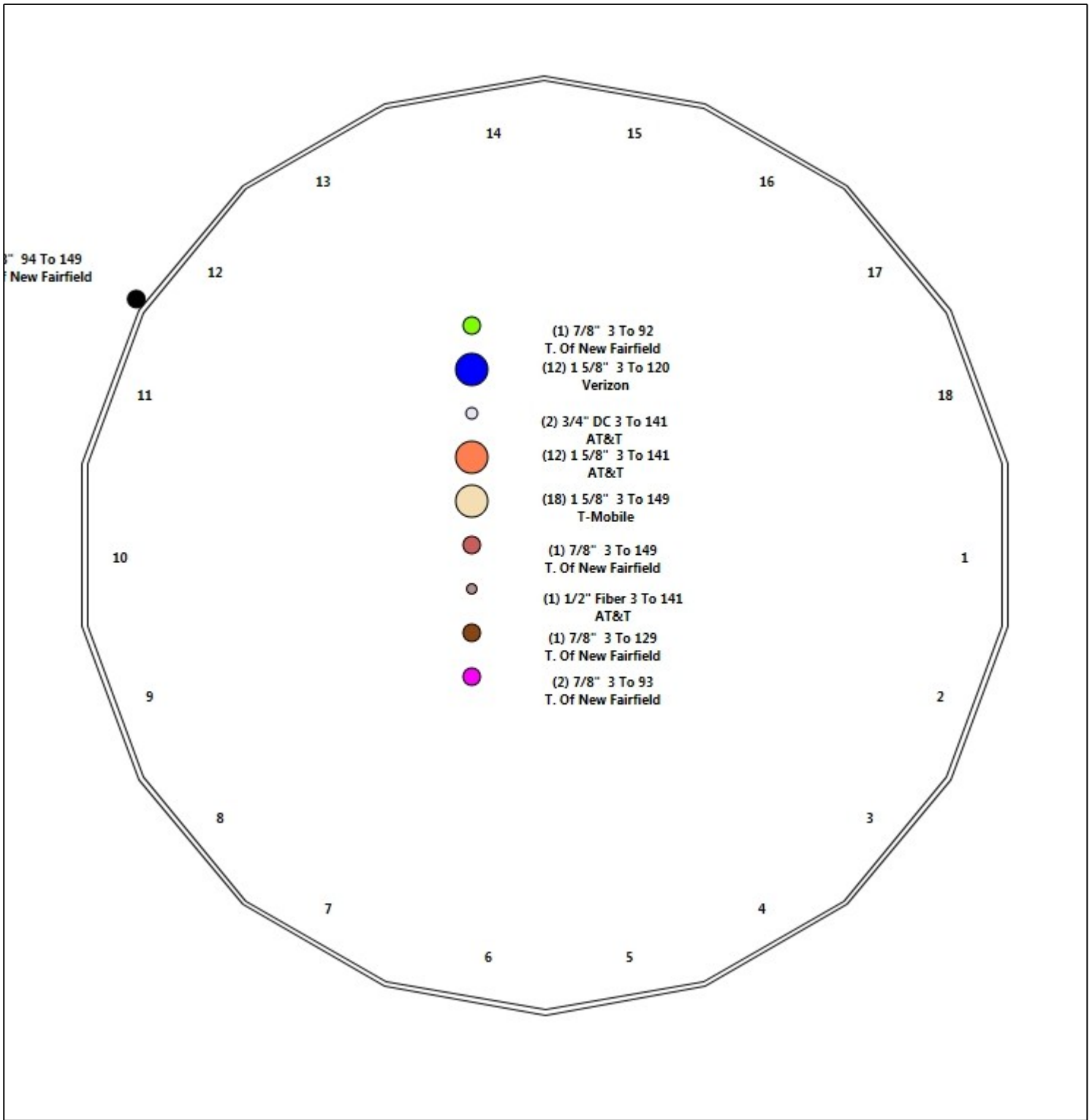


## Structure: CT13061-A-SBA - Coax Line Placement

**Type:** Monopole  
**Site Name:** New Fairfield  
**Height:** 149.00 (ft)

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## Shaft Properties

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |



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| Sec. No.                   | Shape | Length (ft) | Thick (in) | Fy (ksi) | Joint Type | Overlap (in) | Weight (lb)   |
|----------------------------|-------|-------------|------------|----------|------------|--------------|---------------|
| 1                          | 18    | 53.250      | 0.3125     | 65       |            | 0.00         | 8,772         |
| 2                          | 18    | 53.500      | 0.3125     | 65       | Slip       | 66.00        | 6,719         |
| 3                          | 18    | 31.750      | 0.2500     | 65       | Slip       | 48.00        | 2,393         |
| 4                          | 18    | 20.000      | 0.1875     | 65       | Flange     | 0.00         | 865           |
| <b>Total Shaft Weight:</b> |       |             |            |          |            |              | <b>18,749</b> |

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        | 55.92    | 0.00      | 55.15       | 21547.38  | 30.14     | 178.94    | 42.32    | 53.25     | 41.67       | 9291.37   | 22.47     | 135.4     | 0.255336 |
| 2        | 44.35    | 47.75     | 43.68       | 10703.92  | 23.62     | 141.93    | 30.69    | 101.25    | 30.13       | 3513.56   | 15.91     | 98.22     | 0.255336 |
| 3        | 32.21    | 97.25     | 25.36       | 3273.80   | 21.31     | 128.85    | 24.11    | 129.00    | 18.93       | 1361.18   | 15.59     | 96.43     | 0.255336 |
| 4        | 24.11    | 129.0     | 14.23       | 1028.93   | 21.26     | 128.57    | 19.00    | 149.00    | 11.20       | 500.59    | 16.46     | 101.3     | 0.255336 |



## Load Summary

|                                 |                                       |                         |                |
|---------------------------------|---------------------------------------|-------------------------|----------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |                |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |                |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |                |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |                |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II | <b>Page:</b> 6 |



### Discrete Appurtenances

| No.            | Elev<br>(ft) | Description                 | Qty       | No Ice          |              |                | Ice              |              |                | Hor.<br>Ecc.<br>(ft) | Vert<br>Ecc<br>(ft) |
|----------------|--------------|-----------------------------|-----------|-----------------|--------------|----------------|------------------|--------------|----------------|----------------------|---------------------|
|                |              |                             |           | Weight<br>(lb)  | CaAa<br>(sf) | CaAa<br>Factor | Weight<br>(lb)   | CaAa<br>(sf) | CaAa<br>Factor |                      |                     |
| 1              | 149.00       | Lightning Rod               | 1         | 35.00           | 1.05         | 1.00           | 66.41            | 3.424        | 1.00           | 0.00                 | 3.50                |
| 2              | 149.00       | RFS BA1010                  | 1         | 8.80            | 1.24         | 1.00           | 73.68            | 2.274        | 1.00           | 0.00                 | 2.35                |
| 3              | 149.00       | Commscope LNX-6515DS-VTM    | 3         | 49.80           | 11.45        | 0.84           | 279.70           | 14.695       | 0.84           | 0.00                 | 0.00                |
| 4              | 149.00       | RFS APXV18-209014           | 3         | 18.70           | 3.51         | 0.79           | 105.99           | 4.447        | 0.79           | 0.00                 | 0.00                |
| 5              | 149.00       | RFS APXV18-206517S-A20      | 3         | 26.50           | 5.17         | 0.79           | 129.30           | 7.299        | 0.79           | 0.00                 | 0.00                |
| 6              | 149.00       | Ericsson KRY 112 489/2      | 3         | 11.00           | 0.56         | 0.67           | 21.78            | 1.209        | 0.67           | 0.00                 | 0.00                |
| 7              | 149.00       | Kathrein 782 11056          | 3         | 2.60            | 0.15         | 0.67           | 9.13             | 0.365        | 0.67           | 0.00                 | 0.00                |
| 8              | 149.00       | Low Profile Platform        | 1         | 1500.00         | 22.00        | 1.00           | 2808.91          | 39.662       | 1.00           | 0.00                 | 0.00                |
| 9              | 149.00       | Standoff Mount              | 1         | 60.00           | 1.80         | 1.00           | 180.42           | 5.885        | 1.00           | 0.00                 | 0.00                |
| 10             | 141.00       | Powerwave 7770              | 9         | 35.00           | 5.51         | 0.77           | 169.27           | 6.559        | 0.77           | 0.00                 | 0.00                |
| 11             | 141.00       | CCI HPA-65R-BUU-H6          | 3         | 50.70           | 9.66         | 0.83           | 297.23           | 11.018       | 0.83           | 0.00                 | 0.00                |
| 12             | 141.00       | Powerwave LGP21401          | 9         | 14.10           | 1.05         | 0.67           | 38.96            | 1.726        | 0.67           | 0.00                 | 0.00                |
| 13             | 141.00       | Powerwave TT19-08BP-111-001 | 3         | 16.00           | 0.55         | 0.67           | 36.13            | 1.057        | 0.67           | 0.00                 | 0.00                |
| 14             | 141.00       | Ericsson RRUS-11            | 3         | 55.00           | 2.52         | 0.67           | 121.06           | 3.150        | 0.67           | 0.00                 | 0.00                |
| 15             | 141.00       | Ericsson RRUS-12            | 3         | 50.00           | 3.15         | 0.67           | 111.58           | 4.399        | 0.67           | 0.00                 | 0.00                |
| 16             | 141.00       | Ericsson RRUS-A2            | 3         | 15.00           | 1.57         | 0.67           | 40.41            | 2.388        | 0.67           | 0.00                 | 0.00                |
| 17             | 141.00       | Powerwave LGP21901          | 6         | 2.20            | 0.23         | 0.67           | 5.26             | 0.596        | 0.67           | 0.00                 | 0.00                |
| 18             | 141.00       | Raycap DC6-48-60-18-8F      | 1         | 32.80           | 2.20         | 0.67           | 118.86           | 3.345        | 0.67           | 0.00                 | 0.00                |
| 19             | 141.00       | Powerwave 1001983           | 3         | 2.90            | 0.11         | 0.67           | 6.55             | 0.298        | 0.67           | 0.00                 | 0.00                |
| 20             | 141.00       | Low Profile Platform        | 1         | 1500.00         | 22.00        | 1.00           | 2801.76          | 39.565       | 1.00           | 0.00                 | 0.00                |
| 21             | 129.00       | RFS BA40-01                 | 1         | 32.00           | 3.45         | 1.00           | 96.87            | 10.079       | 1.00           | 0.00                 | 5.75                |
| 22             | 129.00       | Standoff Mount              | 1         | 60.00           | 1.80         | 1.00           | 178.71           | 5.827        | 1.00           | 0.00                 | 0.00                |
| 23             | 119.50       | Antel LPA-80080/4CF         | 6         | 12.00           | 5.40         | 0.74           | 125.12           | 7.218        | 0.74           | 0.00                 | 0.00                |
| 24             | 119.50       | Antel BXA-70063-6CF_2       | 3         | 15.60           | 7.57         | 0.75           | 133.07           | 10.512       | 0.75           | 0.00                 | 0.00                |
| 25             | 119.50       | Antel BXA-171085-12CF-2     | 3         | 15.00           | 4.79         | 0.88           | 107.88           | 7.113        | 0.88           | 0.00                 | 0.00                |
| 26             | 119.50       | RFS FD9R6004/2C-3L          | 6         | 3.10            | 0.31         | 0.67           | 10.95            | 0.683        | 0.67           | 0.00                 | 0.00                |
| 27             | 119.50       | Low Profile Platform        | 1         | 1500.00         | 22.00        | 1.00           | 2780.56          | 39.279       | 1.00           | 0.00                 | 0.00                |
| 28             | 93.00        | RFS 1142                    | 2         | 10.00           | 3.90         | 1.00           | 29.15            | 12.347       | 1.00           | 0.00                 | 6.50                |
| 29             | 93.00        | Single Arm Mount            | 2         | 60.00           | 1.80         | 1.00           | 174.92           | 5.699        | 1.00           | 0.00                 | 0.00                |
| 30             | 92.00        | Sinclair SD210-SF3P2LDF     | 1         | 18.50           | 4.80         | 1.00           | 75.64            | 11.543       | 1.00           | 0.00                 | 8.00                |
| 31             | 92.00        | Single Arm Mount            | 1         | 60.00           | 1.80         | 1.00           | 174.80           | 5.694        | 1.00           | 0.00                 | 0.00                |
| <b>Totals:</b> |              |                             | <b>90</b> | <b>6,479.20</b> |              |                | <b>16,686.26</b> |              |                |                      |                     |

### Linear Appurtenances

| Bottom<br>Elev.<br>(ft) | Top<br>Elev.<br>(ft) | Description      | Exposed<br>Width | Exposed |
|-------------------------|----------------------|------------------|------------------|---------|
| 3.00                    | 149.00               | (18) 1 5/8" Coax | 0.00             | Inside  |
| 3.00                    | 149.00               | (1) 7/8" Coax    | 0.00             | Inside  |
| 94.00                   | 149.00               | (1) 7/8" Coax    | 1.00             | Outside |
| 3.00                    | 141.00               | (12) 1 5/8" Coax | 0.00             | Inside  |
| 3.00                    | 141.00               | (1) 1/2" Fiber   | 0.00             | Inside  |
| 3.00                    | 141.00               | (2) 3/4" DC      | 0.00             | Inside  |
| 3.00                    | 129.00               | (1) 7/8" Coax    | 0.00             | Inside  |
| 3.00                    | 119.50               | (12) 1 5/8" Coax | 0.00             | Inside  |
| 3.00                    | 93.00                | (2) 7/8" Coax    | 0.00             | Inside  |
| 3.00                    | 92.00                | (1) 7/8" Coax    | 0.00             | Inside  |



**Discrete Appurtenances**

| No. | Elev<br>(ft) | Description | Qty | No Ice         |              |                | Ice            |              |                | Hor.<br>Ecc.<br>(ft) | Vert<br>Ecc<br>(ft) |
|-----|--------------|-------------|-----|----------------|--------------|----------------|----------------|--------------|----------------|----------------------|---------------------|
|     |              |             |     | Weight<br>(lb) | CaAa<br>(sf) | CaAa<br>Factor | Weight<br>(lb) | CaAa<br>(sf) | CaAa<br>Factor |                      |                     |



## Shaft Section Properties

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |



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**Increment Length:** 5 (ft)

| Elev<br>(ft) | Description     | Thick<br>(in) | Dia<br>(in) | Area<br>(in^2) | Ix<br>(in^4) | W/t<br>Ratio | D/t<br>Ratio | Fpy<br>(ksi) | S<br>(in^3) | Weight<br>(lb) |
|--------------|-----------------|---------------|-------------|----------------|--------------|--------------|--------------|--------------|-------------|----------------|
| 0.00         |                 | 0.3125        | 55.920      | 55.154         | 21547.4      | 30.14        | 178.94       | 65.9         | 758.9       | 0.0            |
| 5.00         |                 | 0.3125        | 54.643      | 53.887         | 20097.1      | 29.42        | 174.86       | 66.8         | 724.4       | 927.6          |
| 10.00        |                 | 0.3125        | 53.367      | 52.621         | 18713.4      | 28.70        | 170.77       | 67.6         | 690.7       | 906.1          |
| 15.00        |                 | 0.3125        | 52.090      | 51.355         | 17394.7      | 27.98        | 166.69       | 68.5         | 657.7       | 884.5          |
| 20.00        |                 | 0.3125        | 50.813      | 50.089         | 16139.5      | 27.26        | 162.60       | 69.3         | 625.6       | 863.0          |
| 25.00        |                 | 0.3125        | 49.537      | 48.822         | 14946.1      | 26.54        | 158.52       | 70.2         | 594.3       | 841.4          |
| 30.00        |                 | 0.3125        | 48.260      | 47.556         | 13813.1      | 25.82        | 154.43       | 71.0         | 563.7       | 819.9          |
| 35.00        |                 | 0.3125        | 46.983      | 46.290         | 12738.8      | 25.10        | 150.35       | 71.9         | 534.0       | 798.3          |
| 40.00        |                 | 0.3125        | 45.707      | 45.024         | 11721.7      | 24.38        | 146.26       | 72.7         | 505.1       | 776.8          |
| 45.00        |                 | 0.3125        | 44.430      | 43.757         | 10760.3      | 23.66        | 142.18       | 73.6         | 477.0       | 755.3          |
| 47.75        | Bot - Section 2 | 0.3125        | 43.728      | 43.061         | 10254.6      | 23.26        | 139.93       | 74.0         | 461.9       | 406.2          |
| 50.00        |                 | 0.3125        | 43.153      | 42.491         | 9852.9       | 22.94        | 138.09       | 74.4         | 449.7       | 659.8          |
| 53.25        | Top - Section 1 | 0.3125        | 42.948      | 42.288         | 9712.3       | 22.82        | 137.43       | 0.0          | 0.0         | 937.6          |
| 55.00        |                 | 0.3125        | 42.502      | 41.845         | 9410.1       | 22.57        | 136.00       | 74.9         | 436.1       | 250.5          |
| 60.00        |                 | 0.3125        | 41.225      | 40.578         | 8581.4       | 21.85        | 131.92       | 75.7         | 410.0       | 701.2          |
| 65.00        |                 | 0.3125        | 39.948      | 39.312         | 7802.9       | 21.13        | 127.83       | 76.5         | 384.7       | 679.6          |
| 70.00        |                 | 0.3125        | 38.672      | 38.046         | 7072.9       | 20.41        | 123.75       | 77.4         | 360.2       | 658.1          |
| 75.00        |                 | 0.3125        | 37.395      | 36.780         | 6389.9       | 19.69        | 119.66       | 78.2         | 336.6       | 636.5          |
| 80.00        |                 | 0.3125        | 36.118      | 35.513         | 5752.4       | 18.97        | 115.58       | 79.1         | 313.7       | 615.0          |
| 85.00        |                 | 0.3125        | 34.841      | 34.247         | 5158.8       | 18.25        | 111.49       | 79.9         | 291.6       | 593.4          |
| 90.00        |                 | 0.3125        | 33.565      | 32.981         | 4607.4       | 17.53        | 107.41       | 80.8         | 270.4       | 571.9          |
| 92.00        |                 | 0.3125        | 33.054      | 32.474         | 4398.4       | 17.24        | 105.77       | 81.1         | 262.1       | 222.7          |
| 93.00        |                 | 0.3125        | 32.799      | 32.221         | 4296.3       | 17.10        | 104.96       | 81.3         | 258.0       | 110.1          |
| 95.00        |                 | 0.3125        | 32.288      | 31.715         | 4096.9       | 16.81        | 103.32       | 81.6         | 249.9       | 217.6          |
| 97.25        | Bot - Section 3 | 0.3125        | 31.714      | 31.145         | 3880.0       | 16.48        | 101.48       | 82.0         | 241.0       | 240.6          |
| 100.00       |                 | 0.3125        | 31.011      | 30.448         | 3625.5       | 16.09        | 99.24        | 82.5         | 230.3       | 522.9          |
| 101.25       | Top - Section 2 | 0.2500        | 31.192      | 24.552         | 2969.9       | 20.59        | 124.77       | 0.0          | 0.0         | 233.8          |
| 105.00       |                 | 0.2500        | 30.235      | 23.792         | 2702.6       | 19.91        | 120.94       | 78.0         | 176.1       | 308.4          |
| 110.00       |                 | 0.2500        | 28.958      | 22.779         | 2371.9       | 19.01        | 115.83       | 79.0         | 161.3       | 396.2          |
| 115.00       |                 | 0.2500        | 27.681      | 21.766         | 2069.3       | 18.11        | 110.73       | 80.1         | 147.2       | 378.9          |
| 119.50       |                 | 0.2500        | 26.532      | 20.854         | 1820.0       | 17.30        | 106.13       | 81.0         | 135.1       | 326.3          |
| 120.00       |                 | 0.2500        | 26.405      | 20.753         | 1793.6       | 17.21        | 105.62       | 81.2         | 133.8       | 35.4           |
| 125.00       |                 | 0.2500        | 25.128      | 19.740         | 1543.6       | 16.31        | 100.51       | 82.2         | 121.0       | 344.5          |
| 129.00       | Top - Section 3 | 0.2500        | 24.107      | 18.930         | 1361.2       | 15.59        | 96.43        | 82.5         | 111.2       | 263.2          |
| 129.00       | Bot - Section 4 | 0.1875        | 24.107      | 14.234         | 1028.9       | 20.79        | 128.57       | 76.4         | 84.1        |                |
| 130.00       |                 | 0.1875        | 23.851      | 14.082         | 996.3        | 21.02        | 127.21       | 76.7         | 82.3        | 48.2           |
| 135.00       |                 | 0.1875        | 22.575      | 13.323         | 843.6        | 19.82        | 120.40       | 78.1         | 73.6        | 233.1          |
| 140.00       |                 | 0.1875        | 21.298      | 12.563         | 707.4        | 18.62        | 113.59       | 79.5         | 65.4        | 220.2          |
| 141.00       |                 | 0.1875        | 21.043      | 12.411         | 682.0        | 18.38        | 112.23       | 79.8         | 63.8        | 42.5           |
| 145.00       |                 | 0.1875        | 20.021      | 11.803         | 586.6        | 17.42        | 106.78       | 80.9         | 57.7        | 164.8          |
| 149.00       |                 | 0.1875        | 19.000      | 11.195         | 500.6        | 16.46        | 101.33       | 82.0         | 51.9        | 156.5          |

**18748.6**



## Wind Loading - Shaft

**Structure:** CT13061-A-SBA

**Code:** EIA/TIA-222-G

9/15/2016

**Site Name:** New Fairfield

**Exposure:** C

**Height:** 149.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 1.000 (ft)

**Site Class:** B - Competent Rock

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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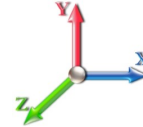


**Load Case:** 1.2D + 1.6W 89 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.60

**Iterations** 24



| Elev<br>(ft)           | Description | Kzt  | Kz   | qz<br>(psf) | qzGh<br>(psf) | C<br>(mph-ft) | Cf    | Ice<br>Thick<br>(in) | Tributary<br>(ft) | Aa<br>(sf) | CfAa<br>(sf) | Wind<br>Force X<br>(lb) | Dead<br>Load Ice<br>(lb) | Tot<br>Dead<br>Load<br>(lb) |
|------------------------|-------------|------|------|-------------|---------------|---------------|-------|----------------------|-------------------|------------|--------------|-------------------------|--------------------------|-----------------------------|
| 0.00                   |             | 1.00 | 0.85 | 16.374      | 18.01         | 388.27        | 0.650 | 0.000                | 0.00              | 0.000      | 0.00         | 0.0                     | 0.0                      | 0.0                         |
| 5.00                   |             | 1.00 | 0.85 | 16.374      | 18.01         | 379.41        | 0.650 | 0.000                | 5.00              | 23.389     | 15.20        | 438.1                   | 0.0                      | 1113.1                      |
| 10.00                  |             | 1.00 | 0.85 | 16.374      | 18.01         | 370.54        | 0.650 | 0.000                | 5.00              | 22.849     | 14.85        | 428.0                   | 0.0                      | 1087.3                      |
| 15.00                  |             | 1.00 | 0.86 | 16.576      | 18.23         | 363.90        | 0.650 | 0.000                | 5.00              | 22.309     | 14.50        | 423.1                   | 0.0                      | 1061.4                      |
| 20.00                  |             | 1.00 | 0.91 | 17.553      | 19.31         | 365.29        | 0.650 | 0.000                | 5.00              | 21.769     | 14.15        | 437.1                   | 0.0                      | 1035.6                      |
| 25.00                  |             | 1.00 | 0.95 | 18.360      | 20.20         | 364.21        | 0.650 | 0.000                | 5.00              | 21.229     | 13.80        | 445.9                   | 0.0                      | 1009.7                      |
| 30.00                  |             | 1.00 | 0.99 | 19.053      | 20.96         | 361.46        | 0.650 | 0.000                | 5.00              | 20.689     | 13.45        | 450.9                   | 0.0                      | 983.9                       |
| 35.00                  |             | 1.00 | 1.02 | 19.662      | 21.63         | 357.48        | 0.650 | 0.000                | 5.00              | 20.148     | 13.10        | 453.2                   | 0.0                      | 958.0                       |
| 40.00                  |             | 1.00 | 1.05 | 20.208      | 22.23         | 352.56        | 0.650 | 0.000                | 5.00              | 19.608     | 12.75        | 453.3                   | 0.0                      | 932.2                       |
| 45.00                  |             | 1.00 | 1.07 | 20.704      | 22.77         | 346.88        | 0.650 | 0.000                | 5.00              | 19.068     | 12.39        | 451.6                   | 0.0                      | 906.3                       |
| 47.75 Bot - Section 2  |             | 1.00 | 1.09 | 20.958      | 23.05         | 343.50        | 0.650 | 0.000                | 2.75              | 10.257     | 6.67         | 245.9                   | 0.0                      | 487.4                       |
| 50.00                  |             | 1.00 | 1.10 | 21.158      | 23.27         | 340.60        | 0.650 | 0.000                | 2.25              | 8.390      | 5.45         | 203.1                   | 0.0                      | 791.7                       |
| 53.25 Top - Section 1  |             | 1.00 | 1.11 | 21.435      | 23.58         | 336.23        | 0.650 | 0.000                | 3.25              | 11.925     | 7.75         | 292.4                   | 0.0                      | 1125.1                      |
| 55.00                  |             | 1.00 | 1.12 | 21.579      | 23.74         | 338.77        | 0.650 | 0.000                | 1.75              | 6.327      | 4.11         | 156.2                   | 0.0                      | 300.6                       |
| 60.00                  |             | 1.00 | 1.14 | 21.971      | 24.17         | 331.57        | 0.650 | 0.000                | 5.00              | 17.712     | 11.51        | 445.2                   | 0.0                      | 841.4                       |
| 65.00                  |             | 1.00 | 1.16 | 22.339      | 24.57         | 323.97        | 0.650 | 0.000                | 5.00              | 17.172     | 11.16        | 438.8                   | 0.0                      | 815.6                       |
| 70.00                  |             | 1.00 | 1.18 | 22.685      | 24.95         | 316.04        | 0.650 | 0.000                | 5.00              | 16.632     | 10.81        | 431.6                   | 0.0                      | 789.7                       |
| 75.00                  |             | 1.00 | 1.19 | 23.012      | 25.31         | 307.80        | 0.650 | 0.000                | 5.00              | 16.092     | 10.46        | 423.6                   | 0.0                      | 763.8                       |
| 80.00                  |             | 1.00 | 1.21 | 23.323      | 25.66         | 299.30        | 0.650 | 0.000                | 5.00              | 15.551     | 10.11        | 414.9                   | 0.0                      | 738.0                       |
| 85.00                  |             | 1.00 | 1.23 | 23.619      | 25.98         | 290.54        | 0.650 | 0.000                | 5.00              | 15.011     | 9.76         | 405.6                   | 0.0                      | 712.1                       |
| 90.00                  |             | 1.00 | 1.24 | 23.901      | 26.29         | 281.57        | 0.650 | 0.000                | 5.00              | 14.471     | 9.41         | 395.7                   | 0.0                      | 686.3                       |
| 92.00 Appurtenance(s)  |             | 1.00 | 1.25 | 24.011      | 26.41         | 277.92        | 0.650 | 0.000                | 2.00              | 5.637      | 3.66         | 154.8                   | 0.0                      | 267.3                       |
| 93.00 Appurtenance(s)  |             | 1.00 | 1.25 | 24.065      | 26.47         | 276.08        | 0.650 | 0.000                | 1.00              | 2.786      | 1.81         | 76.7                    | 0.0                      | 132.1                       |
| 95.00                  |             | 1.00 | 1.25 | 24.172      | 26.59         | 272.39        | 0.650 | 0.000                | 2.00              | 5.508      | 3.58         | 152.3                   | 0.0                      | 261.1                       |
| 97.25 Bot - Section 3  |             | 1.00 | 1.26 | 24.290      | 26.72         | 268.19        | 0.650 | 0.000                | 2.25              | 6.093      | 3.96         | 169.3                   | 0.0                      | 288.8                       |
| 100.00                 |             | 1.00 | 1.27 | 24.432      | 26.88         | 263.02        | 0.650 | 0.000                | 2.75              | 7.414      | 4.82         | 207.2                   | 0.0                      | 627.5                       |
| 101.25 Top - Section 2 |             | 1.00 | 1.27 | 24.495      | 26.94         | 260.65        | 0.650 | 0.000                | 1.25              | 3.316      | 2.16         | 92.9                    | 0.0                      | 280.6                       |
| 105.00                 |             | 1.00 | 1.28 | 24.682      | 27.15         | 257.74        | 0.650 | 0.000                | 3.75              | 9.746      | 6.33         | 275.2                   | 0.0                      | 370.1                       |
| 110.00                 |             | 1.00 | 1.29 | 24.922      | 27.41         | 248.06        | 0.650 | 0.000                | 5.00              | 12.522     | 8.14         | 357.0                   | 0.0                      | 475.4                       |
| 115.00                 |             | 1.00 | 1.31 | 25.155      | 27.67         | 238.22        | 0.650 | 0.000                | 5.00              | 11.982     | 7.79         | 344.8                   | 0.0                      | 454.7                       |
| 119.50 Appurtenance(s) |             | 1.00 | 1.32 | 25.357      | 27.89         | 229.25        | 0.650 | 0.000                | 4.50              | 10.322     | 6.71         | 299.4                   | 0.0                      | 391.6                       |
| 120.00                 |             | 1.00 | 1.32 | 25.379      | 27.92         | 228.25        | 0.650 | 0.000                | 0.50              | 1.120      | 0.73         | 32.5                    | 0.0                      | 42.5                        |
| 125.00                 |             | 1.00 | 1.33 | 25.596      | 28.16         | 218.14        | 0.650 | 0.000                | 5.00              | 10.902     | 7.09         | 319.2                   | 0.0                      | 413.4                       |
| 129.00 Top - Section 3 |             | 1.00 | 1.34 | 25.765      | 28.34         | 209.96        | 0.650 | 0.000                | 4.00              | 8.332      | 5.42         | 245.6                   | 0.0                      | 315.8                       |
| 130.00                 |             | 1.00 | 1.34 | 25.807      | 28.39         | 207.91        | 0.650 | 0.000                | 1.00              | 2.029      | 1.32         | 59.9                    | 0.0                      | 57.8                        |
| 135.00                 |             | 1.00 | 1.35 | 26.011      | 28.61         | 197.55        | 0.650 | 0.000                | 5.00              | 9.821      | 6.38         | 292.3                   | 0.0                      | 279.8                       |
| 140.00                 |             | 1.00 | 1.36 | 26.210      | 28.83         | 187.09        | 0.650 | 0.000                | 5.00              | 9.281      | 6.03         | 278.3                   | 0.0                      | 264.2                       |
| 141.00 Appurtenance(s) |             | 1.00 | 1.36 | 26.249      | 28.87         | 184.99        | 0.650 | 0.000                | 1.00              | 1.791      | 1.16         | 53.8                    | 0.0                      | 51.0                        |
| 145.00                 |             | 1.00 | 1.37 | 26.403      | 29.04         | 176.52        | 0.650 | 0.000                | 4.00              | 6.950      | 4.52         | 209.9                   | 0.0                      | 197.7                       |
| 149.00 Appurtenance(s) |             | 1.00 | 1.38 | 26.553      | 29.21         | 168.00        | 0.650 | 0.000                | 4.00              | 6.604      | 4.29         | 200.6                   | 0.0                      | 187.8                       |
| <b>Totals:</b>         |             |      |      |             |               |               |       | <b>149.00</b>        |                   |            |              | <b>11,656.3</b>         |                          | <b>22,498.3</b>             |



## Discrete Appurtenance Forces

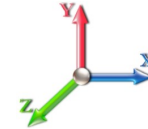
|                                 |                                       |                 |
|---------------------------------|---------------------------------------|-----------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016       |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                 |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                 |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                 |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Page:</b> 10 |
|                                 | <b>Struct Class:</b> II               |                 |



**Load Case:** 1.2D + 1.6W 89 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.60



**Iterations** 24

| 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   | 149.00    | RFS APXV18-209014       | 3   | 26.553   | 29.209     | 0.79      | 1.00 | 8.32            | 67.32          | 0.000          | 0.000         | 388.76       | 0.00          | 0.00          |
| 2   | 149.00    | Lightning Rod           | 1   | 26.683   | 29.351     | 1.00      | 1.00 | 1.05            | 42.00          | 0.000          | 3.500         | 49.31        | 0.00          | 172.58        |
| 3   | 149.00    | RFS BA1010              | 1   | 26.640   | 29.304     | 1.00      | 1.00 | 1.24            | 10.56          | 0.000          | 2.350         | 58.14        | 0.00          | 136.63        |
| 4   | 149.00    | Commscope               | 3   | 26.553   | 29.209     | 0.84      | 1.00 | 28.85           | 179.28         | 0.000          | 0.000         | 1348.46      | 0.00          | 0.00          |
| 5   | 149.00    | Standoff Mount          | 1   | 26.553   | 29.209     | 1.00      | 1.00 | 1.80            | 72.00          | 0.000          | 0.000         | 84.12        | 0.00          | 0.00          |
| 6   | 149.00    | RFS                     | 3   | 26.553   | 29.209     | 0.79      | 1.00 | 12.25           | 95.40          | 0.000          | 0.000         | 572.62       | 0.00          | 0.00          |
| 7   | 149.00    | Ericsson KRY 112 489/2  | 3   | 26.553   | 29.209     | 0.60      | 0.90 | 1.01            | 39.60          | 0.000          | 0.000         | 47.34        | 0.00          | 0.00          |
| 8   | 149.00    | Kathrein 782 11056      | 3   | 26.553   | 29.209     | 0.60      | 0.90 | 0.27            | 9.36           | 0.000          | 0.000         | 12.68        | 0.00          | 0.00          |
| 9   | 149.00    | Low Profile Platform    | 1   | 26.553   | 29.209     | 1.00      | 1.00 | 22.00           | 1800.00        | 0.000          | 0.000         | 1028.14      | 0.00          | 0.00          |
| 10  | 141.00    | Low Profile Platform    | 1   | 26.249   | 28.874     | 1.00      | 1.00 | 22.00           | 1800.00        | 0.000          | 0.000         | 1016.35      | 0.00          | 0.00          |
| 11  | 141.00    | Powerwave 1001983       | 3   | 26.249   | 28.874     | 0.54      | 0.80 | 0.18            | 10.44          | 0.000          | 0.000         | 8.17         | 0.00          | 0.00          |
| 12  | 141.00    | Raycap DC6-48-60-18-8F  | 1   | 26.249   | 28.874     | 0.54      | 0.80 | 1.18            | 39.36          | 0.000          | 0.000         | 54.48        | 0.00          | 0.00          |
| 13  | 141.00    | Powerwave LGP21901      | 6   | 26.249   | 28.874     | 0.54      | 0.80 | 0.74            | 15.84          | 0.000          | 0.000         | 34.17        | 0.00          | 0.00          |
| 14  | 141.00    | Ericsson RRUS-A2        | 3   | 26.249   | 28.874     | 0.54      | 0.80 | 2.52            | 54.00          | 0.000          | 0.000         | 116.63       | 0.00          | 0.00          |
| 15  | 141.00    | Ericsson RRUS-12        | 3   | 26.249   | 28.874     | 0.54      | 0.80 | 5.07            | 180.00         | 0.000          | 0.000         | 234.00       | 0.00          | 0.00          |
| 16  | 141.00    | Ericsson RRUS-11        | 3   | 26.249   | 28.874     | 0.54      | 0.80 | 4.05            | 198.00         | 0.000          | 0.000         | 187.20       | 0.00          | 0.00          |
| 17  | 141.00    | Powerwave LGP21401      | 9   | 26.249   | 28.874     | 0.54      | 0.80 | 5.07            | 152.28         | 0.000          | 0.000         | 234.00       | 0.00          | 0.00          |
| 18  | 141.00    | CCI HPA-65R-BUU-H6      | 3   | 26.249   | 28.874     | 0.66      | 0.80 | 19.24           | 182.52         | 0.000          | 0.000         | 888.97       | 0.00          | 0.00          |
| 19  | 141.00    | Powerwave 7770          | 9   | 26.249   | 28.874     | 0.62      | 0.80 | 30.55           | 378.00         | 0.000          | 0.000         | 1411.22      | 0.00          | 0.00          |
| 20  | 141.00    | Powerwave               | 3   | 26.249   | 28.874     | 0.54      | 0.80 | 0.88            | 57.60          | 0.000          | 0.000         | 40.86        | 0.00          | 0.00          |
| 21  | 129.00    | Standoff Mount          | 1   | 25.765   | 28.342     | 1.00      | 1.00 | 1.80            | 72.00          | 0.000          | 0.000         | 81.62        | 0.00          | 0.00          |
| 22  | 129.00    | RFS BA40-01             | 1   | 26.001   | 28.601     | 1.00      | 1.00 | 3.45            | 38.40          | 0.000          | 5.750         | 157.88       | 0.00          | 907.80        |
| 23  | 119.50    | Antel BXA-70063-6CF_2   | 3   | 25.357   | 27.893     | 0.60      | 0.80 | 13.63           | 56.16          | 0.000          | 0.000         | 608.10       | 0.00          | 0.00          |
| 24  | 119.50    | Antel LPA-80080/4CF     | 6   | 25.357   | 27.893     | 0.59      | 0.80 | 19.18           | 86.40          | 0.000          | 0.000         | 856.00       | 0.00          | 0.00          |
| 25  | 119.50    | RFS FD9R6004/2C-3L      | 6   | 25.357   | 27.893     | 0.54      | 0.80 | 1.00            | 22.32          | 0.000          | 0.000         | 44.49        | 0.00          | 0.00          |
| 26  | 119.50    | Antel BXA-171085-12CF-2 | 3   | 25.357   | 27.893     | 0.70      | 0.80 | 10.12           | 54.00          | 0.000          | 0.000         | 451.48       | 0.00          | 0.00          |
| 27  | 119.50    | Low Profile Platform    | 1   | 25.357   | 27.893     | 1.00      | 1.00 | 22.00           | 1800.00        | 0.000          | 0.000         | 981.82       | 0.00          | 0.00          |
| 28  | 93.00     | Single Arm Mount        | 2   | 24.065   | 26.472     | 1.00      | 1.00 | 3.60            | 144.00         | 0.000          | 0.000         | 152.48       | 0.00          | 0.00          |
| 29  | 93.00     | RFS 1142                | 2   | 24.406   | 26.847     | 1.00      | 1.00 | 7.80            | 24.00          | 0.000          | 6.500         | 335.05       | 0.00          | 2177.83       |
| 30  | 92.00     | Single Arm Mount        | 1   | 24.011   | 26.412     | 1.00      | 1.00 | 1.80            | 72.00          | 0.000          | 0.000         | 76.07        | 0.00          | 0.00          |
| 31  | 92.00     | Sinclair                | 1   | 24.432   | 26.875     | 1.00      | 1.00 | 4.80            | 22.20          | 0.000          | 8.000         | 206.40       | 0.00          | 1651.20       |

**Totals:** 7,775.04

**11,767.02**



## Total Applied Force Summary

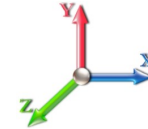
|                                 |                                       |                         |          |
|---------------------------------|---------------------------------------|-------------------------|----------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |          |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |          |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |          |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |          |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II | Page: 11 |



**Load Case:** 1.2D + 1.6W 89 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.60



**Iterations** 24

| Elev<br>(ft)   | Description      | Lateral<br>FX (-)<br>(lb) | Axial<br>FY (-)<br>(lb) | Torsion<br>MY<br>(lb-ft) | Moment<br>MZ<br>(lb-ft) |
|----------------|------------------|---------------------------|-------------------------|--------------------------|-------------------------|
| 0.00           |                  | 0.00                      | 0.00                    | 0.00                     | 0.00                    |
| 5.00           |                  | 438.13                    | 1226.50                 | 0.00                     | 0.00                    |
| 10.00          |                  | 428.02                    | 1370.72                 | 0.00                     | 0.00                    |
| 15.00          |                  | 423.06                    | 1344.86                 | 0.00                     | 0.00                    |
| 20.00          |                  | 437.14                    | 1319.01                 | 0.00                     | 0.00                    |
| 25.00          |                  | 445.90                    | 1293.16                 | 0.00                     | 0.00                    |
| 30.00          |                  | 450.94                    | 1267.30                 | 0.00                     | 0.00                    |
| 35.00          |                  | 453.21                    | 1241.45                 | 0.00                     | 0.00                    |
| 40.00          |                  | 453.31                    | 1215.60                 | 0.00                     | 0.00                    |
| 45.00          |                  | 451.63                    | 1189.75                 | 0.00                     | 0.00                    |
| 47.75          |                  | 245.93                    | 643.34                  | 0.00                     | 0.00                    |
| 50.00          |                  | 203.08                    | 919.25                  | 0.00                     | 0.00                    |
| 53.25          |                  | 292.44                    | 1309.32                 | 0.00                     | 0.00                    |
| 55.00          |                  | 156.19                    | 399.80                  | 0.00                     | 0.00                    |
| 60.00          |                  | 445.19                    | 1124.84                 | 0.00                     | 0.00                    |
| 65.00          |                  | 438.83                    | 1098.99                 | 0.00                     | 0.00                    |
| 70.00          |                  | 431.62                    | 1073.14                 | 0.00                     | 0.00                    |
| 75.00          |                  | 423.62                    | 1047.29                 | 0.00                     | 0.00                    |
| 80.00          |                  | 414.93                    | 1021.43                 | 0.00                     | 0.00                    |
| 85.00          |                  | 405.60                    | 995.58                  | 0.00                     | 0.00                    |
| 90.00          |                  | 395.69                    | 969.73                  | 0.00                     | 0.00                    |
| 92.00          | (2) attachments  | 437.31                    | 474.85                  | 0.00                     | 1651.20                 |
| 93.00          | (4) attachments  | 564.23                    | 356.15                  | 0.00                     | 2177.83                 |
| 95.00          |                  | 152.30                    | 370.70                  | 0.00                     | 0.00                    |
| 97.25          |                  | 169.31                    | 412.10                  | 0.00                     | 0.00                    |
| 100.00         |                  | 207.23                    | 778.23                  | 0.00                     | 0.00                    |
| 101.25         |                  | 92.93                     | 349.09                  | 0.00                     | 0.00                    |
| 105.00         |                  | 275.19                    | 575.69                  | 0.00                     | 0.00                    |
| 110.00         |                  | 357.02                    | 749.49                  | 0.00                     | 0.00                    |
| 115.00         |                  | 344.80                    | 728.81                  | 0.00                     | 0.00                    |
| 119.50         | (19) attachments | 3241.32                   | 2657.13                 | 0.00                     | 0.00                    |
| 120.00         |                  | 32.51                     | 62.39                   | 0.00                     | 0.00                    |
| 125.00         |                  | 319.22                    | 612.57                  | 0.00                     | 0.00                    |
| 129.00         | (2) attachments  | 485.10                    | 585.56                  | 0.00                     | 907.80                  |
| 130.00         |                  | 59.90                     | 97.03                   | 0.00                     | 0.00                    |
| 135.00         |                  | 292.25                    | 475.84                  | 0.00                     | 0.00                    |
| 140.00         |                  | 278.28                    | 460.33                  | 0.00                     | 0.00                    |
| 141.00         | (44) attachments | 4279.84                   | 3158.24                 | 0.00                     | 0.00                    |
| 145.00         |                  | 209.91                    | 290.10                  | 0.00                     | 0.00                    |
| 149.00         | (19) attachments | 3790.19                   | 2595.69                 | 0.00                     | 309.21                  |
| <b>Totals:</b> |                  | <b>23,423.31</b>          | <b>37,861.08</b>        | <b>0.00</b>              | <b>5,046.04</b>         |



## Linear Appurtenance Segment Forces (Factored)

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |

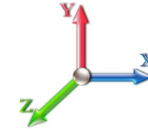


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**Load Case:** 1.2D + 1.6W 89 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.60



**Iterations** 24

| 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) |
|----------------|-------------|--------------|-------------|-------|--------------------|-------------|-------------|-------|------------------|----------|------------|----------------|
| 95.00          | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.09        | 0.00        | 0.017 | 0.000            | 24.172   | 0.00       | 0.00           |
| 97.25          | 7/8" Coax   | Yes          | 2.25        | 0.000 | 1.11               | 0.21        | 0.00        | 0.034 | 0.000            | 24.290   | 0.00       | 0.00           |
| 100.00         | 7/8" Coax   | Yes          | 2.75        | 0.000 | 1.11               | 0.25        | 0.00        | 0.035 | 0.000            | 24.432   | 0.00       | 0.00           |
| 101.25         | 7/8" Coax   | Yes          | 1.25        | 0.000 | 1.11               | 0.12        | 0.00        | 0.035 | 0.000            | 24.495   | 0.00       | 0.00           |
| 105.00         | 7/8" Coax   | Yes          | 3.75        | 0.000 | 1.11               | 0.35        | 0.00        | 0.036 | 0.000            | 24.682   | 0.00       | 0.00           |
| 110.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.037 | 0.000            | 24.922   | 0.00       | 0.00           |
| 115.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.039 | 0.000            | 25.155   | 0.00       | 0.00           |
| 119.50         | 7/8" Coax   | Yes          | 4.50        | 0.000 | 1.11               | 0.42        | 0.00        | 0.040 | 0.000            | 25.357   | 0.00       | 0.00           |
| 120.00         | 7/8" Coax   | Yes          | 0.50        | 0.000 | 1.11               | 0.05        | 0.00        | 0.041 | 0.000            | 25.379   | 0.00       | 0.00           |
| 125.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.042 | 0.000            | 25.596   | 0.00       | 0.00           |
| 129.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 0.37        | 0.00        | 0.044 | 0.000            | 25.765   | 0.00       | 0.00           |
| 130.00         | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.09        | 0.00        | 0.046 | 0.000            | 25.807   | 0.00       | 0.00           |
| 135.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.047 | 0.000            | 26.011   | 0.00       | 0.00           |
| 140.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.050 | 0.000            | 26.210   | 0.00       | 0.00           |
| 141.00         | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.09        | 0.00        | 0.052 | 0.000            | 26.249   | 0.00       | 0.00           |
| 145.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 0.37        | 0.00        | 0.053 | 0.000            | 26.403   | 0.00       | 0.00           |
| 149.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 0.37        | 0.00        | 0.056 | 0.000            | 26.553   | 0.00       | 0.00           |
| <b>Totals:</b> |             |              |             |       |                    |             |             |       |                  |          | <b>0.0</b> | <b>0.0</b>     |



## Calculated Forces

**Structure:** CT13061-A-SBA

**Code:** EIA/TIA-222-G

9/15/2016

**Site Name:** New Fairfield

**Exposure:** C

**Height:** 149.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 1.000 (ft)

**Site Class:** B - Competent Rock

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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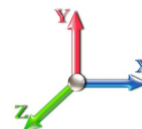


**Load Case:** 1.2D + 1.6W 89 mph Wind

**Iterations** 24

**Dead Load Factor** 1.20

**Wind Load Factor** 1.60



| 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          | -37.83           | -23.48           | 0.00                | -2509.3         | 0.00            | 2509.39                    | 3273.57       | 1636.79       | 7496.53          | 3753.83          | 0.00               | 0.000               | 0.000                | 0.680        |
| 5.00          | -36.54           | -23.14           | 0.00                | -2392.0         | 0.00            | 2392.01                    | 3239.51       | 1619.75       | 7247.24          | 3629.01          | 0.09               | -0.162              | 0.000                | 0.671        |
| 10.00         | -35.10           | -22.81           | 0.00                | -2276.3         | 0.00            | 2276.31                    | 3203.51       | 1601.76       | 6997.34          | 3503.87          | 0.35               | -0.327              | 0.000                | 0.661        |
| 15.00         | -33.69           | -22.48           | 0.00                | -2162.2         | 0.00            | 2162.26                    | 3165.58       | 1582.79       | 6747.13          | 3378.58          | 0.78               | -0.496              | 0.000                | 0.651        |
| 20.00         | -32.31           | -22.13           | 0.00                | -2049.8         | 0.00            | 2049.88                    | 3125.72       | 1562.86       | 6496.92          | 3253.29          | 1.39               | -0.668              | 0.000                | 0.641        |
| 25.00         | -30.96           | -21.76           | 0.00                | -1939.2         | 0.00            | 1939.25                    | 3083.93       | 1541.97       | 6247.01          | 3128.15          | 2.18               | -0.844              | 0.000                | 0.630        |
| 30.00         | -29.63           | -21.38           | 0.00                | -1830.4         | 0.00            | 1830.46                    | 3040.21       | 1520.10       | 5997.71          | 3003.31          | 3.17               | -1.023              | 0.000                | 0.619        |
| 35.00         | -28.33           | -20.99           | 0.00                | -1723.5         | 0.00            | 1723.56                    | 2994.56       | 1497.28       | 5749.33          | 2878.94          | 4.34               | -1.206              | 0.000                | 0.608        |
| 40.00         | -27.06           | -20.60           | 0.00                | -1618.5         | 0.00            | 1618.59                    | 2946.97       | 1473.49       | 5502.17          | 2755.17          | 5.70               | -1.393              | 0.000                | 0.597        |
| 45.00         | -25.83           | -20.19           | 0.00                | -1515.5         | 0.00            | 1515.58                    | 2897.46       | 1448.73       | 5256.53          | 2632.17          | 7.26               | -1.583              | 0.000                | 0.585        |
| 47.75         | -25.16           | -19.97           | 0.00                | -1460.0         | 0.00            | 1460.06                    | 2869.40       | 1434.70       | 5122.20          | 2564.91          | 8.20               | -1.691              | 0.000                | 0.578        |
| 50.00         | -24.20           | -19.78           | 0.00                | -1415.1         | 0.00            | 1415.14                    | 2846.01       | 1423.00       | 5012.74          | 2510.09          | 9.02               | -1.781              | 0.000                | 0.572        |
| 53.25         | -22.87           | -19.49           | 0.00                | -1350.8         | 0.00            | 1350.85                    | 2837.57       | 1418.79       | 4973.81          | 2490.60          | 10.28              | -1.911              | 0.000                | 0.551        |
| 55.00         | -22.43           | -19.37           | 0.00                | -1316.7         | 0.00            | 1316.74                    | 2819.00       | 1409.50       | 4889.10          | 2448.18          | 10.99              | -1.982              | 0.000                | 0.546        |
| 60.00         | -21.26           | -18.96           | 0.00                | -1219.8         | 0.00            | 1219.89                    | 2764.64       | 1382.32       | 4648.65          | 2327.78          | 13.17              | -2.174              | 0.000                | 0.532        |
| 65.00         | -20.12           | -18.54           | 0.00                | -1125.1         | 0.00            | 1125.11                    | 2708.35       | 1354.17       | 4410.81          | 2208.68          | 15.55              | -2.368              | 0.000                | 0.517        |
| 70.00         | -19.00           | -18.13           | 0.00                | -1032.4         | 0.00            | 1032.40                    | 2650.12       | 1325.06       | 4175.87          | 2091.04          | 18.14              | -2.565              | 0.000                | 0.501        |
| 75.00         | -17.91           | -17.72           | 0.00                | -941.74         | 0.00            | 941.74                     | 2589.96       | 1294.98       | 3944.16          | 1975.01          | 20.93              | -2.763              | 0.000                | 0.484        |
| 80.00         | -16.85           | -17.32           | 0.00                | -853.13         | 0.00            | 853.13                     | 2527.88       | 1263.94       | 3715.96          | 1860.74          | 23.93              | -2.963              | 0.000                | 0.465        |
| 85.00         | -15.82           | -16.91           | 0.00                | -766.56         | 0.00            | 766.56                     | 2463.86       | 1231.93       | 3491.60          | 1748.39          | 27.14              | -3.163              | 0.000                | 0.445        |
| 90.00         | -14.84           | -16.50           | 0.00                | -682.00         | 0.00            | 682.00                     | 2397.91       | 1198.95       | 3271.37          | 1638.12          | 30.56              | -3.363              | 0.000                | 0.423        |
| 92.00         | -14.37           | -16.05           | 0.00                | -647.35         | 0.00            | 647.35                     | 2370.99       | 1185.49       | 3184.51          | 1594.62          | 31.99              | -3.445              | 0.000                | 0.412        |
| 93.00         | -14.03           | -15.48           | 0.00                | -629.12         | 0.00            | 629.12                     | 2357.41       | 1178.70       | 3141.35          | 1573.01          | 32.71              | -3.487              | 0.000                | 0.406        |
| 95.00         | -13.65           | -15.33           | 0.00                | -598.16         | 0.00            | 598.16                     | 2330.03       | 1165.01       | 3055.58          | 1530.06          | 34.19              | -3.568              | 0.000                | 0.397        |
| 97.25         | -13.22           | -15.15           | 0.00                | -563.68         | 0.00            | 563.68                     | 2298.85       | 1149.42       | 2960.01          | 1482.20          | 35.89              | -3.659              | 0.000                | 0.386        |
| 100.00        | -12.44           | -14.91           | 0.00                | -522.01         | 0.00            | 522.01                     | 2260.21       | 1130.11       | 2844.54          | 1424.39          | 38.03              | -3.768              | 0.000                | 0.372        |
| 101.25        | -12.07           | -14.82           | 0.00                | -503.37         | 0.00            | 503.37                     | 1705.50       | 852.75        | 2167.94          | 1085.58          | 39.03              | -3.818              | 0.000                | 0.471        |
| 105.00        | -11.47           | -14.54           | 0.00                | -447.80         | 0.00            | 447.80                     | 1669.73       | 834.87        | 2056.27          | 1029.66          | 42.08              | -3.963              | 0.000                | 0.442        |
| 110.00        | -10.69           | -14.17           | 0.00                | -375.09         | 0.00            | 375.09                     | 1620.35       | 810.17        | 1909.79          | 956.31           | 46.35              | -4.179              | 0.000                | 0.399        |
| 115.00        | -9.95            | -13.81           | 0.00                | -304.23         | 0.00            | 304.23                     | 1569.04       | 784.52        | 1766.36          | 884.49           | 50.83              | -4.383              | 0.000                | 0.351        |
| 119.50        | -7.54            | -10.38           | 0.00                | -242.11         | 0.00            | 242.11                     | 1521.21       | 760.60        | 1640.13          | 821.29           | 55.04              | -4.552              | 0.000                | 0.300        |
| 120.00        | -7.46            | -10.35           | 0.00                | -236.92         | 0.00            | 236.92                     | 1515.79       | 757.90        | 1626.29          | 814.35           | 55.52              | -4.571              | 0.000                | 0.296        |
| 125.00        | -6.85            | -10.00           | 0.00                | -185.15         | 0.00            | 185.15                     | 1460.62       | 730.31        | 1489.87          | 746.04           | 60.40              | -4.738              | 0.000                | 0.253        |
| 129.00        | -6.29            | -9.48            | 0.00                | -144.23         | 0.00            | 144.23                     | 1406.38       | 703.19        | 1375.06          | 688.55           | 64.42              | -4.860              | 0.000                | 0.214        |
| 129.00        | -6.29            | -9.48            | 0.00                | -144.23         | 0.00            | 144.23                     | 978.70        | 489.35        | 961.93           | 481.68           | 64.42              | -4.860              | 0.000                | 0.306        |
| 130.00        | -6.19            | -9.42            | 0.00                | -134.75         | 0.00            | 134.75                     | 971.83        | 485.92        | 944.91           | 473.15           | 65.44              | -4.889              | 0.000                | 0.292        |
| 135.00        | -5.72            | -9.10            | 0.00                | -87.64          | 0.00            | 87.64                      | 936.33        | 468.17        | 860.89           | 431.08           | 70.64              | -5.048              | 0.000                | 0.210        |
| 140.00        | -5.27            | -8.79            | 0.00                | -42.12          | 0.00            | 42.12                      | 898.90        | 449.45        | 778.95           | 390.05           | 75.99              | -5.157              | 0.000                | 0.114        |
| 141.00        | -2.51            | -4.24            | 0.00                | -33.33          | 0.00            | 33.33                      | 891.19        | 445.59        | 762.84           | 381.99           | 77.07              | -5.172              | 0.000                | 0.090        |
| 145.00        | -2.24            | -4.01            | 0.00                | -16.35          | 0.00            | 16.35                      | 859.54        | 429.77        | 699.40           | 350.22           | 81.42              | -5.214              | 0.000                | 0.049        |
| 149.00        | 0.00             | -3.79            | 0.00                | -0.31           | 0.00            | 0.31                       | 826.66        | 413.33        | 637.68           | 319.32           | 85.79              | -5.230              | 0.000                | 0.001        |



## Wind Loading - Shaft

**Structure:** CT13061-A-SBA

**Code:** EIA/TIA-222-G

9/15/2016

**Site Name:** New Fairfield

**Exposure:** C

**Height:** 149.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 1.000 (ft)

**Site Class:** B - Competent Rock

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

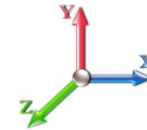
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**Load Case:** 0.9D + 1.6W 89 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



**Iterations** 24

| Elev<br>(ft)           | Description | Kzt  | Kz   | qz<br>(psf) | qzGh<br>(psf) | C<br>(mph-ft) | Cf    | Ice<br>Thick<br>(in) | Tributary<br>(ft) | Aa<br>(sf) | CfAa<br>(sf) | Wind<br>Force X<br>(lb) | Dead<br>Load Ice<br>(lb) | Tot<br>Dead<br>Load<br>(lb) |
|------------------------|-------------|------|------|-------------|---------------|---------------|-------|----------------------|-------------------|------------|--------------|-------------------------|--------------------------|-----------------------------|
| 0.00                   |             | 1.00 | 0.85 | 16.374      | 18.01         | 388.27        | 0.650 | 0.000                | 0.00              | 0.000      | 0.00         | 0.0                     | 0.0                      | 0.0                         |
| 5.00                   |             | 1.00 | 0.85 | 16.374      | 18.01         | 379.41        | 0.650 | 0.000                | 5.00              | 23.389     | 15.20        | 438.1                   | 0.0                      | 834.8                       |
| 10.00                  |             | 1.00 | 0.85 | 16.374      | 18.01         | 370.54        | 0.650 | 0.000                | 5.00              | 22.849     | 14.85        | 428.0                   | 0.0                      | 815.5                       |
| 15.00                  |             | 1.00 | 0.86 | 16.576      | 18.23         | 363.90        | 0.650 | 0.000                | 5.00              | 22.309     | 14.50        | 423.1                   | 0.0                      | 796.1                       |
| 20.00                  |             | 1.00 | 0.91 | 17.553      | 19.31         | 365.29        | 0.650 | 0.000                | 5.00              | 21.769     | 14.15        | 437.1                   | 0.0                      | 776.7                       |
| 25.00                  |             | 1.00 | 0.95 | 18.360      | 20.20         | 364.21        | 0.650 | 0.000                | 5.00              | 21.229     | 13.80        | 445.9                   | 0.0                      | 757.3                       |
| 30.00                  |             | 1.00 | 0.99 | 19.053      | 20.96         | 361.46        | 0.650 | 0.000                | 5.00              | 20.689     | 13.45        | 450.9                   | 0.0                      | 737.9                       |
| 35.00                  |             | 1.00 | 1.02 | 19.662      | 21.63         | 357.48        | 0.650 | 0.000                | 5.00              | 20.148     | 13.10        | 453.2                   | 0.0                      | 718.5                       |
| 40.00                  |             | 1.00 | 1.05 | 20.208      | 22.23         | 352.56        | 0.650 | 0.000                | 5.00              | 19.608     | 12.75        | 453.3                   | 0.0                      | 699.1                       |
| 45.00                  |             | 1.00 | 1.07 | 20.704      | 22.77         | 346.88        | 0.650 | 0.000                | 5.00              | 19.068     | 12.39        | 451.6                   | 0.0                      | 679.7                       |
| 47.75 Bot - Section 2  |             | 1.00 | 1.09 | 20.958      | 23.05         | 343.50        | 0.650 | 0.000                | 2.75              | 10.257     | 6.67         | 245.9                   | 0.0                      | 365.6                       |
| 50.00                  |             | 1.00 | 1.10 | 21.158      | 23.27         | 340.60        | 0.650 | 0.000                | 2.25              | 8.390      | 5.45         | 203.1                   | 0.0                      | 593.8                       |
| 53.25 Top - Section 1  |             | 1.00 | 1.11 | 21.435      | 23.58         | 336.23        | 0.650 | 0.000                | 3.25              | 11.925     | 7.75         | 292.4                   | 0.0                      | 843.8                       |
| 55.00                  |             | 1.00 | 1.12 | 21.579      | 23.74         | 338.77        | 0.650 | 0.000                | 1.75              | 6.327      | 4.11         | 156.2                   | 0.0                      | 225.4                       |
| 60.00                  |             | 1.00 | 1.14 | 21.971      | 24.17         | 331.57        | 0.650 | 0.000                | 5.00              | 17.712     | 11.51        | 445.2                   | 0.0                      | 631.1                       |
| 65.00                  |             | 1.00 | 1.16 | 22.339      | 24.57         | 323.97        | 0.650 | 0.000                | 5.00              | 17.172     | 11.16        | 438.8                   | 0.0                      | 611.7                       |
| 70.00                  |             | 1.00 | 1.18 | 22.685      | 24.95         | 316.04        | 0.650 | 0.000                | 5.00              | 16.632     | 10.81        | 431.6                   | 0.0                      | 592.3                       |
| 75.00                  |             | 1.00 | 1.19 | 23.012      | 25.31         | 307.80        | 0.650 | 0.000                | 5.00              | 16.092     | 10.46        | 423.6                   | 0.0                      | 572.9                       |
| 80.00                  |             | 1.00 | 1.21 | 23.323      | 25.66         | 299.30        | 0.650 | 0.000                | 5.00              | 15.551     | 10.11        | 414.9                   | 0.0                      | 553.5                       |
| 85.00                  |             | 1.00 | 1.23 | 23.619      | 25.98         | 290.54        | 0.650 | 0.000                | 5.00              | 15.011     | 9.76         | 405.6                   | 0.0                      | 534.1                       |
| 90.00                  |             | 1.00 | 1.24 | 23.901      | 26.29         | 281.57        | 0.650 | 0.000                | 5.00              | 14.471     | 9.41         | 395.7                   | 0.0                      | 514.7                       |
| 92.00 Appurtenance(s)  |             | 1.00 | 1.25 | 24.011      | 26.41         | 277.92        | 0.650 | 0.000                | 2.00              | 5.637      | 3.66         | 154.8                   | 0.0                      | 200.5                       |
| 93.00 Appurtenance(s)  |             | 1.00 | 1.25 | 24.065      | 26.47         | 276.08        | 0.650 | 0.000                | 1.00              | 2.786      | 1.81         | 76.7                    | 0.0                      | 99.1                        |
| 95.00                  |             | 1.00 | 1.25 | 24.172      | 26.59         | 272.39        | 0.650 | 0.000                | 2.00              | 5.508      | 3.58         | 152.3                   | 0.0                      | 195.8                       |
| 97.25 Bot - Section 3  |             | 1.00 | 1.26 | 24.290      | 26.72         | 268.19        | 0.650 | 0.000                | 2.25              | 6.093      | 3.96         | 169.3                   | 0.0                      | 216.6                       |
| 100.00                 |             | 1.00 | 1.27 | 24.432      | 26.88         | 263.02        | 0.650 | 0.000                | 2.75              | 7.414      | 4.82         | 207.2                   | 0.0                      | 470.6                       |
| 101.25 Top - Section 2 |             | 1.00 | 1.27 | 24.495      | 26.94         | 260.65        | 0.650 | 0.000                | 1.25              | 3.316      | 2.16         | 92.9                    | 0.0                      | 210.4                       |
| 105.00                 |             | 1.00 | 1.28 | 24.682      | 27.15         | 257.74        | 0.650 | 0.000                | 3.75              | 9.746      | 6.33         | 275.2                   | 0.0                      | 277.6                       |
| 110.00                 |             | 1.00 | 1.29 | 24.922      | 27.41         | 248.06        | 0.650 | 0.000                | 5.00              | 12.522     | 8.14         | 357.0                   | 0.0                      | 356.6                       |
| 115.00                 |             | 1.00 | 1.31 | 25.155      | 27.67         | 238.22        | 0.650 | 0.000                | 5.00              | 11.982     | 7.79         | 344.8                   | 0.0                      | 341.0                       |
| 119.50 Appurtenance(s) |             | 1.00 | 1.32 | 25.357      | 27.89         | 229.25        | 0.650 | 0.000                | 4.50              | 10.322     | 6.71         | 299.4                   | 0.0                      | 293.7                       |
| 120.00                 |             | 1.00 | 1.32 | 25.379      | 27.92         | 228.25        | 0.650 | 0.000                | 0.50              | 1.120      | 0.73         | 32.5                    | 0.0                      | 31.9                        |
| 125.00                 |             | 1.00 | 1.33 | 25.596      | 28.16         | 218.14        | 0.650 | 0.000                | 5.00              | 10.902     | 7.09         | 319.2                   | 0.0                      | 310.0                       |
| 129.00 Top - Section 3 |             | 1.00 | 1.34 | 25.765      | 28.34         | 209.96        | 0.650 | 0.000                | 4.00              | 8.332      | 5.42         | 245.6                   | 0.0                      | 236.9                       |
| 130.00                 |             | 1.00 | 1.34 | 25.807      | 28.39         | 207.91        | 0.650 | 0.000                | 1.00              | 2.029      | 1.32         | 59.9                    | 0.0                      | 43.4                        |
| 135.00                 |             | 1.00 | 1.35 | 26.011      | 28.61         | 197.55        | 0.650 | 0.000                | 5.00              | 9.821      | 6.38         | 292.3                   | 0.0                      | 209.8                       |
| 140.00                 |             | 1.00 | 1.36 | 26.210      | 28.83         | 187.09        | 0.650 | 0.000                | 5.00              | 9.281      | 6.03         | 278.3                   | 0.0                      | 198.2                       |
| 141.00 Appurtenance(s) |             | 1.00 | 1.36 | 26.249      | 28.87         | 184.99        | 0.650 | 0.000                | 1.00              | 1.791      | 1.16         | 53.8                    | 0.0                      | 38.2                        |
| 145.00                 |             | 1.00 | 1.37 | 26.403      | 29.04         | 176.52        | 0.650 | 0.000                | 4.00              | 6.950      | 4.52         | 209.9                   | 0.0                      | 148.3                       |
| 149.00 Appurtenance(s) |             | 1.00 | 1.38 | 26.553      | 29.21         | 168.00        | 0.650 | 0.000                | 4.00              | 6.604      | 4.29         | 200.6                   | 0.0                      | 140.9                       |
| <b>Totals:</b>         |             |      |      |             |               |               |       |                      | <b>149.00</b>     |            |              | <b>11,656.3</b>         |                          | <b>16,873.8</b>             |



## Discrete Appurtenance Forces

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |

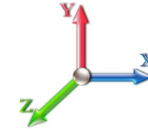


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**Load Case:** 0.9D + 1.6W 89 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



**Iterations** 24

| 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   | 149.00    | RFS APXV18-209014       | 3   | 26.553   | 29.209     | 0.79      | 1.00 | 8.32            | 50.49          | 0.000          | 0.000         | 388.76       | 0.00          | 0.00          |
| 2   | 149.00    | Lightning Rod           | 1   | 26.683   | 29.351     | 1.00      | 1.00 | 1.05            | 31.50          | 0.000          | 3.500         | 49.31        | 0.00          | 172.58        |
| 3   | 149.00    | RFS BA1010              | 1   | 26.640   | 29.304     | 1.00      | 1.00 | 1.24            | 7.92           | 0.000          | 2.350         | 58.14        | 0.00          | 136.63        |
| 4   | 149.00    | Commscope               | 3   | 26.553   | 29.209     | 0.84      | 1.00 | 28.85           | 134.46         | 0.000          | 0.000         | 1348.46      | 0.00          | 0.00          |
| 5   | 149.00    | Standoff Mount          | 1   | 26.553   | 29.209     | 1.00      | 1.00 | 1.80            | 54.00          | 0.000          | 0.000         | 84.12        | 0.00          | 0.00          |
| 6   | 149.00    | RFS                     | 3   | 26.553   | 29.209     | 0.79      | 1.00 | 12.25           | 71.55          | 0.000          | 0.000         | 572.62       | 0.00          | 0.00          |
| 7   | 149.00    | Ericsson KRY 112 489/2  | 3   | 26.553   | 29.209     | 0.60      | 0.90 | 1.01            | 29.70          | 0.000          | 0.000         | 47.34        | 0.00          | 0.00          |
| 8   | 149.00    | Kathrein 782 11056      | 3   | 26.553   | 29.209     | 0.60      | 0.90 | 0.27            | 7.02           | 0.000          | 0.000         | 12.68        | 0.00          | 0.00          |
| 9   | 149.00    | Low Profile Platform    | 1   | 26.553   | 29.209     | 1.00      | 1.00 | 22.00           | 1350.00        | 0.000          | 0.000         | 1028.14      | 0.00          | 0.00          |
| 10  | 141.00    | Low Profile Platform    | 1   | 26.249   | 28.874     | 1.00      | 1.00 | 22.00           | 1350.00        | 0.000          | 0.000         | 1016.35      | 0.00          | 0.00          |
| 11  | 141.00    | Powerwave 1001983       | 3   | 26.249   | 28.874     | 0.54      | 0.80 | 0.18            | 7.83           | 0.000          | 0.000         | 8.17         | 0.00          | 0.00          |
| 12  | 141.00    | Raycap DC6-48-60-18-8F  | 1   | 26.249   | 28.874     | 0.54      | 0.80 | 1.18            | 29.52          | 0.000          | 0.000         | 54.48        | 0.00          | 0.00          |
| 13  | 141.00    | Powerwave LGP21901      | 6   | 26.249   | 28.874     | 0.54      | 0.80 | 0.74            | 11.88          | 0.000          | 0.000         | 34.17        | 0.00          | 0.00          |
| 14  | 141.00    | Ericsson RRUS-A2        | 3   | 26.249   | 28.874     | 0.54      | 0.80 | 2.52            | 40.50          | 0.000          | 0.000         | 116.63       | 0.00          | 0.00          |
| 15  | 141.00    | Ericsson RRUS-12        | 3   | 26.249   | 28.874     | 0.54      | 0.80 | 5.07            | 135.00         | 0.000          | 0.000         | 234.00       | 0.00          | 0.00          |
| 16  | 141.00    | Ericsson RRUS-11        | 3   | 26.249   | 28.874     | 0.54      | 0.80 | 4.05            | 148.50         | 0.000          | 0.000         | 187.20       | 0.00          | 0.00          |
| 17  | 141.00    | Powerwave LGP21401      | 9   | 26.249   | 28.874     | 0.54      | 0.80 | 5.07            | 114.21         | 0.000          | 0.000         | 234.00       | 0.00          | 0.00          |
| 18  | 141.00    | CCI HPA-65R-BUU-H6      | 3   | 26.249   | 28.874     | 0.66      | 0.80 | 19.24           | 136.89         | 0.000          | 0.000         | 888.97       | 0.00          | 0.00          |
| 19  | 141.00    | Powerwave 7770          | 9   | 26.249   | 28.874     | 0.62      | 0.80 | 30.55           | 283.50         | 0.000          | 0.000         | 1411.22      | 0.00          | 0.00          |
| 20  | 141.00    | Powerwave               | 3   | 26.249   | 28.874     | 0.54      | 0.80 | 0.88            | 43.20          | 0.000          | 0.000         | 40.86        | 0.00          | 0.00          |
| 21  | 129.00    | Standoff Mount          | 1   | 25.765   | 28.342     | 1.00      | 1.00 | 1.80            | 54.00          | 0.000          | 0.000         | 81.62        | 0.00          | 0.00          |
| 22  | 129.00    | RFS BA40-01             | 1   | 26.001   | 28.601     | 1.00      | 1.00 | 3.45            | 28.80          | 0.000          | 5.750         | 157.88       | 0.00          | 907.80        |
| 23  | 119.50    | Antel BXA-70063-6CF_2   | 3   | 25.357   | 27.893     | 0.60      | 0.80 | 13.63           | 42.12          | 0.000          | 0.000         | 608.10       | 0.00          | 0.00          |
| 24  | 119.50    | Antel LPA-80080/4CF     | 6   | 25.357   | 27.893     | 0.59      | 0.80 | 19.18           | 64.80          | 0.000          | 0.000         | 856.00       | 0.00          | 0.00          |
| 25  | 119.50    | RFS FD9R6004/2C-3L      | 6   | 25.357   | 27.893     | 0.54      | 0.80 | 1.00            | 16.74          | 0.000          | 0.000         | 44.49        | 0.00          | 0.00          |
| 26  | 119.50    | Antel BXA-171085-12CF-2 | 3   | 25.357   | 27.893     | 0.70      | 0.80 | 10.12           | 40.50          | 0.000          | 0.000         | 451.48       | 0.00          | 0.00          |
| 27  | 119.50    | Low Profile Platform    | 1   | 25.357   | 27.893     | 1.00      | 1.00 | 22.00           | 1350.00        | 0.000          | 0.000         | 981.82       | 0.00          | 0.00          |
| 28  | 93.00     | Single Arm Mount        | 2   | 24.065   | 26.472     | 1.00      | 1.00 | 3.60            | 108.00         | 0.000          | 0.000         | 152.48       | 0.00          | 0.00          |
| 29  | 93.00     | RFS 1142                | 2   | 24.406   | 26.847     | 1.00      | 1.00 | 7.80            | 18.00          | 0.000          | 6.500         | 335.05       | 0.00          | 2177.83       |
| 30  | 92.00     | Single Arm Mount        | 1   | 24.011   | 26.412     | 1.00      | 1.00 | 1.80            | 54.00          | 0.000          | 0.000         | 76.07        | 0.00          | 0.00          |
| 31  | 92.00     | Sinclair                | 1   | 24.432   | 26.875     | 1.00      | 1.00 | 4.80            | 16.65          | 0.000          | 8.000         | 206.40       | 0.00          | 1651.20       |

**Totals: 5,831.28 11,767.02**



## Total Applied Force Summary

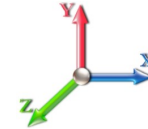
|                                 |                                       |                 |
|---------------------------------|---------------------------------------|-----------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016       |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                 |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                 |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                 |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Page:</b> 16 |
|                                 | <b>Struct Class:</b> II               |                 |



**Load Case:** 0.9D + 1.6W 89 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



**Iterations** 24

| Elev<br>(ft)   | Description      | Lateral<br>FX (-)<br>(lb) | Axial<br>FY (-)<br>(lb) | Torsion<br>MY<br>(lb-ft) | Moment<br>MZ<br>(lb-ft) |
|----------------|------------------|---------------------------|-------------------------|--------------------------|-------------------------|
| 0.00           |                  | 0.00                      | 0.00                    | 0.00                     | 0.00                    |
| 5.00           |                  | 438.13                    | 919.88                  | 0.00                     | 0.00                    |
| 10.00          |                  | 428.02                    | 1028.04                 | 0.00                     | 0.00                    |
| 15.00          |                  | 423.06                    | 1008.65                 | 0.00                     | 0.00                    |
| 20.00          |                  | 437.14                    | 989.26                  | 0.00                     | 0.00                    |
| 25.00          |                  | 445.90                    | 969.87                  | 0.00                     | 0.00                    |
| 30.00          |                  | 450.94                    | 950.48                  | 0.00                     | 0.00                    |
| 35.00          |                  | 453.21                    | 931.09                  | 0.00                     | 0.00                    |
| 40.00          |                  | 453.31                    | 911.70                  | 0.00                     | 0.00                    |
| 45.00          |                  | 451.63                    | 892.31                  | 0.00                     | 0.00                    |
| 47.75          |                  | 245.93                    | 482.51                  | 0.00                     | 0.00                    |
| 50.00          |                  | 203.08                    | 689.44                  | 0.00                     | 0.00                    |
| 53.25          |                  | 292.44                    | 981.99                  | 0.00                     | 0.00                    |
| 55.00          |                  | 156.19                    | 299.85                  | 0.00                     | 0.00                    |
| 60.00          |                  | 445.19                    | 843.63                  | 0.00                     | 0.00                    |
| 65.00          |                  | 438.83                    | 824.24                  | 0.00                     | 0.00                    |
| 70.00          |                  | 431.62                    | 804.85                  | 0.00                     | 0.00                    |
| 75.00          |                  | 423.62                    | 785.46                  | 0.00                     | 0.00                    |
| 80.00          |                  | 414.93                    | 766.07                  | 0.00                     | 0.00                    |
| 85.00          |                  | 405.60                    | 746.68                  | 0.00                     | 0.00                    |
| 90.00          |                  | 395.69                    | 727.30                  | 0.00                     | 0.00                    |
| 92.00          | (2) attachments  | 437.31                    | 356.14                  | 0.00                     | 1651.20                 |
| 93.00          | (4) attachments  | 564.23                    | 267.11                  | 0.00                     | 2177.83                 |
| 95.00          |                  | 152.30                    | 278.03                  | 0.00                     | 0.00                    |
| 97.25          |                  | 169.31                    | 309.07                  | 0.00                     | 0.00                    |
| 100.00         |                  | 207.23                    | 583.67                  | 0.00                     | 0.00                    |
| 101.25         |                  | 92.93                     | 261.82                  | 0.00                     | 0.00                    |
| 105.00         |                  | 275.19                    | 431.77                  | 0.00                     | 0.00                    |
| 110.00         |                  | 357.02                    | 562.12                  | 0.00                     | 0.00                    |
| 115.00         |                  | 344.80                    | 546.61                  | 0.00                     | 0.00                    |
| 119.50         | (19) attachments | 3241.32                   | 1992.84                 | 0.00                     | 0.00                    |
| 120.00         |                  | 32.51                     | 46.80                   | 0.00                     | 0.00                    |
| 125.00         |                  | 319.22                    | 459.42                  | 0.00                     | 0.00                    |
| 129.00         | (2) attachments  | 485.10                    | 439.17                  | 0.00                     | 907.80                  |
| 130.00         |                  | 59.90                     | 72.77                   | 0.00                     | 0.00                    |
| 135.00         |                  | 292.25                    | 356.88                  | 0.00                     | 0.00                    |
| 140.00         |                  | 278.28                    | 345.25                  | 0.00                     | 0.00                    |
| 141.00         | (44) attachments | 4279.84                   | 2368.68                 | 0.00                     | 0.00                    |
| 145.00         |                  | 209.91                    | 217.58                  | 0.00                     | 0.00                    |
| 149.00         | (19) attachments | 3790.19                   | 1946.77                 | 0.00                     | 309.21                  |
| <b>Totals:</b> |                  | <b>23,423.31</b>          | <b>28,395.81</b>        | <b>0.00</b>              | <b>5,046.04</b>         |



## Linear Appurtenance Segment Forces (Factored)

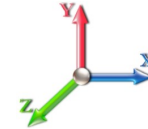
|                                 |                                       |                         |          |
|---------------------------------|---------------------------------------|-------------------------|----------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |          |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |          |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |          |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |          |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II | Page: 17 |



**Load Case:** 0.9D + 1.6W 89 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



**Iterations** 24

| 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) |
|----------------|-------------|--------------|-------------|-------|--------------------|-------------|-------------|-------|------------------|----------|------------|----------------|
| 95.00          | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.09        | 0.00        | 0.017 | 0.000            | 24.172   | 0.00       | 0.00           |
| 97.25          | 7/8" Coax   | Yes          | 2.25        | 0.000 | 1.11               | 0.21        | 0.00        | 0.034 | 0.000            | 24.290   | 0.00       | 0.00           |
| 100.00         | 7/8" Coax   | Yes          | 2.75        | 0.000 | 1.11               | 0.25        | 0.00        | 0.035 | 0.000            | 24.432   | 0.00       | 0.00           |
| 101.25         | 7/8" Coax   | Yes          | 1.25        | 0.000 | 1.11               | 0.12        | 0.00        | 0.035 | 0.000            | 24.495   | 0.00       | 0.00           |
| 105.00         | 7/8" Coax   | Yes          | 3.75        | 0.000 | 1.11               | 0.35        | 0.00        | 0.036 | 0.000            | 24.682   | 0.00       | 0.00           |
| 110.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.037 | 0.000            | 24.922   | 0.00       | 0.00           |
| 115.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.039 | 0.000            | 25.155   | 0.00       | 0.00           |
| 119.50         | 7/8" Coax   | Yes          | 4.50        | 0.000 | 1.11               | 0.42        | 0.00        | 0.040 | 0.000            | 25.357   | 0.00       | 0.00           |
| 120.00         | 7/8" Coax   | Yes          | 0.50        | 0.000 | 1.11               | 0.05        | 0.00        | 0.041 | 0.000            | 25.379   | 0.00       | 0.00           |
| 125.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.042 | 0.000            | 25.596   | 0.00       | 0.00           |
| 129.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 0.37        | 0.00        | 0.044 | 0.000            | 25.765   | 0.00       | 0.00           |
| 130.00         | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.09        | 0.00        | 0.046 | 0.000            | 25.807   | 0.00       | 0.00           |
| 135.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.047 | 0.000            | 26.011   | 0.00       | 0.00           |
| 140.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.050 | 0.000            | 26.210   | 0.00       | 0.00           |
| 141.00         | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.09        | 0.00        | 0.052 | 0.000            | 26.249   | 0.00       | 0.00           |
| 145.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 0.37        | 0.00        | 0.053 | 0.000            | 26.403   | 0.00       | 0.00           |
| 149.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 0.37        | 0.00        | 0.056 | 0.000            | 26.553   | 0.00       | 0.00           |
| <b>Totals:</b> |             |              |             |       |                    |             |             |       |                  |          | <b>0.0</b> | <b>0.0</b>     |



## Calculated Forces

**Structure:** CT13061-A-SBA

**Code:** EIA/TIA-222-G

9/15/2016

**Site Name:** New Fairfield

**Exposure:** C

**Height:** 149.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 1.000 (ft)

**Site Class:** B - Competent Rock

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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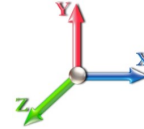


**Load Case:** 0.9D + 1.6W 89 mph Wind

**Iterations** 24

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



| 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          | -28.36           | -23.46           | 0.00                | -2483.5         | 0.00            | 2483.50                    | 3273.57       | 1636.79       | 7496.53          | 3753.83          | 0.00               | 0.000               | 0.000                | 0.670        |
| 5.00          | -27.38           | -23.10           | 0.00                | -2366.1         | 0.00            | 2366.19                    | 3239.51       | 1619.75       | 7247.24          | 3629.01          | 0.09               | -0.160              | 0.000                | 0.661        |
| 10.00         | -26.29           | -22.74           | 0.00                | -2250.6         | 0.00            | 2250.69                    | 3203.51       | 1601.76       | 6997.34          | 3503.87          | 0.34               | -0.323              | 0.000                | 0.651        |
| 15.00         | -25.21           | -22.39           | 0.00                | -2136.9         | 0.00            | 2136.97                    | 3165.58       | 1582.79       | 6747.13          | 3378.58          | 0.77               | -0.490              | 0.000                | 0.641        |
| 20.00         | -24.16           | -22.01           | 0.00                | -2025.0         | 0.00            | 2025.03                    | 3125.72       | 1562.86       | 6496.92          | 3253.29          | 1.38               | -0.660              | 0.000                | 0.630        |
| 25.00         | -23.13           | -21.63           | 0.00                | -1914.9         | 0.00            | 1914.96                    | 3083.93       | 1541.97       | 6247.01          | 3128.15          | 2.16               | -0.834              | 0.000                | 0.620        |
| 30.00         | -22.12           | -21.23           | 0.00                | -1806.8         | 0.00            | 1806.83                    | 3040.21       | 1520.10       | 5997.71          | 3003.31          | 3.13               | -1.011              | 0.000                | 0.609        |
| 35.00         | -21.14           | -20.83           | 0.00                | -1700.6         | 0.00            | 1700.69                    | 2994.56       | 1497.28       | 5749.33          | 2878.94          | 4.29               | -1.192              | 0.000                | 0.598        |
| 40.00         | -20.17           | -20.42           | 0.00                | -1596.5         | 0.00            | 1596.56                    | 2946.97       | 1473.49       | 5502.17          | 2755.17          | 5.63               | -1.376              | 0.000                | 0.587        |
| 45.00         | -19.24           | -19.99           | 0.00                | -1494.4         | 0.00            | 1494.48                    | 2897.46       | 1448.73       | 5256.53          | 2632.17          | 7.17               | -1.563              | 0.000                | 0.575        |
| 47.75         | -18.73           | -19.76           | 0.00                | -1439.5         | 0.00            | 1439.50                    | 2869.40       | 1434.70       | 5122.20          | 2564.91          | 8.11               | -1.670              | 0.000                | 0.568        |
| 50.00         | -18.01           | -19.58           | 0.00                | -1395.0         | 0.00            | 1395.03                    | 2846.01       | 1423.00       | 5012.74          | 2510.09          | 8.92               | -1.759              | 0.000                | 0.562        |
| 53.25         | -17.00           | -19.28           | 0.00                | -1331.4         | 0.00            | 1331.41                    | 2837.57       | 1418.79       | 4973.81          | 2490.60          | 10.16              | -1.887              | 0.000                | 0.541        |
| 55.00         | -16.66           | -19.15           | 0.00                | -1297.6         | 0.00            | 1297.67                    | 2819.00       | 1409.50       | 4889.10          | 2448.18          | 10.86              | -1.957              | 0.000                | 0.536        |
| 60.00         | -15.78           | -18.73           | 0.00                | -1201.9         | 0.00            | 1201.91                    | 2764.64       | 1382.32       | 4648.65          | 2327.78          | 13.01              | -2.146              | 0.000                | 0.522        |
| 65.00         | -14.91           | -18.31           | 0.00                | -1108.2         | 0.00            | 1108.26                    | 2708.35       | 1354.17       | 4410.81          | 2208.68          | 15.36              | -2.337              | 0.000                | 0.507        |
| 70.00         | -14.06           | -17.89           | 0.00                | -1016.7         | 0.00            | 1016.71                    | 2650.12       | 1325.06       | 4175.87          | 2091.04          | 17.92              | -2.531              | 0.000                | 0.492        |
| 75.00         | -13.24           | -17.48           | 0.00                | -927.25         | 0.00            | 927.25                     | 2589.96       | 1294.98       | 3944.16          | 1975.01          | 20.67              | -2.727              | 0.000                | 0.475        |
| 80.00         | -12.43           | -17.07           | 0.00                | -839.86         | 0.00            | 839.86                     | 2527.88       | 1263.94       | 3715.96          | 1860.74          | 23.63              | -2.923              | 0.000                | 0.456        |
| 85.00         | -11.65           | -16.66           | 0.00                | -754.51         | 0.00            | 754.51                     | 2463.86       | 1231.93       | 3491.60          | 1748.39          | 26.80              | -3.120              | 0.000                | 0.436        |
| 90.00         | -10.91           | -16.26           | 0.00                | -671.19         | 0.00            | 671.19                     | 2397.91       | 1198.95       | 3271.37          | 1638.12          | 30.17              | -3.317              | 0.000                | 0.414        |
| 92.00         | -10.56           | -15.81           | 0.00                | -637.03         | 0.00            | 637.03                     | 2370.99       | 1185.49       | 3184.51          | 1594.62          | 31.58              | -3.398              | 0.000                | 0.404        |
| 93.00         | -10.31           | -15.24           | 0.00                | -619.04         | 0.00            | 619.04                     | 2357.41       | 1178.70       | 3141.35          | 1573.01          | 32.29              | -3.439              | 0.000                | 0.398        |
| 95.00         | -10.02           | -15.09           | 0.00                | -588.56         | 0.00            | 588.56                     | 2330.03       | 1165.01       | 3055.58          | 1530.06          | 33.75              | -3.518              | 0.000                | 0.389        |
| 97.25         | -9.70            | -14.92           | 0.00                | -554.62         | 0.00            | 554.62                     | 2298.85       | 1149.42       | 2960.01          | 1482.20          | 35.43              | -3.608              | 0.000                | 0.379        |
| 100.00        | -9.11            | -14.68           | 0.00                | -513.60         | 0.00            | 513.60                     | 2260.21       | 1130.11       | 2844.54          | 1424.39          | 37.54              | -3.715              | 0.000                | 0.365        |
| 101.25        | -8.83            | -14.59           | 0.00                | -495.25         | 0.00            | 495.25                     | 1705.50       | 852.75        | 2167.94          | 1085.58          | 38.52              | -3.765              | 0.000                | 0.462        |
| 105.00        | -8.37            | -14.31           | 0.00                | -440.54         | 0.00            | 440.54                     | 1669.73       | 834.87        | 2056.27          | 1029.66          | 41.53              | -3.907              | 0.000                | 0.433        |
| 110.00        | -7.79            | -13.94           | 0.00                | -368.98         | 0.00            | 368.98                     | 1620.35       | 810.17        | 1909.79          | 956.31           | 45.74              | -4.120              | 0.000                | 0.391        |
| 115.00        | -7.22            | -13.58           | 0.00                | -299.26         | 0.00            | 299.26                     | 1569.04       | 784.52        | 1766.36          | 884.49           | 50.16              | -4.320              | 0.000                | 0.343        |
| 119.50        | -5.47            | -10.21           | 0.00                | -238.14         | 0.00            | 238.14                     | 1521.21       | 760.60        | 1640.13          | 821.29           | 54.31              | -4.487              | 0.000                | 0.294        |
| 120.00        | -5.41            | -10.18           | 0.00                | -233.04         | 0.00            | 233.04                     | 1515.79       | 757.90        | 1626.29          | 814.35           | 54.78              | -4.505              | 0.000                | 0.290        |
| 125.00        | -4.95            | -9.84            | 0.00                | -182.14         | 0.00            | 182.14                     | 1460.62       | 730.31        | 1489.87          | 746.04           | 59.58              | -4.670              | 0.000                | 0.248        |
| 129.00        | -4.54            | -9.32            | 0.00                | -141.88         | 0.00            | 141.88                     | 1406.38       | 703.19        | 1375.06          | 688.55           | 63.54              | -4.790              | 0.000                | 0.209        |
| 129.00        | -4.54            | -9.32            | 0.00                | -141.88         | 0.00            | 141.88                     | 978.70        | 489.35        | 961.93           | 481.68           | 63.54              | -4.790              | 0.000                | 0.300        |
| 130.00        | -4.46            | -9.27            | 0.00                | -132.56         | 0.00            | 132.56                     | 971.83        | 485.92        | 944.91           | 473.15           | 64.55              | -4.818              | 0.000                | 0.285        |
| 135.00        | -4.11            | -8.95            | 0.00                | -86.23          | 0.00            | 86.23                      | 936.33        | 468.17        | 860.89           | 431.08           | 69.68              | -4.974              | 0.000                | 0.205        |
| 140.00        | -3.78            | -8.65            | 0.00                | -41.47          | 0.00            | 41.47                      | 898.90        | 449.45        | 778.95           | 390.05           | 74.95              | -5.082              | 0.000                | 0.111        |
| 141.00        | -1.80            | -4.18            | 0.00                | -32.82          | 0.00            | 32.82                      | 891.19        | 445.59        | 762.84           | 381.99           | 76.01              | -5.097              | 0.000                | 0.088        |
| 145.00        | -1.60            | -3.95            | 0.00                | -16.11          | 0.00            | 16.11                      | 859.54        | 429.77        | 699.40           | 350.22           | 80.30              | -5.138              | 0.000                | 0.048        |
| 149.00        | 0.00             | -3.79            | 0.00                | -0.31           | 0.00            | 0.31                       | 826.66        | 413.33        | 637.68           | 319.32           | 84.61              | -5.154              | 0.000                | 0.001        |



## Wind Loading - Shaft

**Structure:** CT13061-A-SBA

**Code:** EIA/TIA-222-G

9/15/2016

**Site Name:** New Fairfield

**Exposure:** C

**Height:** 149.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 1.000 (ft)

**Site Class:** B - Competent Rock

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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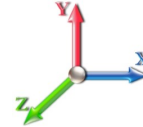


**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 24

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



| Elev<br>(ft)           | Description | Kzt  | Kz   | qz<br>(psf) | qzGh<br>(psf) | C<br>(mph-ft) | Cf    | Ice<br>Thick<br>(in) | Tributary<br>(ft) | Aa<br>(sf) | CfAa<br>(sf) | Wind<br>Force X<br>(lb) | Dead<br>Load Ice<br>(lb) | Tot<br>Dead<br>Load<br>(lb) |
|------------------------|-------------|------|------|-------------|---------------|---------------|-------|----------------------|-------------------|------------|--------------|-------------------------|--------------------------|-----------------------------|
| 0.00                   |             | 1.00 | 0.85 | 5.168       | 5.68          | 0.00          | 1.200 | 1.057                | 0.00              | 0.000      | 0.00         | 0.0                     | 0.0                      | 0.0                         |
| 5.00                   |             | 1.00 | 0.85 | 5.168       | 5.68          | 0.00          | 1.200 | 1.265                | 5.00              | 24.443     | 29.33        | 166.7                   | 443.0                    | 1556.1                      |
| 10.00                  |             | 1.00 | 0.85 | 5.168       | 5.68          | 0.00          | 1.200 | 1.344                | 5.00              | 23.969     | 28.76        | 163.5                   | 460.6                    | 1547.9                      |
| 15.00                  |             | 1.00 | 0.86 | 5.232       | 5.76          | 0.00          | 1.200 | 1.395                | 5.00              | 23.472     | 28.17        | 162.1                   | 467.5                    | 1528.9                      |
| 20.00                  |             | 1.00 | 0.91 | 5.540       | 6.09          | 0.00          | 1.200 | 1.434                | 5.00              | 22.964     | 27.56        | 167.9                   | 469.2                    | 1504.8                      |
| 25.00                  |             | 1.00 | 0.95 | 5.795       | 6.37          | 0.00          | 1.200 | 1.465                | 5.00              | 22.449     | 26.94        | 171.7                   | 467.9                    | 1477.6                      |
| 30.00                  |             | 1.00 | 0.99 | 6.013       | 6.61          | 0.00          | 1.200 | 1.491                | 5.00              | 21.931     | 26.32        | 174.1                   | 464.5                    | 1448.4                      |
| 35.00                  |             | 1.00 | 1.02 | 6.206       | 6.83          | 0.00          | 1.200 | 1.513                | 5.00              | 21.409     | 25.69        | 175.4                   | 459.6                    | 1417.6                      |
| 40.00                  |             | 1.00 | 1.05 | 6.378       | 7.02          | 0.00          | 1.200 | 1.533                | 5.00              | 20.886     | 25.06        | 175.8                   | 453.6                    | 1385.7                      |
| 45.00                  |             | 1.00 | 1.07 | 6.534       | 7.19          | 0.00          | 1.200 | 1.551                | 5.00              | 20.360     | 24.43        | 175.6                   | 446.6                    | 1352.9                      |
| 47.75 Bot - Section 2  |             | 1.00 | 1.09 | 6.615       | 7.28          | 0.00          | 1.200 | 1.560                | 2.75              | 10.972     | 13.17        | 95.8                    | 243.3                    | 730.8                       |
| 50.00                  |             | 1.00 | 1.10 | 6.678       | 7.35          | 0.00          | 1.200 | 1.567                | 2.25              | 8.977      | 10.77        | 79.1                    | 200.2                    | 991.9                       |
| 53.25 Top - Section 1  |             | 1.00 | 1.11 | 6.765       | 7.44          | 0.00          | 1.200 | 1.576                | 3.25              | 12.779     | 15.34        | 114.1                   | 285.8                    | 1410.8                      |
| 55.00                  |             | 1.00 | 1.12 | 6.811       | 7.49          | 0.00          | 1.200 | 1.581                | 1.75              | 6.788      | 8.15         | 61.0                    | 152.8                    | 453.4                       |
| 60.00                  |             | 1.00 | 1.14 | 6.934       | 7.63          | 0.00          | 1.200 | 1.595                | 5.00              | 19.041     | 22.85        | 174.3                   | 427.8                    | 1269.2                      |
| 65.00                  |             | 1.00 | 1.16 | 7.050       | 7.76          | 0.00          | 1.200 | 1.608                | 5.00              | 18.512     | 22.21        | 172.3                   | 418.4                    | 1234.0                      |
| 70.00                  |             | 1.00 | 1.18 | 7.160       | 7.88          | 0.00          | 1.200 | 1.619                | 5.00              | 17.981     | 21.58        | 169.9                   | 408.6                    | 1198.3                      |
| 75.00                  |             | 1.00 | 1.19 | 7.263       | 7.99          | 0.00          | 1.200 | 1.631                | 5.00              | 17.450     | 20.94        | 167.3                   | 398.5                    | 1162.3                      |
| 80.00                  |             | 1.00 | 1.21 | 7.361       | 8.10          | 0.00          | 1.200 | 1.641                | 5.00              | 16.919     | 20.30        | 164.4                   | 388.0                    | 1126.0                      |
| 85.00                  |             | 1.00 | 1.23 | 7.454       | 8.20          | 0.00          | 1.200 | 1.651                | 5.00              | 16.387     | 19.66        | 161.2                   | 377.2                    | 1089.4                      |
| 90.00                  |             | 1.00 | 1.24 | 7.544       | 8.30          | 0.00          | 1.200 | 1.660                | 5.00              | 15.855     | 19.03        | 157.9                   | 366.2                    | 1052.5                      |
| 92.00 Appurtenance(s)  |             | 1.00 | 1.25 | 7.578       | 8.34          | 0.00          | 1.200 | 1.664                | 2.00              | 6.192      | 7.43         | 61.9                    | 144.7                    | 412.0                       |
| 93.00 Appurtenance(s)  |             | 1.00 | 1.25 | 7.595       | 8.35          | 0.00          | 1.200 | 1.666                | 1.00              | 3.064      | 3.68         | 30.7                    | 71.9                     | 204.0                       |
| 95.00                  |             | 1.00 | 1.25 | 7.629       | 8.39          | 0.00          | 1.200 | 1.669                | 2.00              | 6.064      | 7.28         | 61.1                    | 142.0                    | 403.0                       |
| 97.25 Bot - Section 3  |             | 1.00 | 1.26 | 7.666       | 8.43          | 0.00          | 1.200 | 1.673                | 2.25              | 6.720      | 8.06         | 68.0                    | 157.4                    | 446.1                       |
| 100.00                 |             | 1.00 | 1.27 | 7.711       | 8.48          | 0.00          | 1.200 | 1.678                | 2.75              | 8.183      | 9.82         | 83.3                    | 191.7                    | 819.2                       |
| 101.25 Top - Section 2 |             | 1.00 | 1.27 | 7.731       | 8.50          | 0.00          | 1.200 | 1.680                | 1.25              | 3.666      | 4.40         | 37.4                    | 86.4                     | 367.0                       |
| 105.00                 |             | 1.00 | 1.28 | 7.790       | 8.57          | 0.00          | 1.200 | 1.686                | 3.75              | 10.800     | 12.96        | 111.0                   | 252.7                    | 622.8                       |
| 110.00                 |             | 1.00 | 1.29 | 7.866       | 8.65          | 0.00          | 1.200 | 1.693                | 5.00              | 13.933     | 16.72        | 144.7                   | 325.0                    | 800.4                       |
| 115.00                 |             | 1.00 | 1.31 | 7.939       | 8.73          | 0.00          | 1.200 | 1.701                | 5.00              | 13.399     | 16.08        | 140.4                   | 312.9                    | 767.6                       |
| 119.50 Appurtenance(s) |             | 1.00 | 1.32 | 8.003       | 8.80          | 0.00          | 1.200 | 1.707                | 4.50              | 11.602     | 13.92        | 122.6                   | 271.7                    | 663.3                       |
| 120.00                 |             | 1.00 | 1.32 | 8.010       | 8.81          | 0.00          | 1.200 | 1.708                | 0.50              | 1.262      | 1.51         | 13.3                    | 30.1                     | 72.5                        |
| 125.00                 |             | 1.00 | 1.33 | 8.079       | 8.89          | 0.00          | 1.200 | 1.715                | 5.00              | 12.331     | 14.80        | 131.5                   | 288.2                    | 701.6                       |
| 129.00 Top - Section 3 |             | 1.00 | 1.34 | 8.132       | 8.95          | 0.00          | 1.200 | 1.720                | 4.00              | 9.479      | 11.38        | 101.8                   | 222.5                    | 538.3                       |
| 130.00                 |             | 1.00 | 1.34 | 8.145       | 8.96          | 0.00          | 1.200 | 1.722                | 1.00              | 2.316      | 2.78         | 24.9                    | 55.1                     | 112.9                       |
| 135.00                 |             | 1.00 | 1.35 | 8.210       | 9.03          | 0.00          | 1.200 | 1.728                | 5.00              | 11.261     | 13.51        | 122.0                   | 262.9                    | 542.7                       |
| 140.00                 |             | 1.00 | 1.36 | 8.272       | 9.10          | 0.00          | 1.200 | 1.734                | 5.00              | 10.727     | 12.87        | 117.1                   | 250.1                    | 514.3                       |
| 141.00 Appurtenance(s) |             | 1.00 | 1.36 | 8.285       | 9.11          | 0.00          | 1.200 | 1.736                | 1.00              | 2.081      | 2.50         | 22.8                    | 49.5                     | 100.5                       |
| 145.00                 |             | 1.00 | 1.37 | 8.333       | 9.17          | 0.00          | 1.200 | 1.741                | 4.00              | 8.110      | 9.73         | 89.2                    | 189.7                    | 387.4                       |
| 149.00 Appurtenance(s) |             | 1.00 | 1.38 | 8.381       | 9.22          | 0.00          | 1.200 | 1.745                | 4.00              | 7.767      | 9.32         | 85.9                    | 181.3                    | 369.1                       |
| <b>Totals:</b>         |             |      |      |             |               |               |       |                      | <b>149.00</b>     |            |              | <b>4,620.0</b>          |                          | <b>33,783.6</b>             |



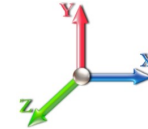
## Discrete Appurtenance Forces

|                                 |                                       |                 |
|---------------------------------|---------------------------------------|-----------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016       |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                 |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                 |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                 |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Page:</b> 20 |
|                                 | <b>Struct Class:</b> II               |                 |



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

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 24

| 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   | 149.00    | RFS APXV18-209014       | 3   | 8.381    | 9.219      | 0.79      | 1.00 | 10.54           | 329.20         | 0.000          | 0.000         | 97.16        | 0.00          | 0.00          |
| 2   | 149.00    | Lightning Rod           | 1   | 8.421    | 9.264      | 1.00      | 1.00 | 3.42            | 64.41          | 0.000          | 3.500         | 31.71        | 0.00          | 111.00        |
| 3   | 149.00    | RFS BA1010              | 1   | 8.408    | 9.249      | 1.00      | 1.00 | 2.27            | 75.44          | 0.000          | 2.350         | 21.03        | 0.00          | 49.43         |
| 4   | 149.00    | Commscope               | 3   | 8.381    | 9.219      | 0.84      | 1.00 | 37.03           | 671.28         | 0.000          | 0.000         | 341.39       | 0.00          | 0.00          |
| 5   | 149.00    | Standoff Mount          | 1   | 8.381    | 9.219      | 1.00      | 1.00 | 5.88            | 189.42         | 0.000          | 0.000         | 54.25        | 0.00          | 0.00          |
| 6   | 149.00    | RFS                     | 3   | 8.381    | 9.219      | 0.79      | 1.00 | 17.30           | 315.60         | 0.000          | 0.000         | 159.48       | 0.00          | 0.00          |
| 7   | 149.00    | Ericsson KRY 112 489/2  | 3   | 8.381    | 9.219      | 0.60      | 0.90 | 2.19            | 62.64          | 0.000          | 0.000         | 20.16        | 0.00          | 0.00          |
| 8   | 149.00    | Kathrein 782 11056      | 3   | 8.381    | 9.219      | 0.60      | 0.90 | 0.66            | 23.26          | 0.000          | 0.000         | 6.09         | 0.00          | 0.00          |
| 9   | 149.00    | Low Profile Platform    | 1   | 8.381    | 9.219      | 1.00      | 1.00 | 39.66           | 2808.91        | 0.000          | 0.000         | 365.63       | 0.00          | 0.00          |
| 10  | 141.00    | Low Profile Platform    | 1   | 8.285    | 9.113      | 1.00      | 1.00 | 39.57           | 2801.76        | 0.000          | 0.000         | 360.55       | 0.00          | 0.00          |
| 11  | 141.00    | Powerwave 1001983       | 3   | 8.285    | 9.113      | 0.54      | 0.80 | 0.48            | 12.38          | 0.000          | 0.000         | 4.37         | 0.00          | 0.00          |
| 12  | 141.00    | Raycap DC6-48-60-18-8F  | 1   | 8.285    | 9.113      | 0.54      | 0.80 | 1.79            | 123.12         | 0.000          | 0.000         | 16.34        | 0.00          | 0.00          |
| 13  | 141.00    | Powerwave LGP21901      | 6   | 8.285    | 9.113      | 0.54      | 0.80 | 1.92            | 1.20           | 0.000          | 0.000         | 17.47        | 0.00          | 0.00          |
| 14  | 141.00    | Ericsson RRUS-A2        | 3   | 8.285    | 9.113      | 0.54      | 0.80 | 3.84            | 81.03          | 0.000          | 0.000         | 34.99        | 0.00          | 0.00          |
| 15  | 141.00    | Ericsson RRUS-12        | 3   | 8.285    | 9.113      | 0.54      | 0.80 | 7.07            | 271.15         | 0.000          | 0.000         | 64.46        | 0.00          | 0.00          |
| 16  | 141.00    | Ericsson RRUS-11        | 3   | 8.285    | 9.113      | 0.54      | 0.80 | 5.06            | 352.38         | 0.000          | 0.000         | 46.16        | 0.00          | 0.00          |
| 17  | 141.00    | Powerwave LGP21401      | 9   | 8.285    | 9.113      | 0.54      | 0.80 | 8.33            | 312.16         | 0.000          | 0.000         | 75.90        | 0.00          | 0.00          |
| 18  | 141.00    | CCI HPA-65R-BUU-H6      | 3   | 8.285    | 9.113      | 0.66      | 0.80 | 21.95           | 922.10         | 0.000          | 0.000         | 200.02       | 0.00          | 0.00          |
| 19  | 141.00    | Powerwave 7770          | 9   | 8.285    | 9.113      | 0.62      | 0.80 | 36.36           | 1586.41        | 0.000          | 0.000         | 331.37       | 0.00          | 0.00          |
| 20  | 141.00    | Powerwave               | 3   | 8.285    | 9.113      | 0.54      | 0.80 | 1.70            | 100.58         | 0.000          | 0.000         | 15.48        | 0.00          | 0.00          |
| 21  | 129.00    | Standoff Mount          | 1   | 8.132    | 8.945      | 1.00      | 1.00 | 5.83            | 187.71         | 0.000          | 0.000         | 52.12        | 0.00          | 0.00          |
| 22  | 129.00    | RFS BA40-01             | 1   | 8.206    | 9.027      | 1.00      | 1.00 | 10.08           | 27.27          | 0.000          | 5.750         | 90.98        | 0.00          | 523.14        |
| 23  | 119.50    | Antel BXA-70063-6CF_2   | 3   | 8.003    | 8.803      | 0.60      | 0.80 | 18.92           | 334.18         | 0.000          | 0.000         | 166.57       | 0.00          | 0.00          |
| 24  | 119.50    | Antel LPA-80080/4CF     | 6   | 8.003    | 8.803      | 0.59      | 0.80 | 25.64           | 566.49         | 0.000          | 0.000         | 225.71       | 0.00          | 0.00          |
| 25  | 119.50    | RFS FD9R6004/2C-3L      | 6   | 8.003    | 8.803      | 0.54      | 0.80 | 2.20            | 55.64          | 0.000          | 0.000         | 19.35        | 0.00          | 0.00          |
| 26  | 119.50    | Antel BXA-171085-12CF-2 | 3   | 8.003    | 8.803      | 0.70      | 0.80 | 15.02           | 251.03         | 0.000          | 0.000         | 132.24       | 0.00          | 0.00          |
| 27  | 119.50    | Low Profile Platform    | 1   | 8.003    | 8.803      | 1.00      | 1.00 | 39.28           | 2780.56        | 0.000          | 0.000         | 345.79       | 0.00          | 0.00          |
| 28  | 93.00     | Single Arm Mount        | 2   | 7.595    | 8.355      | 1.00      | 1.00 | 11.40           | 367.84         | 0.000          | 0.000         | 95.22        | 0.00          | 0.00          |
| 29  | 93.00     | RFS 1142                | 2   | 7.703    | 8.473      | 1.00      | 1.00 | 24.69           | -260.62        | 0.000          | 6.500         | 209.23       | 0.00          | 1360.02       |
| 30  | 92.00     | Single Arm Mount        | 1   | 7.578    | 8.336      | 1.00      | 1.00 | 5.69            | 183.80         | 0.000          | 0.000         | 47.47        | 0.00          | 0.00          |
| 31  | 92.00     | Sinclair                | 1   | 7.711    | 8.482      | 1.00      | 1.00 | 11.54           | 62.24          | 0.000          | 8.000         | 97.91        | 0.00          | 783.31        |

**Totals:** 15,660.57

**3,746.61**



## Total Applied Force Summary

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |

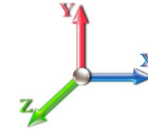


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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 24

| Elev<br>(ft)   | Description      | Lateral<br>FX (-)<br>(lb) | Axial<br>FY (-)<br>(lb) | Torsion<br>MY<br>(lb-ft) | Moment<br>MZ<br>(lb-ft) |
|----------------|------------------|---------------------------|-------------------------|--------------------------|-------------------------|
| 0.00           |                  | 0.00                      | 0.00                    | 0.00                     | 0.00                    |
| 5.00           |                  | 166.75                    | 1669.52                 | 0.00                     | 0.00                    |
| 10.00          |                  | 163.51                    | 1831.32                 | 0.00                     | 0.00                    |
| 15.00          |                  | 162.10                    | 1812.33                 | 0.00                     | 0.00                    |
| 20.00          |                  | 167.93                    | 1788.23                 | 0.00                     | 0.00                    |
| 25.00          |                  | 171.72                    | 1761.07                 | 0.00                     | 0.00                    |
| 30.00          |                  | 174.08                    | 1731.83                 | 0.00                     | 0.00                    |
| 35.00          |                  | 175.38                    | 1701.08                 | 0.00                     | 0.00                    |
| 40.00          |                  | 175.84                    | 1669.17                 | 0.00                     | 0.00                    |
| 45.00          |                  | 175.62                    | 1636.33                 | 0.00                     | 0.00                    |
| 47.75          |                  | 95.80                     | 886.66                  | 0.00                     | 0.00                    |
| 50.00          |                  | 79.13                     | 1119.49                 | 0.00                     | 0.00                    |
| 53.25          |                  | 114.12                    | 1595.08                 | 0.00                     | 0.00                    |
| 55.00          |                  | 61.03                     | 552.63                  | 0.00                     | 0.00                    |
| 60.00          |                  | 174.29                    | 1552.61                 | 0.00                     | 0.00                    |
| 65.00          |                  | 172.28                    | 1517.41                 | 0.00                     | 0.00                    |
| 70.00          |                  | 169.94                    | 1481.78                 | 0.00                     | 0.00                    |
| 75.00          |                  | 167.30                    | 1445.78                 | 0.00                     | 0.00                    |
| 80.00          |                  | 164.39                    | 1409.46                 | 0.00                     | 0.00                    |
| 85.00          |                  | 161.25                    | 1372.83                 | 0.00                     | 0.00                    |
| 90.00          |                  | 157.87                    | 1335.93                 | 0.00                     | 0.00                    |
| 92.00          | (2) attachments  | 207.32                    | 771.37                  | 0.00                     | 783.31                  |
| 93.00          | (4) attachments  | 335.17                    | 367.26                  | 0.00                     | 1360.02                 |
| 95.00          |                  | 61.07                     | 517.61                  | 0.00                     | 0.00                    |
| 97.25          |                  | 68.00                     | 580.66                  | 0.00                     | 0.00                    |
| 100.00         |                  | 83.30                     | 983.70                  | 0.00                     | 0.00                    |
| 101.25         |                  | 37.41                     | 441.77                  | 0.00                     | 0.00                    |
| 105.00         |                  | 111.05                    | 847.24                  | 0.00                     | 0.00                    |
| 110.00         |                  | 144.67                    | 1099.84                 | 0.00                     | 0.00                    |
| 115.00         |                  | 140.42                    | 1067.25                 | 0.00                     | 0.00                    |
| 119.50         | (19) attachments | 1012.23                   | 4920.96                 | 0.00                     | 0.00                    |
| 120.00         |                  | 13.35                     | 95.03                   | 0.00                     | 0.00                    |
| 125.00         |                  | 131.49                    | 926.67                  | 0.00                     | 0.00                    |
| 129.00         | (2) attachments  | 244.86                    | 933.50                  | 0.00                     | 523.14                  |
| 130.00         |                  | 24.90                     | 157.37                  | 0.00                     | 0.00                    |
| 135.00         |                  | 122.04                    | 764.98                  | 0.00                     | 0.00                    |
| 140.00         |                  | 117.13                    | 736.77                  | 0.00                     | 0.00                    |
| 141.00         | (44) attachments | 1189.86                   | 6709.24                 | 0.00                     | 0.00                    |
| 145.00         |                  | 89.21                     | 500.98                  | 0.00                     | 0.00                    |
| 149.00         | (19) attachments | 1182.83                   | 5022.94                 | 0.00                     | 160.43                  |
| <b>Totals:</b> |                  | <b>8,366.63</b>           | <b>57,315.69</b>        | <b>0.00</b>              | <b>2,826.89</b>         |



## Linear Appurtenance Segment Forces (Factored)

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |

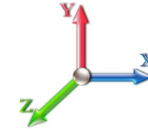


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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 24

| 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) |
|----------------|-------------|--------------|-------------|-------|--------------------|-------------|-------------|-------|------------------|----------|------------|----------------|
| 95.00          | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.37        | 0.00        | 0.017 | 0.000            | 7.629    | 0.00       | 4.95           |
| 97.25          | 7/8" Coax   | Yes          | 2.25        | 0.000 | 1.11               | 0.84        | 0.00        | 0.034 | 0.000            | 7.666    | 0.00       | 11.17          |
| 100.00         | 7/8" Coax   | Yes          | 2.75        | 0.000 | 1.11               | 1.02        | 0.00        | 0.035 | 0.000            | 7.711    | 0.00       | 13.72          |
| 101.25         | 7/8" Coax   | Yes          | 1.25        | 0.000 | 1.11               | 0.47        | 0.00        | 0.035 | 0.000            | 7.731    | 0.00       | 6.25           |
| 105.00         | 7/8" Coax   | Yes          | 3.75        | 0.000 | 1.11               | 1.40        | 0.00        | 0.036 | 0.000            | 7.790    | 0.00       | 18.86          |
| 110.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 1.87        | 0.00        | 0.037 | 0.000            | 7.866    | 0.00       | 25.34          |
| 115.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 1.88        | 0.00        | 0.039 | 0.000            | 7.939    | 0.00       | 25.53          |
| 119.50         | 7/8" Coax   | Yes          | 4.50        | 0.000 | 1.11               | 1.70        | 0.00        | 0.040 | 0.000            | 8.003    | 0.00       | 23.12          |
| 120.00         | 7/8" Coax   | Yes          | 0.50        | 0.000 | 1.11               | 0.19        | 0.00        | 0.041 | 0.000            | 8.010    | 0.00       | 2.57           |
| 125.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 1.89        | 0.00        | 0.042 | 0.000            | 8.079    | 0.00       | 25.89          |
| 129.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 1.52        | 0.00        | 0.044 | 0.000            | 8.132    | 0.00       | 20.82          |
| 130.00         | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.38        | 0.00        | 0.046 | 0.000            | 8.145    | 0.00       | 5.21           |
| 135.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 1.90        | 0.00        | 0.047 | 0.000            | 8.210    | 0.00       | 26.22          |
| 140.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 1.91        | 0.00        | 0.050 | 0.000            | 8.272    | 0.00       | 26.38          |
| 141.00         | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.38        | 0.00        | 0.052 | 0.000            | 8.285    | 0.00       | 5.28           |
| 145.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 1.53        | 0.00        | 0.053 | 0.000            | 8.333    | 0.00       | 21.23          |
| 149.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 1.53        | 0.00        | 0.056 | 0.000            | 8.381    | 0.00       | 21.32          |
| <b>Totals:</b> |             |              |             |       |                    |             |             |       |                  |          | <b>0.0</b> | <b>283.9</b>   |



## Calculated Forces

**Structure:** CT13061-A-SBA      **Code:** EIA/TIA-222-G      9/15/2016  
**Site Name:** New Fairfield      **Exposure:** C  
**Height:** 149.00 (ft)      **Crest Height:** 0.00  
**Base Elev:** 1.000 (ft)      **Site Class:** B - Competent Rock  
**Gh:** 1.1      **Topography:** 1      **Struct Class:** II      Page: 23

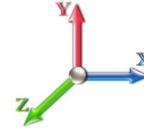


**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 24

**Dead Load Factor** 1.20

**Wind Load 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          | -57.31           | -8.40            | 0.00                | -889.14         | 0.00            | 889.14                     | 3273.57       | 1636.79       | 7496.53          | 3753.83          | 0.00               | 0.000               | 0.000                | 0.254        |
| 5.00          | -55.63           | -8.28            | 0.00                | -847.16         | 0.00            | 847.16                     | 3239.51       | 1619.75       | 7247.24          | 3629.01          | 0.03               | -0.057              | 0.000                | 0.251        |
| 10.00         | -53.79           | -8.17            | 0.00                | -805.74         | 0.00            | 805.74                     | 3203.51       | 1601.76       | 6997.34          | 3503.87          | 0.12               | -0.116              | 0.000                | 0.247        |
| 15.00         | -51.97           | -8.06            | 0.00                | -764.88         | 0.00            | 764.88                     | 3165.58       | 1582.79       | 6747.13          | 3378.58          | 0.28               | -0.176              | 0.000                | 0.243        |
| 20.00         | -50.18           | -7.94            | 0.00                | -724.57         | 0.00            | 724.57                     | 3125.72       | 1562.86       | 6496.92          | 3253.29          | 0.49               | -0.236              | 0.000                | 0.239        |
| 25.00         | -48.41           | -7.81            | 0.00                | -684.87         | 0.00            | 684.87                     | 3083.93       | 1541.97       | 6247.01          | 3128.15          | 0.77               | -0.299              | 0.000                | 0.235        |
| 30.00         | -46.67           | -7.68            | 0.00                | -645.80         | 0.00            | 645.80                     | 3040.21       | 1520.10       | 5997.71          | 3003.31          | 1.12               | -0.362              | 0.000                | 0.230        |
| 35.00         | -44.96           | -7.55            | 0.00                | -607.39         | 0.00            | 607.39                     | 2994.56       | 1497.28       | 5749.33          | 2878.94          | 1.53               | -0.426              | 0.000                | 0.226        |
| 40.00         | -43.28           | -7.41            | 0.00                | -569.66         | 0.00            | 569.66                     | 2946.97       | 1473.49       | 5502.17          | 2755.17          | 2.02               | -0.492              | 0.000                | 0.221        |
| 45.00         | -41.64           | -7.25            | 0.00                | -532.63         | 0.00            | 532.63                     | 2897.46       | 1448.73       | 5256.53          | 2632.17          | 2.57               | -0.559              | 0.000                | 0.217        |
| 47.75         | -40.75           | -7.17            | 0.00                | -512.68         | 0.00            | 512.68                     | 2869.40       | 1434.70       | 5122.20          | 2564.91          | 2.90               | -0.597              | 0.000                | 0.214        |
| 50.00         | -39.63           | -7.11            | 0.00                | -496.54         | 0.00            | 496.54                     | 2846.01       | 1423.00       | 5012.74          | 2510.09          | 3.19               | -0.628              | 0.000                | 0.212        |
| 53.25         | -38.03           | -7.00            | 0.00                | -473.44         | 0.00            | 473.44                     | 2837.57       | 1418.79       | 4973.81          | 2490.60          | 3.63               | -0.674              | 0.000                | 0.204        |
| 55.00         | -37.47           | -6.96            | 0.00                | -461.19         | 0.00            | 461.19                     | 2819.00       | 1409.50       | 4889.10          | 2448.18          | 3.89               | -0.699              | 0.000                | 0.202        |
| 60.00         | -35.92           | -6.81            | 0.00                | -426.37         | 0.00            | 426.37                     | 2764.64       | 1382.32       | 4648.65          | 2327.78          | 4.65               | -0.766              | 0.000                | 0.196        |
| 65.00         | -34.39           | -6.66            | 0.00                | -392.31         | 0.00            | 392.31                     | 2708.35       | 1354.17       | 4410.81          | 2208.68          | 5.49               | -0.834              | 0.000                | 0.190        |
| 70.00         | -32.91           | -6.51            | 0.00                | -359.02         | 0.00            | 359.02                     | 2650.12       | 1325.06       | 4175.87          | 2091.04          | 6.40               | -0.902              | 0.000                | 0.184        |
| 75.00         | -31.46           | -6.35            | 0.00                | -326.49         | 0.00            | 326.49                     | 2589.96       | 1294.98       | 3944.16          | 1975.01          | 7.39               | -0.971              | 0.000                | 0.177        |
| 80.00         | -30.04           | -6.20            | 0.00                | -294.72         | 0.00            | 294.72                     | 2527.88       | 1263.94       | 3715.96          | 1860.74          | 8.44               | -1.041              | 0.000                | 0.170        |
| 85.00         | -28.67           | -6.05            | 0.00                | -263.72         | 0.00            | 263.72                     | 2463.86       | 1231.93       | 3491.60          | 1748.39          | 9.57               | -1.110              | 0.000                | 0.162        |
| 90.00         | -27.33           | -5.89            | 0.00                | -233.48         | 0.00            | 233.48                     | 2397.91       | 1198.95       | 3271.37          | 1638.12          | 10.77              | -1.178              | 0.000                | 0.154        |
| 92.00         | -26.56           | -5.67            | 0.00                | -220.93         | 0.00            | 220.93                     | 2370.99       | 1185.49       | 3184.51          | 1594.62          | 11.27              | -1.206              | 0.000                | 0.150        |
| 93.00         | -26.20           | -5.34            | 0.00                | -213.89         | 0.00            | 213.89                     | 2357.41       | 1178.70       | 3141.35          | 1573.01          | 11.52              | -1.220              | 0.000                | 0.147        |
| 95.00         | -25.68           | -5.28            | 0.00                | -203.22         | 0.00            | 203.22                     | 2330.03       | 1165.01       | 3055.58          | 1530.06          | 12.04              | -1.248              | 0.000                | 0.144        |
| 97.25         | -25.10           | -5.21            | 0.00                | -191.34         | 0.00            | 191.34                     | 2298.85       | 1149.42       | 2960.01          | 1482.20          | 12.63              | -1.279              | 0.000                | 0.140        |
| 100.00        | -24.11           | -5.12            | 0.00                | -177.00         | 0.00            | 177.00                     | 2260.21       | 1130.11       | 2844.54          | 1424.39          | 13.38              | -1.316              | 0.000                | 0.135        |
| 101.25        | -23.67           | -5.09            | 0.00                | -170.60         | 0.00            | 170.60                     | 1705.50       | 852.75        | 2167.94          | 1085.58          | 13.73              | -1.333              | 0.000                | 0.171        |
| 105.00        | -22.82           | -4.98            | 0.00                | -151.52         | 0.00            | 151.52                     | 1669.73       | 834.87        | 2056.27          | 1029.66          | 14.79              | -1.382              | 0.000                | 0.161        |
| 110.00        | -21.72           | -4.83            | 0.00                | -126.62         | 0.00            | 126.62                     | 1620.35       | 810.17        | 1909.79          | 956.31           | 16.28              | -1.455              | 0.000                | 0.146        |
| 115.00        | -20.65           | -4.69            | 0.00                | -102.45         | 0.00            | 102.45                     | 1569.04       | 784.52        | 1766.36          | 884.49           | 17.84              | -1.524              | 0.000                | 0.129        |
| 119.50        | -15.76           | -3.55            | 0.00                | -81.35          | 0.00            | 81.35                      | 1521.21       | 760.60        | 1640.13          | 821.29           | 19.31              | -1.581              | 0.000                | 0.109        |
| 120.00        | -15.66           | -3.55            | 0.00                | -79.57          | 0.00            | 79.57                      | 1515.79       | 757.90        | 1626.29          | 814.35           | 19.47              | -1.587              | 0.000                | 0.108        |
| 125.00        | -14.73           | -3.40            | 0.00                | -61.85          | 0.00            | 61.85                      | 1460.62       | 730.31        | 1489.87          | 746.04           | 21.17              | -1.643              | 0.000                | 0.093        |
| 129.00        | -13.81           | -3.13            | 0.00                | -47.72          | 0.00            | 47.72                      | 1406.38       | 703.19        | 1375.06          | 688.55           | 22.56              | -1.684              | 0.000                | 0.079        |
| 129.00        | -13.81           | -3.13            | 0.00                | -47.72          | 0.00            | 47.72                      | 978.70        | 489.35        | 961.93           | 481.68           | 22.56              | -1.684              | 0.000                | 0.113        |
| 130.00        | -13.65           | -3.11            | 0.00                | -44.59          | 0.00            | 44.59                      | 971.83        | 485.92        | 944.91           | 473.15           | 22.92              | -1.693              | 0.000                | 0.108        |
| 135.00        | -12.88           | -2.98            | 0.00                | -29.03          | 0.00            | 29.03                      | 936.33        | 468.17        | 860.89           | 431.08           | 24.72              | -1.746              | 0.000                | 0.081        |
| 140.00        | -12.15           | -2.84            | 0.00                | -14.14          | 0.00            | 14.14                      | 898.90        | 449.45        | 778.95           | 390.05           | 26.57              | -1.782              | 0.000                | 0.050        |
| 141.00        | -5.48            | -1.44            | 0.00                | -11.30          | 0.00            | 11.30                      | 891.19        | 445.59        | 762.84           | 381.99           | 26.94              | -1.787              | 0.000                | 0.036        |
| 145.00        | -4.98            | -1.34            | 0.00                | -5.52           | 0.00            | 5.52                       | 859.54        | 429.77        | 699.40           | 350.22           | 28.45              | -1.801              | 0.000                | 0.022        |
| 149.00        | 0.00             | -1.18            | 0.00                | -0.16           | 0.00            | 0.16                       | 826.66        | 413.33        | 637.68           | 319.32           | 29.96              | -1.807              | 0.000                | 0.001        |



## Seismic Segment Forces (Factored)

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |



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**Load Case:** 1.2D + 1.0E

**Iterations** 22

**Gust Response Factor** 1.10

**Sds** 0.14

**Ss** 0.21

**Dead Load Factor** 1.20

**Seismic Load Factor** 1.00

**Sd1** 0.04

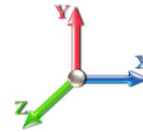
**S1** 0.07

**Wind Load Factor** 0.00

**Structure Frequency** 0.39

**SA** 0.02

**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 | 0.01  | 0.00 | 0.00               |                 |
| 5.00           |                 | 927.61          | 0.00 | 0.04  | 0.02 | 16.66              |                 |
| 10.00          |                 | 906.06          | 0.01 | 0.06  | 0.03 | 21.04              |                 |
| 15.00          |                 | 884.52          | 0.02 | 0.06  | 0.04 | 22.72              |                 |
| 20.00          |                 | 862.97          | 0.04 | 0.07  | 0.04 | 23.25              |                 |
| 25.00          |                 | 841.43          | 0.06 | 0.07  | 0.04 | 23.33              |                 |
| 30.00          |                 | 819.89          | 0.08 | 0.07  | 0.04 | 23.28              |                 |
| 35.00          |                 | 798.34          | 0.11 | 0.07  | 0.04 | 23.26              |                 |
| 40.00          |                 | 776.80          | 0.14 | 0.07  | 0.03 | 23.22              |                 |
| 45.00          |                 | 755.26          | 0.18 | 0.07  | 0.03 | 23.03              |                 |
| 47.75          | Bot - Section 2 | 406.21          | 0.20 | 0.06  | 0.02 | 12.44              |                 |
| 50.00          |                 | 659.75          | 0.22 | 0.06  | 0.02 | 20.16              |                 |
| 53.25          | Top - Section 1 | 937.57          | 0.25 | 0.06  | 0.02 | 28.17              |                 |
| 55.00          |                 | 250.50          | 0.26 | 0.05  | 0.02 | 7.39               |                 |
| 60.00          |                 | 701.17          | 0.31 | 0.04  | 0.01 | 18.53              |                 |
| 65.00          |                 | 679.63          | 0.37 | 0.03  | 0.01 | 13.84              |                 |
| 70.00          |                 | 658.08          | 0.42 | 0.01  | 0.01 | 7.03               |                 |
| 75.00          |                 | 636.54          | 0.49 | -0.01 | 0.01 | -1.26              |                 |
| 80.00          |                 | 614.99          | 0.55 | -0.03 | 0.01 | -9.28              |                 |
| 85.00          |                 | 593.45          | 0.62 | -0.06 | 0.02 | -15.29             |                 |
| 90.00          |                 | 571.91          | 0.70 | -0.09 | 0.03 | -18.52             |                 |
| 92.00          | Appurtenance(s) | 301.23          | 0.73 | -0.09 | 0.04 | -10.18             |                 |
| 93.00          | Appurtenance(s) | 250.07          | 0.74 | -0.10 | 0.04 | -8.57              |                 |
| 95.00          |                 | 217.56          | 0.77 | -0.11 | 0.05 | -7.54              |                 |
| 97.25          | Bot - Section 3 | 240.63          | 0.81 | -0.11 | 0.06 | -8.28              |                 |
| 100.00         |                 | 522.91          | 0.86 | -0.12 | 0.07 | -17.25             |                 |
| 101.25         | Top - Section 2 | 233.81          | 0.88 | -0.12 | 0.08 | -7.48              |                 |
| 105.00         |                 | 308.44          | 0.94 | -0.12 | 0.11 | -8.52              |                 |
| 110.00         |                 | 396.18          | 1.03 | -0.10 | 0.15 | -7.44              |                 |
| 115.00         |                 | 378.94          | 1.13 | -0.05 | 0.21 | -2.48              |                 |
| 119.50         | Appurtenance(s) | 2008.7          | 1.22 | 0.02  | 0.27 | 14.84              |                 |
| 120.00         |                 | 35.40           | 1.23 | 0.03  | 0.28 | 0.32               |                 |
| 125.00         |                 | 344.47          | 1.33 | 0.17  | 0.37 | 9.72               |                 |
| 129.00         | Top - Section 3 | 355.17          | 1.42 | 0.32  | 0.45 | 16.36              |                 |
| 130.00         |                 | 48.18           | 1.44 | 0.37  | 0.48 | 2.45               |                 |
| 135.00         |                 | 233.13          | 1.55 | 0.64  | 0.61 | 18.00              |                 |
| 140.00         |                 | 220.21          | 1.67 | 1.01  | 0.77 | 23.62              |                 |
| 141.00         | Appurtenance(s) | 2599.1          | 1.69 | 1.10  | 0.81 | 295.59             |                 |
| 145.00         |                 | 164.79          | 1.79 | 1.50  | 0.96 | 23.26              |                 |
| 149.00         | Appurtenance(s) | 2086.1          | 1.89 | 1.98  | 1.14 | 357.03             |                 |
| <b>Totals:</b> |                 | <b>25,227.8</b> |      |       |      | <b>946.5</b>       |                 |
|                |                 |                 |      |       |      | <b>Total Wind:</b> | <b>23,423.3</b> |

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



## Calculated Forces

**Structure:** CT13061-A-SBA      **Code:** EIA/TIA-222-G      9/15/2016  
**Site Name:** New Fairfield      **Exposure:** C  
**Height:** 149.00 (ft)      **Crest Height:** 0.00  
**Base Elev:** 1.000 (ft)      **Site Class:** B - Competent Rock  
**Gh:** 1.1      **Topography:** 1      **Struct Class:** II      Page: 25



**Load Case:** 1.2D + 1.0E

**Iterations** 22

**Gust Response Factor** 1.10

**Sds** 0.14

**Ss** 0.21

**Dead Load Factor** 1.20

**Seismic Load Factor** 1.00

**Sd1** 0.04

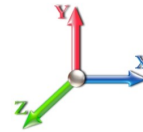
**S1** 0.07

**Wind Load Factor** 0.00

**Structure Frequency** 0.39

**SA** 0.02

**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          | -37.86           | -1.07            | 0.00                | -126.00         | 0.00            | 126.00                     | 3273.57       | 1636.79       | 7496.53          | 3753.83          |                    | 0.00                | 0.00                 | 0.045        |
| 5.00          | -36.63           | -1.06            | 0.00                | -120.65         | 0.00            | 120.65                     | 3239.51       | 1619.75       | 7247.24          | 3629.01          |                    | 0.00                | -0.01                | 0.045        |
| 10.00         | -35.26           | -1.04            | 0.00                | -115.35         | 0.00            | 115.35                     | 3203.51       | 1601.76       | 6997.34          | 3503.87          |                    | 0.02                | -0.02                | 0.044        |
| 15.00         | -33.92           | -1.02            | 0.00                | -110.14         | 0.00            | 110.14                     | 3165.58       | 1582.79       | 6747.13          | 3378.58          |                    | 0.04                | -0.03                | 0.043        |
| 20.00         | -32.60           | -1.01            | 0.00                | -105.01         | 0.00            | 105.01                     | 3125.72       | 1562.86       | 6496.92          | 3253.29          |                    | 0.07                | -0.03                | 0.043        |
| 25.00         | -31.31           | -0.99            | 0.00                | -99.98          | 0.00            | 99.98                      | 3083.93       | 1541.97       | 6247.01          | 3128.15          |                    | 0.11                | -0.04                | 0.042        |
| 30.00         | -30.04           | -0.97            | 0.00                | -95.05          | 0.00            | 95.05                      | 3040.21       | 1520.10       | 5997.71          | 3003.31          |                    | 0.16                | -0.05                | 0.042        |
| 35.00         | -28.80           | -0.95            | 0.00                | -90.21          | 0.00            | 90.21                      | 2994.56       | 1497.28       | 5749.33          | 2878.94          |                    | 0.22                | -0.06                | 0.041        |
| 40.00         | -27.58           | -0.93            | 0.00                | -85.47          | 0.00            | 85.47                      | 2946.97       | 1473.49       | 5502.17          | 2755.17          |                    | 0.29                | -0.07                | 0.040        |
| 45.00         | -26.39           | -0.91            | 0.00                | -80.83          | 0.00            | 80.83                      | 2897.46       | 1448.73       | 5256.53          | 2632.17          |                    | 0.37                | -0.08                | 0.040        |
| 47.75         | -25.75           | -0.90            | 0.00                | -78.34          | 0.00            | 78.34                      | 2869.40       | 1434.70       | 5122.20          | 2564.91          |                    | 0.42                | -0.09                | 0.040        |
| 50.00         | -24.83           | -0.88            | 0.00                | -76.32          | 0.00            | 76.32                      | 2846.01       | 1423.00       | 5012.74          | 2510.09          |                    | 0.46                | -0.09                | 0.039        |
| 53.25         | -23.52           | -0.85            | 0.00                | -73.47          | 0.00            | 73.47                      | 2837.57       | 1418.79       | 4973.81          | 2490.60          |                    | 0.53                | -0.10                | 0.038        |
| 55.00         | -23.12           | -0.84            | 0.00                | -71.99          | 0.00            | 71.99                      | 2819.00       | 1409.50       | 4889.10          | 2448.18          |                    | 0.56                | -0.10                | 0.038        |
| 60.00         | -21.99           | -0.83            | 0.00                | -67.77          | 0.00            | 67.77                      | 2764.64       | 1382.32       | 4648.65          | 2327.78          |                    | 0.68                | -0.11                | 0.037        |
| 65.00         | -20.90           | -0.82            | 0.00                | -63.63          | 0.00            | 63.63                      | 2708.35       | 1354.17       | 4410.81          | 2208.68          |                    | 0.80                | -0.12                | 0.037        |
| 70.00         | -19.82           | -0.81            | 0.00                | -59.56          | 0.00            | 59.56                      | 2650.12       | 1325.06       | 4175.87          | 2091.04          |                    | 0.94                | -0.14                | 0.036        |
| 75.00         | -18.77           | -0.81            | 0.00                | -55.51          | 0.00            | 55.51                      | 2589.96       | 1294.98       | 3944.16          | 1975.01          |                    | 1.09                | -0.15                | 0.035        |
| 80.00         | -17.75           | -0.81            | 0.00                | -51.45          | 0.00            | 51.45                      | 2527.88       | 1263.94       | 3715.96          | 1860.74          |                    | 1.25                | -0.16                | 0.035        |
| 85.00         | -16.76           | -0.81            | 0.00                | -47.39          | 0.00            | 47.39                      | 2463.86       | 1231.93       | 3491.60          | 1748.39          |                    | 1.42                | -0.17                | 0.034        |
| 90.00         | -15.79           | -0.81            | 0.00                | -43.33          | 0.00            | 43.33                      | 2397.91       | 1198.95       | 3271.37          | 1638.12          |                    | 1.61                | -0.18                | 0.033        |
| 92.00         | -15.31           | -0.81            | 0.00                | -41.71          | 0.00            | 41.71                      | 2370.99       | 1185.49       | 3184.51          | 1594.62          |                    | 1.69                | -0.19                | 0.033        |
| 93.00         | -14.96           | -0.81            | 0.00                | -40.90          | 0.00            | 40.90                      | 2357.41       | 1178.70       | 3141.35          | 1573.01          |                    | 1.73                | -0.19                | 0.032        |
| 95.00         | -14.59           | -0.81            | 0.00                | -39.27          | 0.00            | 39.27                      | 2330.03       | 1165.01       | 3055.58          | 1530.06          |                    | 1.81                | -0.20                | 0.032        |
| 97.25         | -14.17           | -0.81            | 0.00                | -37.45          | 0.00            | 37.45                      | 2298.85       | 1149.42       | 2960.01          | 1482.20          |                    | 1.90                | -0.20                | 0.031        |
| 100.00        | -13.40           | -0.81            | 0.00                | -35.21          | 0.00            | 35.21                      | 2260.21       | 1130.11       | 2844.54          | 1424.39          |                    | 2.02                | -0.21                | 0.031        |
| 101.25        | -13.05           | -0.81            | 0.00                | -34.20          | 0.00            | 34.20                      | 1705.50       | 852.75        | 2167.94          | 1085.58          |                    | 2.08                | -0.21                | 0.039        |
| 105.00        | -12.47           | -0.81            | 0.00                | -31.16          | 0.00            | 31.16                      | 1669.73       | 834.87        | 2056.27          | 1029.66          |                    | 2.25                | -0.22                | 0.038        |
| 110.00        | -11.72           | -0.81            | 0.00                | -27.11          | 0.00            | 27.11                      | 1620.35       | 810.17        | 1909.79          | 956.31           |                    | 2.49                | -0.24                | 0.036        |
| 115.00        | -10.99           | -0.81            | 0.00                | -23.05          | 0.00            | 23.05                      | 1569.04       | 784.52        | 1766.36          | 884.49           |                    | 2.75                | -0.25                | 0.033        |
| 119.50        | -8.33            | -0.79            | 0.00                | -19.40          | 0.00            | 19.40                      | 1521.21       | 760.60        | 1640.13          | 821.29           |                    | 3.00                | -0.27                | 0.029        |
| 120.00        | -8.27            | -0.79            | 0.00                | -19.01          | 0.00            | 19.01                      | 1515.79       | 757.90        | 1626.29          | 814.35           |                    | 3.03                | -0.27                | 0.029        |
| 125.00        | -7.66            | -0.77            | 0.00                | -15.08          | 0.00            | 15.08                      | 1460.62       | 730.31        | 1489.87          | 746.04           |                    | 3.31                | -0.28                | 0.025        |
| 129.00        | -7.07            | -0.76            | 0.00                | -11.98          | 0.00            | 11.98                      | 1406.38       | 703.19        | 1375.06          | 688.55           |                    | 3.56                | -0.29                | 0.022        |
| 129.00        | -7.07            | -0.76            | 0.00                | -11.98          | 0.00            | 11.98                      | 978.70        | 489.35        | 961.93           | 481.68           |                    | 3.56                | -0.29                | 0.032        |
| 130.00        | -6.98            | -0.75            | 0.00                | -11.23          | 0.00            | 11.23                      | 971.83        | 485.92        | 944.91           | 473.15           |                    | 3.62                | -0.29                | 0.031        |
| 135.00        | -6.50            | -0.73            | 0.00                | -7.46           | 0.00            | 7.46                       | 936.33        | 468.17        | 860.89           | 431.08           |                    | 3.93                | -0.31                | 0.024        |
| 140.00        | -6.04            | -0.71            | 0.00                | -3.78           | 0.00            | 3.78                       | 898.90        | 449.45        | 778.95           | 390.05           |                    | 4.26                | -0.32                | 0.016        |
| 141.00        | -2.88            | -0.40            | 0.00                | -3.07           | 0.00            | 3.07                       | 891.19        | 445.59        | 762.84           | 381.99           |                    | 4.33                | -0.32                | 0.011        |
| 145.00        | -2.59            | -0.37            | 0.00                | -1.49           | 0.00            | 1.49                       | 859.54        | 429.77        | 699.40           | 350.22           |                    | 4.60                | -0.32                | 0.007        |
| 149.00        | 0.00             | -0.36            | 0.00                | 0.00            | 0.00            | 0.00                       | 826.66        | 413.33        | 637.68           | 319.32           |                    | 4.87                | -0.32                | 0.000        |



## Seismic Segment Forces (Factored)

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |



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**Load Case:** 0.9D + 1.0E

**Iterations** 22

**Gust Response Factor** 1.10

**Sds** 0.14

**Ss** 0.21

**Dead Load Factor** 0.90

**Seismic Load Factor** 1.00

**Sd1** 0.04

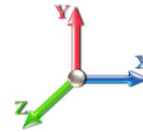
**S1** 0.07

**Wind Load Factor** 0.00

**Structure Frequency** 0.39

**SA** 0.02

**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 | 0.01  | 0.00 | 0.00               |                 |
| 5.00           |                 | 927.61          | 0.00 | 0.04  | 0.02 | 16.66              |                 |
| 10.00          |                 | 906.06          | 0.01 | 0.06  | 0.03 | 21.04              |                 |
| 15.00          |                 | 884.52          | 0.02 | 0.06  | 0.04 | 22.72              |                 |
| 20.00          |                 | 862.97          | 0.04 | 0.07  | 0.04 | 23.25              |                 |
| 25.00          |                 | 841.43          | 0.06 | 0.07  | 0.04 | 23.33              |                 |
| 30.00          |                 | 819.89          | 0.08 | 0.07  | 0.04 | 23.28              |                 |
| 35.00          |                 | 798.34          | 0.11 | 0.07  | 0.04 | 23.26              |                 |
| 40.00          |                 | 776.80          | 0.14 | 0.07  | 0.03 | 23.22              |                 |
| 45.00          |                 | 755.26          | 0.18 | 0.07  | 0.03 | 23.03              |                 |
| 47.75          | Bot - Section 2 | 406.21          | 0.20 | 0.06  | 0.02 | 12.44              |                 |
| 50.00          |                 | 659.75          | 0.22 | 0.06  | 0.02 | 20.16              |                 |
| 53.25          | Top - Section 1 | 937.57          | 0.25 | 0.06  | 0.02 | 28.17              |                 |
| 55.00          |                 | 250.50          | 0.26 | 0.05  | 0.02 | 7.39               |                 |
| 60.00          |                 | 701.17          | 0.31 | 0.04  | 0.01 | 18.53              |                 |
| 65.00          |                 | 679.63          | 0.37 | 0.03  | 0.01 | 13.84              |                 |
| 70.00          |                 | 658.08          | 0.42 | 0.01  | 0.01 | 7.03               |                 |
| 75.00          |                 | 636.54          | 0.49 | -0.01 | 0.01 | -1.26              |                 |
| 80.00          |                 | 614.99          | 0.55 | -0.03 | 0.01 | -9.28              |                 |
| 85.00          |                 | 593.45          | 0.62 | -0.06 | 0.02 | -15.29             |                 |
| 90.00          |                 | 571.91          | 0.70 | -0.09 | 0.03 | -18.52             |                 |
| 92.00          | Appurtenance(s) | 301.23          | 0.73 | -0.09 | 0.04 | -10.18             |                 |
| 93.00          | Appurtenance(s) | 250.07          | 0.74 | -0.10 | 0.04 | -8.57              |                 |
| 95.00          |                 | 217.56          | 0.77 | -0.11 | 0.05 | -7.54              |                 |
| 97.25          | Bot - Section 3 | 240.63          | 0.81 | -0.11 | 0.06 | -8.28              |                 |
| 100.00         |                 | 522.91          | 0.86 | -0.12 | 0.07 | -17.25             |                 |
| 101.25         | Top - Section 2 | 233.81          | 0.88 | -0.12 | 0.08 | -7.48              |                 |
| 105.00         |                 | 308.44          | 0.94 | -0.12 | 0.11 | -8.52              |                 |
| 110.00         |                 | 396.18          | 1.03 | -0.10 | 0.15 | -7.44              |                 |
| 115.00         |                 | 378.94          | 1.13 | -0.05 | 0.21 | -2.48              |                 |
| 119.50         | Appurtenance(s) | 2008.7          | 1.22 | 0.02  | 0.27 | 14.84              |                 |
| 120.00         |                 | 35.40           | 1.23 | 0.03  | 0.28 | 0.32               |                 |
| 125.00         |                 | 344.47          | 1.33 | 0.17  | 0.37 | 9.72               |                 |
| 129.00         | Top - Section 3 | 355.17          | 1.42 | 0.32  | 0.45 | 16.36              |                 |
| 130.00         |                 | 48.18           | 1.44 | 0.37  | 0.48 | 2.45               |                 |
| 135.00         |                 | 233.13          | 1.55 | 0.64  | 0.61 | 18.00              |                 |
| 140.00         |                 | 220.21          | 1.67 | 1.01  | 0.77 | 23.62              |                 |
| 141.00         | Appurtenance(s) | 2599.1          | 1.69 | 1.10  | 0.81 | 295.59             |                 |
| 145.00         |                 | 164.79          | 1.79 | 1.50  | 0.96 | 23.26              |                 |
| 149.00         | Appurtenance(s) | 2086.1          | 1.89 | 1.98  | 1.14 | 357.03             |                 |
| <b>Totals:</b> |                 | <b>25,227.8</b> |      |       |      | <b>946.5</b>       |                 |
|                |                 |                 |      |       |      | <b>Total Wind:</b> | <b>23,423.3</b> |

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



## Calculated Forces

**Structure:** CT13061-A-SBA      **Code:** EIA/TIA-222-G      9/15/2016  
**Site Name:** New Fairfield      **Exposure:** C  
**Height:** 149.00 (ft)      **Crest Height:** 0.00  
**Base Elev:** 1.000 (ft)      **Site Class:** B - Competent Rock  
**Gh:** 1.1      **Topography:** 1      **Struct Class:** II      **Page:** 27



**Load Case:** 0.9D + 1.0E

**Iterations** 22

**Gust Response Factor** 1.10

**Sds** 0.14

**Ss** 0.21

**Dead Load Factor** 0.90

**Seismic Load Factor** 1.00

**Sd1** 0.04

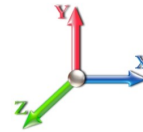
**S1** 0.07

**Wind Load Factor** 0.00

**Structure Frequency** 0.39

**SA** 0.02

**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          | -28.40           | -1.07            | 0.00                | -124.58         | 0.00            | 124.58                     | 3273.57       | 1636.79       | 7496.53          | 3753.83          |                    | 0.00                | 0.00                 | 0.042        |
| 5.00          | -27.48           | -1.06            | 0.00                | -119.23         | 0.00            | 119.23                     | 3239.51       | 1619.75       | 7247.24          | 3629.01          |                    | 0.00                | -0.01                | 0.041        |
| 10.00         | -26.45           | -1.04            | 0.00                | -113.95         | 0.00            | 113.95                     | 3203.51       | 1601.76       | 6997.34          | 3503.87          |                    | 0.02                | -0.02                | 0.041        |
| 15.00         | -25.44           | -1.02            | 0.00                | -108.75         | 0.00            | 108.75                     | 3165.58       | 1582.79       | 6747.13          | 3378.58          |                    | 0.04                | -0.02                | 0.040        |
| 20.00         | -24.45           | -1.00            | 0.00                | -103.65         | 0.00            | 103.65                     | 3125.72       | 1562.86       | 6496.92          | 3253.29          |                    | 0.07                | -0.03                | 0.040        |
| 25.00         | -23.48           | -0.98            | 0.00                | -98.64          | 0.00            | 98.64                      | 3083.93       | 1541.97       | 6247.01          | 3128.15          |                    | 0.11                | -0.04                | 0.039        |
| 30.00         | -22.53           | -0.96            | 0.00                | -93.74          | 0.00            | 93.74                      | 3040.21       | 1520.10       | 5997.71          | 3003.31          |                    | 0.16                | -0.05                | 0.039        |
| 35.00         | -21.60           | -0.94            | 0.00                | -88.94          | 0.00            | 88.94                      | 2994.56       | 1497.28       | 5749.33          | 2878.94          |                    | 0.22                | -0.06                | 0.038        |
| 40.00         | -20.69           | -0.92            | 0.00                | -84.25          | 0.00            | 84.25                      | 2946.97       | 1473.49       | 5502.17          | 2755.17          |                    | 0.29                | -0.07                | 0.038        |
| 45.00         | -19.79           | -0.90            | 0.00                | -79.66          | 0.00            | 79.66                      | 2897.46       | 1448.73       | 5256.53          | 2632.17          |                    | 0.37                | -0.08                | 0.037        |
| 47.75         | -19.31           | -0.89            | 0.00                | -77.19          | 0.00            | 77.19                      | 2869.40       | 1434.70       | 5122.20          | 2564.91          |                    | 0.41                | -0.09                | 0.037        |
| 50.00         | -18.62           | -0.87            | 0.00                | -75.20          | 0.00            | 75.20                      | 2846.01       | 1423.00       | 5012.74          | 2510.09          |                    | 0.46                | -0.09                | 0.037        |
| 53.25         | -17.64           | -0.84            | 0.00                | -72.38          | 0.00            | 72.38                      | 2837.57       | 1418.79       | 4973.81          | 2490.60          |                    | 0.52                | -0.10                | 0.035        |
| 55.00         | -17.34           | -0.83            | 0.00                | -70.92          | 0.00            | 70.92                      | 2819.00       | 1409.50       | 4889.10          | 2448.18          |                    | 0.56                | -0.10                | 0.035        |
| 60.00         | -16.50           | -0.82            | 0.00                | -66.75          | 0.00            | 66.75                      | 2764.64       | 1382.32       | 4648.65          | 2327.78          |                    | 0.67                | -0.11                | 0.035        |
| 65.00         | -15.67           | -0.80            | 0.00                | -62.68          | 0.00            | 62.68                      | 2708.35       | 1354.17       | 4410.81          | 2208.68          |                    | 0.79                | -0.12                | 0.034        |
| 70.00         | -14.87           | -0.80            | 0.00                | -58.66          | 0.00            | 58.66                      | 2650.12       | 1325.06       | 4175.87          | 2091.04          |                    | 0.93                | -0.13                | 0.034        |
| 75.00         | -14.08           | -0.80            | 0.00                | -54.68          | 0.00            | 54.68                      | 2589.96       | 1294.98       | 3944.16          | 1975.01          |                    | 1.07                | -0.15                | 0.033        |
| 80.00         | -13.31           | -0.80            | 0.00                | -50.69          | 0.00            | 50.69                      | 2527.88       | 1263.94       | 3715.96          | 1860.74          |                    | 1.23                | -0.16                | 0.033        |
| 85.00         | -12.57           | -0.80            | 0.00                | -46.70          | 0.00            | 46.70                      | 2463.86       | 1231.93       | 3491.60          | 1748.39          |                    | 1.40                | -0.17                | 0.032        |
| 90.00         | -11.84           | -0.80            | 0.00                | -42.70          | 0.00            | 42.70                      | 2397.91       | 1198.95       | 3271.37          | 1638.12          |                    | 1.59                | -0.18                | 0.031        |
| 92.00         | -11.48           | -0.80            | 0.00                | -41.11          | 0.00            | 41.11                      | 2370.99       | 1185.49       | 3184.51          | 1594.62          |                    | 1.66                | -0.19                | 0.031        |
| 93.00         | -11.22           | -0.80            | 0.00                | -40.31          | 0.00            | 40.31                      | 2357.41       | 1178.70       | 3141.35          | 1573.01          |                    | 1.70                | -0.19                | 0.030        |
| 95.00         | -10.94           | -0.80            | 0.00                | -38.71          | 0.00            | 38.71                      | 2330.03       | 1165.01       | 3055.58          | 1530.06          |                    | 1.78                | -0.19                | 0.030        |
| 97.25         | -10.63           | -0.80            | 0.00                | -36.91          | 0.00            | 36.91                      | 2298.85       | 1149.42       | 2960.01          | 1482.20          |                    | 1.88                | -0.20                | 0.030        |
| 100.00        | -10.05           | -0.80            | 0.00                | -34.72          | 0.00            | 34.72                      | 2260.21       | 1130.11       | 2844.54          | 1424.39          |                    | 1.99                | -0.21                | 0.029        |
| 101.25        | -9.78            | -0.80            | 0.00                | -33.72          | 0.00            | 33.72                      | 1705.50       | 852.75        | 2167.94          | 1085.58          |                    | 2.05                | -0.21                | 0.037        |
| 105.00        | -9.35            | -0.80            | 0.00                | -30.73          | 0.00            | 30.73                      | 1669.73       | 834.87        | 2056.27          | 1029.66          |                    | 2.22                | -0.22                | 0.035        |
| 110.00        | -8.79            | -0.80            | 0.00                | -26.74          | 0.00            | 26.74                      | 1620.35       | 810.17        | 1909.79          | 956.31           |                    | 2.46                | -0.24                | 0.033        |
| 115.00        | -8.24            | -0.80            | 0.00                | -22.75          | 0.00            | 22.75                      | 1569.04       | 784.52        | 1766.36          | 884.49           |                    | 2.71                | -0.25                | 0.031        |
| 119.50        | -6.25            | -0.77            | 0.00                | -19.16          | 0.00            | 19.16                      | 1521.21       | 760.60        | 1640.13          | 821.29           |                    | 2.96                | -0.26                | 0.027        |
| 120.00        | -6.20            | -0.78            | 0.00                | -18.77          | 0.00            | 18.77                      | 1515.79       | 757.90        | 1626.29          | 814.35           |                    | 2.98                | -0.27                | 0.027        |
| 125.00        | -5.74            | -0.76            | 0.00                | -14.90          | 0.00            | 14.90                      | 1460.62       | 730.31        | 1489.87          | 746.04           |                    | 3.27                | -0.28                | 0.024        |
| 129.00        | -5.30            | -0.75            | 0.00                | -11.84          | 0.00            | 11.84                      | 1406.38       | 703.19        | 1375.06          | 688.55           |                    | 3.51                | -0.29                | 0.021        |
| 129.00        | -5.30            | -0.75            | 0.00                | -11.84          | 0.00            | 11.84                      | 978.70        | 489.35        | 961.93           | 481.68           |                    | 3.51                | -0.29                | 0.030        |
| 130.00        | -5.23            | -0.74            | 0.00                | -11.09          | 0.00            | 11.09                      | 971.83        | 485.92        | 944.91           | 473.15           |                    | 3.57                | -0.29                | 0.029        |
| 135.00        | -4.87            | -0.73            | 0.00                | -7.37           | 0.00            | 7.37                       | 936.33        | 468.17        | 860.89           | 431.08           |                    | 3.88                | -0.30                | 0.022        |
| 140.00        | -4.53            | -0.70            | 0.00                | -3.74           | 0.00            | 3.74                       | 898.90        | 449.45        | 778.95           | 390.05           |                    | 4.20                | -0.31                | 0.015        |
| 141.00        | -2.16            | -0.39            | 0.00                | -3.04           | 0.00            | 3.04                       | 891.19        | 445.59        | 762.84           | 381.99           |                    | 4.27                | -0.31                | 0.010        |
| 145.00        | -1.94            | -0.37            | 0.00                | -1.47           | 0.00            | 1.47                       | 859.54        | 429.77        | 699.40           | 350.22           |                    | 4.53                | -0.32                | 0.006        |
| 149.00        | 0.00             | -0.36            | 0.00                | 0.00            | 0.00            | 0.00                       | 826.66        | 413.33        | 637.68           | 319.32           |                    | 4.80                | -0.32                | 0.000        |



## Wind Loading - Shaft

**Structure:** CT13061-A-SBA

**Code:** EIA/TIA-222-G

9/15/2016

**Site Name:** New Fairfield

**Exposure:** C

**Height:** 149.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 1.000 (ft)

**Site Class:** B - Competent Rock

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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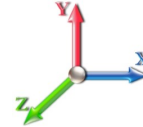


**Load Case:** 1.0D + 1.0W 60 mph Wind

**Iterations** 23

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



| Elev<br>(ft)           | Description | Kzt  | Kz   | qz<br>(psf) | qzGh<br>(psf) | C<br>(mph-ft) | Cf    | Ice<br>Thick<br>(in) | Tributary<br>(ft) | Aa<br>(sf) | CfAa<br>(sf) | Wind<br>Force X<br>(lb) | Dead<br>Load Ice<br>(lb) | Tot<br>Dead<br>Load<br>(lb) |
|------------------------|-------------|------|------|-------------|---------------|---------------|-------|----------------------|-------------------|------------|--------------|-------------------------|--------------------------|-----------------------------|
| 0.00                   |             | 1.00 | 0.85 | 7.442       | 8.19          | 261.76        | 0.650 | 0.000                | 0.00              | 0.000      | 0.00         | 0.0                     | 0.0                      | 0.0                         |
| 5.00                   |             | 1.00 | 0.85 | 7.442       | 8.19          | 255.78        | 0.650 | 0.000                | 5.00              | 23.389     | 15.20        | 124.5                   | 0.0                      | 927.6                       |
| 10.00                  |             | 1.00 | 0.85 | 7.442       | 8.19          | 249.80        | 0.650 | 0.000                | 5.00              | 22.849     | 14.85        | 121.6                   | 0.0                      | 906.1                       |
| 15.00                  |             | 1.00 | 0.86 | 7.534       | 8.29          | 245.33        | 0.650 | 0.000                | 5.00              | 22.309     | 14.50        | 120.2                   | 0.0                      | 884.5                       |
| 20.00                  |             | 1.00 | 0.91 | 7.978       | 8.78          | 246.26        | 0.650 | 0.000                | 5.00              | 21.769     | 14.15        | 124.2                   | 0.0                      | 863.0                       |
| 25.00                  |             | 1.00 | 0.95 | 8.345       | 9.18          | 245.54        | 0.650 | 0.000                | 5.00              | 21.229     | 13.80        | 126.7                   | 0.0                      | 841.4                       |
| 30.00                  |             | 1.00 | 0.99 | 8.659       | 9.53          | 243.68        | 0.650 | 0.000                | 5.00              | 20.689     | 13.45        | 128.1                   | 0.0                      | 819.9                       |
| 35.00                  |             | 1.00 | 1.02 | 8.936       | 9.83          | 241.00        | 0.650 | 0.000                | 5.00              | 20.148     | 13.10        | 128.7                   | 0.0                      | 798.3                       |
| 40.00                  |             | 1.00 | 1.05 | 9.184       | 10.10         | 237.68        | 0.650 | 0.000                | 5.00              | 19.608     | 12.75        | 128.8                   | 0.0                      | 776.8                       |
| 45.00                  |             | 1.00 | 1.07 | 9.410       | 10.35         | 233.85        | 0.650 | 0.000                | 5.00              | 19.068     | 12.39        | 128.3                   | 0.0                      | 755.3                       |
| 47.75 Bot - Section 2  |             | 1.00 | 1.09 | 9.525       | 10.48         | 231.57        | 0.650 | 0.000                | 2.75              | 10.257     | 6.67         | 69.9                    | 0.0                      | 406.2                       |
| 50.00                  |             | 1.00 | 1.10 | 9.616       | 10.58         | 229.62        | 0.650 | 0.000                | 2.25              | 8.390      | 5.45         | 57.7                    | 0.0                      | 659.8                       |
| 53.25 Top - Section 1  |             | 1.00 | 1.11 | 9.742       | 10.72         | 226.67        | 0.650 | 0.000                | 3.25              | 11.925     | 7.75         | 83.1                    | 0.0                      | 937.6                       |
| 55.00                  |             | 1.00 | 1.12 | 9.807       | 10.79         | 228.39        | 0.650 | 0.000                | 1.75              | 6.327      | 4.11         | 44.4                    | 0.0                      | 250.5                       |
| 60.00                  |             | 1.00 | 1.14 | 9.986       | 10.98         | 223.53        | 0.650 | 0.000                | 5.00              | 17.712     | 11.51        | 126.5                   | 0.0                      | 701.2                       |
| 65.00                  |             | 1.00 | 1.16 | 10.153      | 11.17         | 218.41        | 0.650 | 0.000                | 5.00              | 17.172     | 11.16        | 124.7                   | 0.0                      | 679.6                       |
| 70.00                  |             | 1.00 | 1.18 | 10.310      | 11.34         | 213.06        | 0.650 | 0.000                | 5.00              | 16.632     | 10.81        | 122.6                   | 0.0                      | 658.1                       |
| 75.00                  |             | 1.00 | 1.19 | 10.459      | 11.50         | 207.51        | 0.650 | 0.000                | 5.00              | 16.092     | 10.46        | 120.3                   | 0.0                      | 636.5                       |
| 80.00                  |             | 1.00 | 1.21 | 10.600      | 11.66         | 201.77        | 0.650 | 0.000                | 5.00              | 15.551     | 10.11        | 117.9                   | 0.0                      | 615.0                       |
| 85.00                  |             | 1.00 | 1.23 | 10.734      | 11.81         | 195.87        | 0.650 | 0.000                | 5.00              | 15.011     | 9.76         | 115.2                   | 0.0                      | 593.4                       |
| 90.00                  |             | 1.00 | 1.24 | 10.863      | 11.95         | 189.82        | 0.650 | 0.000                | 5.00              | 14.471     | 9.41         | 112.4                   | 0.0                      | 571.9                       |
| 92.00 Appurtenance(s)  |             | 1.00 | 1.25 | 10.913      | 12.00         | 187.36        | 0.650 | 0.000                | 2.00              | 5.637      | 3.66         | 44.0                    | 0.0                      | 222.7                       |
| 93.00 Appurtenance(s)  |             | 1.00 | 1.25 | 10.937      | 12.03         | 186.12        | 0.650 | 0.000                | 1.00              | 2.786      | 1.81         | 21.8                    | 0.0                      | 110.1                       |
| 95.00                  |             | 1.00 | 1.25 | 10.986      | 12.08         | 183.63        | 0.650 | 0.000                | 2.00              | 5.508      | 3.58         | 43.3                    | 0.0                      | 217.6                       |
| 97.25 Bot - Section 3  |             | 1.00 | 1.26 | 11.040      | 12.14         | 180.80        | 0.650 | 0.000                | 2.25              | 6.093      | 3.96         | 48.1                    | 0.0                      | 240.6                       |
| 100.00                 |             | 1.00 | 1.27 | 11.104      | 12.21         | 177.32        | 0.650 | 0.000                | 2.75              | 7.414      | 4.82         | 58.9                    | 0.0                      | 522.9                       |
| 101.25 Top - Section 2 |             | 1.00 | 1.27 | 11.133      | 12.25         | 175.72        | 0.650 | 0.000                | 1.25              | 3.316      | 2.16         | 26.4                    | 0.0                      | 233.8                       |
| 105.00                 |             | 1.00 | 1.28 | 11.218      | 12.34         | 173.76        | 0.650 | 0.000                | 3.75              | 9.746      | 6.33         | 78.2                    | 0.0                      | 308.4                       |
| 110.00                 |             | 1.00 | 1.29 | 11.327      | 12.46         | 167.23        | 0.650 | 0.000                | 5.00              | 12.522     | 8.14         | 101.4                   | 0.0                      | 396.2                       |
| 115.00                 |             | 1.00 | 1.31 | 11.432      | 12.58         | 160.60        | 0.650 | 0.000                | 5.00              | 11.982     | 7.79         | 97.9                    | 0.0                      | 378.9                       |
| 119.50 Appurtenance(s) |             | 1.00 | 1.32 | 11.524      | 12.68         | 154.55        | 0.650 | 0.000                | 4.50              | 10.322     | 6.71         | 85.1                    | 0.0                      | 326.3                       |
| 120.00                 |             | 1.00 | 1.32 | 11.534      | 12.69         | 153.87        | 0.650 | 0.000                | 0.50              | 1.120      | 0.73         | 9.2                     | 0.0                      | 35.4                        |
| 125.00                 |             | 1.00 | 1.33 | 11.633      | 12.80         | 147.06        | 0.650 | 0.000                | 5.00              | 10.902     | 7.09         | 90.7                    | 0.0                      | 344.5                       |
| 129.00 Top - Section 3 |             | 1.00 | 1.34 | 11.710      | 12.88         | 141.55        | 0.650 | 0.000                | 4.00              | 8.332      | 5.42         | 69.8                    | 0.0                      | 263.2                       |
| 130.00                 |             | 1.00 | 1.34 | 11.729      | 12.90         | 140.16        | 0.650 | 0.000                | 1.00              | 2.029      | 1.32         | 17.0                    | 0.0                      | 48.2                        |
| 135.00                 |             | 1.00 | 1.35 | 11.822      | 13.00         | 133.18        | 0.650 | 0.000                | 5.00              | 9.821      | 6.38         | 83.0                    | 0.0                      | 233.1                       |
| 140.00                 |             | 1.00 | 1.36 | 11.912      | 13.10         | 126.13        | 0.650 | 0.000                | 5.00              | 9.281      | 6.03         | 79.0                    | 0.0                      | 220.2                       |
| 141.00 Appurtenance(s) |             | 1.00 | 1.36 | 11.930      | 13.12         | 124.71        | 0.650 | 0.000                | 1.00              | 1.791      | 1.16         | 15.3                    | 0.0                      | 42.5                        |
| 145.00                 |             | 1.00 | 1.37 | 12.000      | 13.20         | 119.00        | 0.650 | 0.000                | 4.00              | 6.950      | 4.52         | 59.6                    | 0.0                      | 164.8                       |
| 149.00 Appurtenance(s) |             | 1.00 | 1.38 | 12.068      | 13.27         | 113.26        | 0.650 | 0.000                | 4.00              | 6.604      | 4.29         | 57.0                    | 0.0                      | 156.5                       |
| <b>Totals:</b>         |             |      |      |             |               |               |       |                      | <b>149.00</b>     |            |              | <b>3,311.0</b>          |                          | <b>18,748.6</b>             |



## Discrete Appurtenance Forces

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |

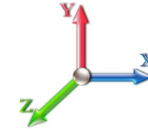


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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations** 23

| 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   | 149.00    | RFS APXV18-209014       | 3   | 12.068   | 13.275     | 0.79      | 1.00 | 8.32            | 56.10          | 0.000          | 0.000         | 110.43       | 0.00          | 0.00          |
| 2   | 149.00    | Lightning Rod           | 1   | 12.127   | 13.340     | 1.00      | 1.00 | 1.05            | 35.00          | 0.000          | 3.500         | 14.01        | 0.00          | 49.02         |
| 3   | 149.00    | RFS BA1010              | 1   | 12.108   | 13.318     | 1.00      | 1.00 | 1.24            | 8.80           | 0.000          | 2.350         | 16.51        | 0.00          | 38.81         |
| 4   | 149.00    | Commscope               | 3   | 12.068   | 13.275     | 0.84      | 1.00 | 28.85           | 149.40         | 0.000          | 0.000         | 383.04       | 0.00          | 0.00          |
| 5   | 149.00    | Standoff Mount          | 1   | 12.068   | 13.275     | 1.00      | 1.00 | 1.80            | 60.00          | 0.000          | 0.000         | 23.89        | 0.00          | 0.00          |
| 6   | 149.00    | RFS                     | 3   | 12.068   | 13.275     | 0.79      | 1.00 | 12.25           | 79.50          | 0.000          | 0.000         | 162.66       | 0.00          | 0.00          |
| 7   | 149.00    | Ericsson KRY 112 489/2  | 3   | 12.068   | 13.275     | 0.60      | 0.90 | 1.01            | 33.00          | 0.000          | 0.000         | 13.45        | 0.00          | 0.00          |
| 8   | 149.00    | Kathrein 782 11056      | 3   | 12.068   | 13.275     | 0.60      | 0.90 | 0.27            | 7.80           | 0.000          | 0.000         | 3.60         | 0.00          | 0.00          |
| 9   | 149.00    | Low Profile Platform    | 1   | 12.068   | 13.275     | 1.00      | 1.00 | 22.00           | 1500.00        | 0.000          | 0.000         | 292.05       | 0.00          | 0.00          |
| 10  | 141.00    | Low Profile Platform    | 1   | 11.930   | 13.123     | 1.00      | 1.00 | 22.00           | 1500.00        | 0.000          | 0.000         | 288.70       | 0.00          | 0.00          |
| 11  | 141.00    | Powerwave 1001983       | 3   | 11.930   | 13.123     | 0.54      | 0.80 | 0.18            | 8.70           | 0.000          | 0.000         | 2.32         | 0.00          | 0.00          |
| 12  | 141.00    | Raycap DC6-48-60-18-8F  | 1   | 11.930   | 13.123     | 0.54      | 0.80 | 1.18            | 32.80          | 0.000          | 0.000         | 15.47        | 0.00          | 0.00          |
| 13  | 141.00    | Powerwave LGP21901      | 6   | 11.930   | 13.123     | 0.54      | 0.80 | 0.74            | 13.20          | 0.000          | 0.000         | 9.71         | 0.00          | 0.00          |
| 14  | 141.00    | Ericsson RRUS-A2        | 3   | 11.930   | 13.123     | 0.54      | 0.80 | 2.52            | 45.00          | 0.000          | 0.000         | 33.13        | 0.00          | 0.00          |
| 15  | 141.00    | Ericsson RRUS-12        | 3   | 11.930   | 13.123     | 0.54      | 0.80 | 5.07            | 150.00         | 0.000          | 0.000         | 66.47        | 0.00          | 0.00          |
| 16  | 141.00    | Ericsson RRUS-11        | 3   | 11.930   | 13.123     | 0.54      | 0.80 | 4.05            | 165.00         | 0.000          | 0.000         | 53.18        | 0.00          | 0.00          |
| 17  | 141.00    | Powerwave LGP21401      | 9   | 11.930   | 13.123     | 0.54      | 0.80 | 5.07            | 126.90         | 0.000          | 0.000         | 66.47        | 0.00          | 0.00          |
| 18  | 141.00    | CCI HPA-65R-BUU-H6      | 3   | 11.930   | 13.123     | 0.66      | 0.80 | 19.24           | 152.10         | 0.000          | 0.000         | 252.52       | 0.00          | 0.00          |
| 19  | 141.00    | Powerwave 7770          | 9   | 11.930   | 13.123     | 0.62      | 0.80 | 30.55           | 315.00         | 0.000          | 0.000         | 400.86       | 0.00          | 0.00          |
| 20  | 141.00    | Powerwave               | 3   | 11.930   | 13.123     | 0.54      | 0.80 | 0.88            | 48.00          | 0.000          | 0.000         | 11.61        | 0.00          | 0.00          |
| 21  | 129.00    | Standoff Mount          | 1   | 11.710   | 12.881     | 1.00      | 1.00 | 1.80            | 60.00          | 0.000          | 0.000         | 23.19        | 0.00          | 0.00          |
| 22  | 129.00    | RFS BA40-01             | 1   | 11.817   | 12.999     | 1.00      | 1.00 | 3.45            | 32.00          | 0.000          | 5.750         | 44.85        | 0.00          | 257.87        |
| 23  | 119.50    | Antel BXA-70063-6CF_2   | 3   | 11.524   | 12.677     | 0.60      | 0.80 | 13.63           | 46.80          | 0.000          | 0.000         | 172.73       | 0.00          | 0.00          |
| 24  | 119.50    | Antel LPA-80080/4CF     | 6   | 11.524   | 12.677     | 0.59      | 0.80 | 19.18           | 72.00          | 0.000          | 0.000         | 243.15       | 0.00          | 0.00          |
| 25  | 119.50    | RFS FD9R6004/2C-3L      | 6   | 11.524   | 12.677     | 0.54      | 0.80 | 1.00            | 18.60          | 0.000          | 0.000         | 12.64        | 0.00          | 0.00          |
| 26  | 119.50    | Antel BXA-171085-12CF-2 | 3   | 11.524   | 12.677     | 0.70      | 0.80 | 10.12           | 45.00          | 0.000          | 0.000         | 128.25       | 0.00          | 0.00          |
| 27  | 119.50    | Low Profile Platform    | 1   | 11.524   | 12.677     | 1.00      | 1.00 | 22.00           | 1500.00        | 0.000          | 0.000         | 278.89       | 0.00          | 0.00          |
| 28  | 93.00     | Single Arm Mount        | 2   | 10.937   | 12.031     | 1.00      | 1.00 | 3.60            | 120.00         | 0.000          | 0.000         | 43.31        | 0.00          | 0.00          |
| 29  | 93.00     | RFS 1142                | 2   | 11.092   | 12.202     | 1.00      | 1.00 | 7.80            | 20.00          | 0.000          | 6.500         | 95.17        | 0.00          | 618.62        |
| 30  | 92.00     | Single Arm Mount        | 1   | 10.913   | 12.004     | 1.00      | 1.00 | 1.80            | 60.00          | 0.000          | 0.000         | 21.61        | 0.00          | 0.00          |
| 31  | 92.00     | Sinclair                | 1   | 11.104   | 12.214     | 1.00      | 1.00 | 4.80            | 18.50          | 0.000          | 8.000         | 58.63        | 0.00          | 469.03        |

**Totals:** 6,479.20

**3,342.48**



## Total Applied Force Summary

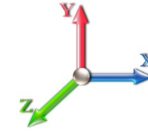
|                                 |                                       |                         |          |
|---------------------------------|---------------------------------------|-------------------------|----------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |          |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |          |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |          |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |          |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II | Page: 30 |



**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations** 23

| Elev<br>(ft)   | Description      | Lateral<br>FX (-)<br>(lb) | Axial<br>FY (-)<br>(lb) | Torsion<br>MY<br>(lb-ft) | Moment<br>MZ<br>(lb-ft) |
|----------------|------------------|---------------------------|-------------------------|--------------------------|-------------------------|
| 0.00           |                  | 0.00                      | 0.00                    | 0.00                     | 0.00                    |
| 5.00           |                  | 124.45                    | 1022.09                 | 0.00                     | 0.00                    |
| 10.00          |                  | 121.58                    | 1142.26                 | 0.00                     | 0.00                    |
| 15.00          |                  | 120.17                    | 1120.72                 | 0.00                     | 0.00                    |
| 20.00          |                  | 124.17                    | 1099.17                 | 0.00                     | 0.00                    |
| 25.00          |                  | 126.66                    | 1077.63                 | 0.00                     | 0.00                    |
| 30.00          |                  | 128.09                    | 1056.09                 | 0.00                     | 0.00                    |
| 35.00          |                  | 128.74                    | 1034.54                 | 0.00                     | 0.00                    |
| 40.00          |                  | 128.76                    | 1013.00                 | 0.00                     | 0.00                    |
| 45.00          |                  | 128.29                    | 991.46                  | 0.00                     | 0.00                    |
| 47.75          |                  | 69.86                     | 536.12                  | 0.00                     | 0.00                    |
| 50.00          |                  | 57.68                     | 766.04                  | 0.00                     | 0.00                    |
| 53.25          |                  | 83.07                     | 1091.10                 | 0.00                     | 0.00                    |
| 55.00          |                  | 44.37                     | 333.17                  | 0.00                     | 0.00                    |
| 60.00          |                  | 126.46                    | 937.37                  | 0.00                     | 0.00                    |
| 65.00          |                  | 124.65                    | 915.83                  | 0.00                     | 0.00                    |
| 70.00          |                  | 122.60                    | 894.28                  | 0.00                     | 0.00                    |
| 75.00          |                  | 120.33                    | 872.74                  | 0.00                     | 0.00                    |
| 80.00          |                  | 117.86                    | 851.19                  | 0.00                     | 0.00                    |
| 85.00          |                  | 115.21                    | 829.65                  | 0.00                     | 0.00                    |
| 90.00          |                  | 112.40                    | 808.11                  | 0.00                     | 0.00                    |
| 92.00          | (2) attachments  | 124.22                    | 395.71                  | 0.00                     | 469.03                  |
| 93.00          | (4) attachments  | 160.27                    | 296.79                  | 0.00                     | 618.62                  |
| 95.00          |                  | 43.26                     | 308.92                  | 0.00                     | 0.00                    |
| 97.25          |                  | 48.09                     | 343.41                  | 0.00                     | 0.00                    |
| 100.00         |                  | 58.87                     | 648.53                  | 0.00                     | 0.00                    |
| 101.25         |                  | 26.40                     | 290.91                  | 0.00                     | 0.00                    |
| 105.00         |                  | 78.17                     | 479.74                  | 0.00                     | 0.00                    |
| 110.00         |                  | 101.41                    | 624.58                  | 0.00                     | 0.00                    |
| 115.00         |                  | 97.94                     | 607.34                  | 0.00                     | 0.00                    |
| 119.50         | (19) attachments | 920.71                    | 2214.27                 | 0.00                     | 0.00                    |
| 120.00         |                  | 9.24                      | 52.00                   | 0.00                     | 0.00                    |
| 125.00         |                  | 90.68                     | 510.47                  | 0.00                     | 0.00                    |
| 129.00         | (2) attachments  | 137.80                    | 487.97                  | 0.00                     | 257.87                  |
| 130.00         |                  | 17.02                     | 80.86                   | 0.00                     | 0.00                    |
| 135.00         |                  | 83.02                     | 396.53                  | 0.00                     | 0.00                    |
| 140.00         |                  | 79.05                     | 383.61                  | 0.00                     | 0.00                    |
| 141.00         | (44) attachments | 1215.71                   | 2631.87                 | 0.00                     | 0.00                    |
| 145.00         |                  | 59.63                     | 241.75                  | 0.00                     | 0.00                    |
| 149.00         | (19) attachments | 1076.62                   | 2163.08                 | 0.00                     | 87.83                   |
| <b>Totals:</b> |                  | <b>6,653.51</b>           | <b>31,550.90</b>        | <b>0.00</b>              | <b>1,433.35</b>         |



## Linear Appurtenance Segment Forces (Factored)

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |

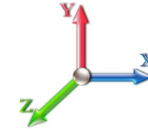


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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations** 23

| 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) |
|----------------|-------------|--------------|-------------|-------|--------------------|-------------|-------------|-------|------------------|----------|------------|----------------|
| 95.00          | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.09        | 0.00        | 0.017 | 0.000            | 10.986   | 0.00       | 0.00           |
| 97.25          | 7/8" Coax   | Yes          | 2.25        | 0.000 | 1.11               | 0.21        | 0.00        | 0.034 | 0.000            | 11.040   | 0.00       | 0.00           |
| 100.00         | 7/8" Coax   | Yes          | 2.75        | 0.000 | 1.11               | 0.25        | 0.00        | 0.035 | 0.000            | 11.104   | 0.00       | 0.00           |
| 101.25         | 7/8" Coax   | Yes          | 1.25        | 0.000 | 1.11               | 0.12        | 0.00        | 0.035 | 0.000            | 11.133   | 0.00       | 0.00           |
| 105.00         | 7/8" Coax   | Yes          | 3.75        | 0.000 | 1.11               | 0.35        | 0.00        | 0.036 | 0.000            | 11.218   | 0.00       | 0.00           |
| 110.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.037 | 0.000            | 11.327   | 0.00       | 0.00           |
| 115.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.039 | 0.000            | 11.432   | 0.00       | 0.00           |
| 119.50         | 7/8" Coax   | Yes          | 4.50        | 0.000 | 1.11               | 0.42        | 0.00        | 0.040 | 0.000            | 11.524   | 0.00       | 0.00           |
| 120.00         | 7/8" Coax   | Yes          | 0.50        | 0.000 | 1.11               | 0.05        | 0.00        | 0.041 | 0.000            | 11.534   | 0.00       | 0.00           |
| 125.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.042 | 0.000            | 11.633   | 0.00       | 0.00           |
| 129.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 0.37        | 0.00        | 0.044 | 0.000            | 11.710   | 0.00       | 0.00           |
| 130.00         | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.09        | 0.00        | 0.046 | 0.000            | 11.729   | 0.00       | 0.00           |
| 135.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.047 | 0.000            | 11.822   | 0.00       | 0.00           |
| 140.00         | 7/8" Coax   | Yes          | 5.00        | 0.000 | 1.11               | 0.46        | 0.00        | 0.050 | 0.000            | 11.912   | 0.00       | 0.00           |
| 141.00         | 7/8" Coax   | Yes          | 1.00        | 0.000 | 1.11               | 0.09        | 0.00        | 0.052 | 0.000            | 11.930   | 0.00       | 0.00           |
| 145.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 0.37        | 0.00        | 0.053 | 0.000            | 12.000   | 0.00       | 0.00           |
| 149.00         | 7/8" Coax   | Yes          | 4.00        | 0.000 | 1.11               | 0.37        | 0.00        | 0.056 | 0.000            | 12.068   | 0.00       | 0.00           |
| <b>Totals:</b> |             |              |             |       |                    |             |             |       |                  |          | <b>0.0</b> | <b>0.0</b>     |



## Calculated Forces

**Structure:** CT13061-A-SBA

**Code:** EIA/TIA-222-G

9/15/2016

**Site Name:** New Fairfield

**Exposure:** C

**Height:** 149.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 1.000 (ft)

**Site Class:** B - Competent Rock

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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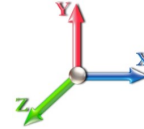


**Load Case:** 1.0D + 1.0W 60 mph Wind

**Iterations** 23

**Dead Load Factor** 1.00

**Wind Load 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          | -31.55           | -6.67            | 0.00                | -708.53         | 0.00            | 708.53                     | 3273.57       | 1636.79       | 7496.53          | 3753.83          | 0.00               | 0.000               | 0.000                | 0.198        |
| 5.00          | -30.52           | -6.57            | 0.00                | -675.20         | 0.00            | 675.20                     | 3239.51       | 1619.75       | 7247.24          | 3629.01          | 0.02               | -0.046              | 0.000                | 0.195        |
| 10.00         | -29.37           | -6.47            | 0.00                | -642.38         | 0.00            | 642.38                     | 3203.51       | 1601.76       | 6997.34          | 3503.87          | 0.10               | -0.092              | 0.000                | 0.193        |
| 15.00         | -28.25           | -6.37            | 0.00                | -610.05         | 0.00            | 610.05                     | 3165.58       | 1582.79       | 6747.13          | 3378.58          | 0.22               | -0.140              | 0.000                | 0.190        |
| 20.00         | -27.14           | -6.26            | 0.00                | -578.21         | 0.00            | 578.21                     | 3125.72       | 1562.86       | 6496.92          | 3253.29          | 0.39               | -0.188              | 0.000                | 0.186        |
| 25.00         | -26.06           | -6.16            | 0.00                | -546.89         | 0.00            | 546.89                     | 3083.93       | 1541.97       | 6247.01          | 3128.15          | 0.62               | -0.238              | 0.000                | 0.183        |
| 30.00         | -25.00           | -6.04            | 0.00                | -516.12         | 0.00            | 516.12                     | 3040.21       | 1520.10       | 5997.71          | 3003.31          | 0.89               | -0.289              | 0.000                | 0.180        |
| 35.00         | -23.96           | -5.93            | 0.00                | -485.89         | 0.00            | 485.89                     | 2994.56       | 1497.28       | 5749.33          | 2878.94          | 1.22               | -0.340              | 0.000                | 0.177        |
| 40.00         | -22.94           | -5.82            | 0.00                | -456.23         | 0.00            | 456.23                     | 2946.97       | 1473.49       | 5502.17          | 2755.17          | 1.61               | -0.393              | 0.000                | 0.173        |
| 45.00         | -21.95           | -5.70            | 0.00                | -427.14         | 0.00            | 427.14                     | 2897.46       | 1448.73       | 5256.53          | 2632.17          | 2.05               | -0.446              | 0.000                | 0.170        |
| 47.75         | -21.41           | -5.64            | 0.00                | -411.47         | 0.00            | 411.47                     | 2869.40       | 1434.70       | 5122.20          | 2564.91          | 2.31               | -0.477              | 0.000                | 0.168        |
| 50.00         | -20.64           | -5.58            | 0.00                | -398.79         | 0.00            | 398.79                     | 2846.01       | 1423.00       | 5012.74          | 2510.09          | 2.55               | -0.502              | 0.000                | 0.166        |
| 53.25         | -19.55           | -5.50            | 0.00                | -380.65         | 0.00            | 380.65                     | 2837.57       | 1418.79       | 4973.81          | 2490.60          | 2.90               | -0.539              | 0.000                | 0.160        |
| 55.00         | -19.21           | -5.46            | 0.00                | -371.03         | 0.00            | 371.03                     | 2819.00       | 1409.50       | 4889.10          | 2448.18          | 3.10               | -0.559              | 0.000                | 0.158        |
| 60.00         | -18.27           | -5.34            | 0.00                | -343.71         | 0.00            | 343.71                     | 2764.64       | 1382.32       | 4648.65          | 2327.78          | 3.72               | -0.613              | 0.000                | 0.154        |
| 65.00         | -17.35           | -5.23            | 0.00                | -316.99         | 0.00            | 316.99                     | 2708.35       | 1354.17       | 4410.81          | 2208.68          | 4.39               | -0.668              | 0.000                | 0.150        |
| 70.00         | -16.45           | -5.11            | 0.00                | -290.85         | 0.00            | 290.85                     | 2650.12       | 1325.06       | 4175.87          | 2091.04          | 5.12               | -0.723              | 0.000                | 0.145        |
| 75.00         | -15.58           | -4.99            | 0.00                | -265.31         | 0.00            | 265.31                     | 2589.96       | 1294.98       | 3944.16          | 1975.01          | 5.90               | -0.779              | 0.000                | 0.140        |
| 80.00         | -14.72           | -4.88            | 0.00                | -240.34         | 0.00            | 240.34                     | 2527.88       | 1263.94       | 3715.96          | 1860.74          | 6.75               | -0.835              | 0.000                | 0.135        |
| 85.00         | -13.89           | -4.76            | 0.00                | -215.96         | 0.00            | 215.96                     | 2463.86       | 1231.93       | 3491.60          | 1748.39          | 7.66               | -0.892              | 0.000                | 0.129        |
| 90.00         | -13.08           | -4.65            | 0.00                | -192.14         | 0.00            | 192.14                     | 2397.91       | 1198.95       | 3271.37          | 1638.12          | 8.62               | -0.948              | 0.000                | 0.123        |
| 92.00         | -12.69           | -4.52            | 0.00                | -182.38         | 0.00            | 182.38                     | 2370.99       | 1185.49       | 3184.51          | 1594.62          | 9.02               | -0.971              | 0.000                | 0.120        |
| 93.00         | -12.39           | -4.36            | 0.00                | -177.24         | 0.00            | 177.24                     | 2357.41       | 1178.70       | 3141.35          | 1573.01          | 9.23               | -0.983              | 0.000                | 0.118        |
| 95.00         | -12.08           | -4.32            | 0.00                | -168.52         | 0.00            | 168.52                     | 2330.03       | 1165.01       | 3055.58          | 1530.06          | 9.64               | -1.006              | 0.000                | 0.115        |
| 97.25         | -11.74           | -4.27            | 0.00                | -158.81         | 0.00            | 158.81                     | 2298.85       | 1149.42       | 2960.01          | 1482.20          | 10.12              | -1.031              | 0.000                | 0.112        |
| 100.00        | -11.09           | -4.20            | 0.00                | -147.08         | 0.00            | 147.08                     | 2260.21       | 1130.11       | 2844.54          | 1424.39          | 10.73              | -1.062              | 0.000                | 0.108        |
| 101.25        | -10.80           | -4.17            | 0.00                | -141.83         | 0.00            | 141.83                     | 1705.50       | 852.75        | 2167.94          | 1085.58          | 11.01              | -1.076              | 0.000                | 0.137        |
| 105.00        | -10.31           | -4.10            | 0.00                | -126.18         | 0.00            | 126.18                     | 1669.73       | 834.87        | 2056.27          | 1029.66          | 11.87              | -1.117              | 0.000                | 0.129        |
| 110.00        | -9.69            | -3.99            | 0.00                | -105.70         | 0.00            | 105.70                     | 1620.35       | 810.17        | 1909.79          | 956.31           | 13.07              | -1.178              | 0.000                | 0.117        |
| 115.00        | -9.08            | -3.89            | 0.00                | -85.74          | 0.00            | 85.74                      | 1569.04       | 784.52        | 1766.36          | 884.49           | 14.34              | -1.235              | 0.000                | 0.103        |
| 119.50        | -6.88            | -2.92            | 0.00                | -68.24          | 0.00            | 68.24                      | 1521.21       | 760.60        | 1640.13          | 821.29           | 15.53              | -1.283              | 0.000                | 0.088        |
| 120.00        | -6.83            | -2.92            | 0.00                | -66.77          | 0.00            | 66.77                      | 1515.79       | 757.90        | 1626.29          | 814.35           | 15.66              | -1.288              | 0.000                | 0.087        |
| 125.00        | -6.32            | -2.82            | 0.00                | -52.19          | 0.00            | 52.19                      | 1460.62       | 730.31        | 1489.87          | 746.04           | 17.04              | -1.336              | 0.000                | 0.074        |
| 129.00        | -5.84            | -2.67            | 0.00                | -40.66          | 0.00            | 40.66                      | 1406.38       | 703.19        | 1375.06          | 688.55           | 18.17              | -1.370              | 0.000                | 0.063        |
| 129.00        | -5.84            | -2.67            | 0.00                | -40.66          | 0.00            | 40.66                      | 978.70        | 489.35        | 961.93           | 481.68           | 18.17              | -1.370              | 0.000                | 0.090        |
| 130.00        | -5.75            | -2.66            | 0.00                | -37.99          | 0.00            | 37.99                      | 971.83        | 485.92        | 944.91           | 473.15           | 18.46              | -1.378              | 0.000                | 0.086        |
| 135.00        | -5.36            | -2.57            | 0.00                | -24.71          | 0.00            | 24.71                      | 936.33        | 468.17        | 860.89           | 431.08           | 19.93              | -1.423              | 0.000                | 0.063        |
| 140.00        | -4.98            | -2.48            | 0.00                | -11.88          | 0.00            | 11.88                      | 898.90        | 449.45        | 778.95           | 390.05           | 21.44              | -1.454              | 0.000                | 0.036        |
| 141.00        | -2.37            | -1.20            | 0.00                | -9.40           | 0.00            | 9.40                       | 891.19        | 445.59        | 762.84           | 381.99           | 21.74              | -1.458              | 0.000                | 0.027        |
| 145.00        | -2.13            | -1.13            | 0.00                | -4.61           | 0.00            | 4.61                       | 859.54        | 429.77        | 699.40           | 350.22           | 22.97              | -1.470              | 0.000                | 0.016        |
| 149.00        | 0.00             | -1.08            | 0.00                | -0.09           | 0.00            | 0.09                       | 826.66        | 413.33        | 637.68           | 319.32           | 24.20              | -1.474              | 0.000                | 0.000        |



## Final Analysis Summary

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SBA | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |



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### Reactions

| Load Case                        | Shear<br>FX<br>(kips) | Shear<br>FZ<br>(kips) | Axial<br>FY<br>(kips) | Moment<br>MX<br>(ft-kips) | Moment<br>MY<br>(ft-kips) | Moment<br>MZ<br>(ft-kips) |
|----------------------------------|-----------------------|-----------------------|-----------------------|---------------------------|---------------------------|---------------------------|
| 1.2D + 1.6W 89 mph Wind          | 23.5                  | 0.00                  | 37.83                 | 0.00                      | 0.00                      | 2509.39                   |
| 0.9D + 1.6W 89 mph Wind          | 23.5                  | 0.00                  | 28.36                 | 0.00                      | 0.00                      | 2483.50                   |
| 1.2D + 1.0Di + 1.0Wi 50 mph Wind | 8.4                   | 0.00                  | 57.31                 | 0.00                      | 0.00                      | 889.14                    |
| 1.2D + 1.0E                      | 1.1                   | 0.00                  | 37.86                 | 0.00                      | 0.00                      | 126.00                    |
| 0.9D + 1.0E                      | 1.1                   | 0.00                  | 28.40                 | 0.00                      | 0.00                      | 124.58                    |
| 1.0D + 1.0W 60 mph Wind          | 6.7                   | 0.00                  | 31.55                 | 0.00                      | 0.00                      | 708.53                    |

### Max Stresses

| Load Case                        | Pu<br>FY (-)<br>(kips) | Vu<br>FX (-)<br>(kips) | Tu<br>MY (-)<br>(ft-kips) | Mu<br>MZ<br>(ft-kips) | Mu<br>MX<br>(ft-kips) | Resultant<br>Moment<br>(ft-kips) | phi<br>Pn<br>(kips) | phi<br>Vn<br>(kips) | phi<br>Tn<br>(ft-kips) | phi<br>Mn<br>(ft-kips) | Elev<br>(ft) | Stress<br>Ratio |
|----------------------------------|------------------------|------------------------|---------------------------|-----------------------|-----------------------|----------------------------------|---------------------|---------------------|------------------------|------------------------|--------------|-----------------|
| 1.2D + 1.6W 89 mph Wind          | -37.83                 | -23.48                 | 0.00                      | -2509.3               | 0.00                  | -2509.3                          | 3273.57             | 1636.7              | 7496.53                | 3753.83                | 0.00         | 0.680           |
| 0.9D + 1.6W 89 mph Wind          | -28.36                 | -23.46                 | 0.00                      | -2483.5               | 0.00                  | -2483.5                          | 3273.57             | 1636.7              | 7496.53                | 3753.83                | 0.00         | 0.670           |
| 1.2D + 1.0Di + 1.0Wi 50 mph Wind | -57.31                 | -8.40                  | 0.00                      | -889.14               | 0.00                  | -889.14                          | 3273.57             | 1636.7              | 7496.53                | 3753.83                | 0.00         | 0.254           |
| 1.2D + 1.0E                      | -37.86                 | -1.07                  | 0.00                      | -126.00               | 0.00                  | -126.00                          | 3273.57             | 1636.7              | 7496.53                | 3753.83                | 0.00         | 0.045           |
| 0.9D + 1.0E                      | -28.40                 | -1.07                  | 0.00                      | -124.58               | 0.00                  | -124.58                          | 3273.57             | 1636.7              | 7496.53                | 3753.83                | 0.00         | 0.042           |
| 1.0D + 1.0W 60 mph Wind          | -31.55                 | -6.67                  | 0.00                      | -708.53               | 0.00                  | -708.53                          | 3273.57             | 1636.7              | 7496.53                | 3753.83                | 0.00         | 0.198           |




## Base Plate Summary

|                                 |                                       |                         |
|---------------------------------|---------------------------------------|-------------------------|
| <b>Structure:</b> CT13061-A-SB  | <b>Code:</b> EIA/TIA-222-G            | 9/15/2016               |
| <b>Site Name:</b> New Fairfield | <b>Exposure:</b> C                    |                         |
| <b>Height:</b> 149.00 (ft)      | <b>Crest Height:</b> 0.00             |                         |
| <b>Base Elev:</b> 1.000 (ft)    | <b>Site Class:</b> B - Competent Rock |                         |
| <b>Gh:</b> 1.1                  | <b>Topography:</b> 1                  | <b>Struct Class:</b> II |
|                                 |                                       | Page: 34                |



| Reactions               |         | Base Plate                   |         | Anchor Bolts               |           |
|-------------------------|---------|------------------------------|---------|----------------------------|-----------|
| Original Design         |         | <b>Yield (ksi):</b>          | 60.00   | <b>Bolt Circle:</b>        | 62.25     |
| <b>Moment (kip-ft):</b> | 3340.00 | <b>Width (in):</b>           | 59.75   | <b>Number Bolts:</b>       | 12.00     |
| <b>Axial (kip):</b>     | 43.90   | <b>Style:</b>                | Clipped | <b>Bolt Type:</b>          | 2.25" 18J |
| <b>Shear (kip):</b>     | 29.90   | <b>Polygon Sides:</b>        | 0.00    | <b>Bolt Diameter (in):</b> | 2.25      |
| Analysis                |         | <b>Clip Length (in):</b>     | 11.00   | <b>Yield (ksi):</b>        | 75.00     |
| <b>Moment (kip-ft):</b> | 2509.39 | <b>Effective Len (in):</b>   | 10.85   | <b>Ultimate (ksi):</b>     | 100.00    |
| <b>Axial (kip):</b>     | 57.31   | <b>Moment (kip-in):</b>      | 525.46  | <b>Arrangement:</b>        | Clustered |
| <b>Shear (kip):</b>     | 23.48   | <b>Allow Stress (ksi):</b>   | 81.00   | <b>Cluster Dist (in):</b>  | 6.00      |
|                         |         | <b>Applied Stress (ksi):</b> | 0.00    | <b>Start Angle (deg):</b>  | 45.00     |
| <b>Moment Design %:</b> | 75.13   | <b>Stress Ratio:</b>         | 0.47    | Compression                |           |
|                         |         |                              |         | <b>Force (kip):</b>        | 166.02    |
|                         |         |                              |         | <b>Allowable (kip):</b>    | 260.00    |
|                         |         |                              |         | <b>Ratio:</b>              | 0.65      |
|                         |         |                              |         | Tension                    |           |
|                         |         |                              |         | <b>Force (kip):</b>        | 156.47    |
|                         |         |                              |         | <b>Allowable (kip):</b>    | 260.00    |
|                         |         |                              |         | <b>Ratio:</b>              | 0.62      |



|   |                                       |               |                         |           |
|---|---------------------------------------|---------------|-------------------------|-----------|
|  | <b>Monopole Mat Foundation Design</b> |               | Date                    |           |
|   |                                       |               | 9/15/2016               |           |
|   | Customer Name:                        | AT&T          | EIA/TIA Standard:       | EIA-222-G |
|   | Site Name:                            | New Fairfield | Structure Height (Ft.): | 149       |
|   | Site Number:                          | CT13061-A-SBA | Engineer Name:          | W. Velez  |
|   | Engr. Number:                         | 26027         | Engineer Login ID:      |           |

#### Foundation Info Obtained from:

#### Structure Type:

#### Analysis or Design?

#### Base Reactions (Factored):

|                      |      |                     |        |
|----------------------|------|---------------------|--------|
| Axial Load (Kips):   | 37.8 | Shear Force (Kips): | 23.5   |
| Uplift Force (Kips): | 0.0  | Moment (Kips-ft):   | 2509.2 |

Allowable overstress %: 5.0%

#### Foundation Geometries:

|                          |      |                          |      |
|--------------------------|------|--------------------------|------|
|                          |      | Mods required -Yes/No ?: | No   |
| Diameter of Pier (ft.):  | 7.0  | Depth of Base BG (ft.):  | 5.5  |
| Pier Height A. G. (ft.): | 1.00 | Thickness of Pad (ft):   | 2.00 |
| Length of Pad (ft.):     | 21.5 | Width of Pad (ft.):      | 21.5 |

|                             |      |                             |      |
|-----------------------------|------|-----------------------------|------|
| Final Length of pad (ft)    | 21.5 | Final width of pad (ft):    | 21.5 |
| Control Value for Cell D18: | 0    | Control Value for Cell F18: | 0    |

#### Material Properties and Rebar Info:

|                          |      |                           |       |     |
|--------------------------|------|---------------------------|-------|-----|
| Concrete Strength (psi): | 4000 | Steel Elastic Modulus:    | 29000 | ksi |
| Vertical bar yield (ksi) | 60   | Tie steel yield (ksi):    | 60    |     |
| Vertical Rebar Size #:   | 8    | Tie / Stirrup Size #:     | 4     |     |
| Qty. of Vertical Rebars: | 36   | Tie Spacing (in):         | 12.0  |     |
| 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): | 22 | Qty. of Rebar in Pad (W): | 22 |
|---------------------------|----|---------------------------|----|

Rebar at the top of the concrete pad:

|                           |    |                           |    |
|---------------------------|----|---------------------------|----|
| Qty. of Rebar in Pad (L): | 22 | Qty. of Rebar in Pad (W): | 22 |
|---------------------------|----|---------------------------|----|

Apply 1.35 factor for e/w Per G: 1.35

#### Soil Design Parameters:

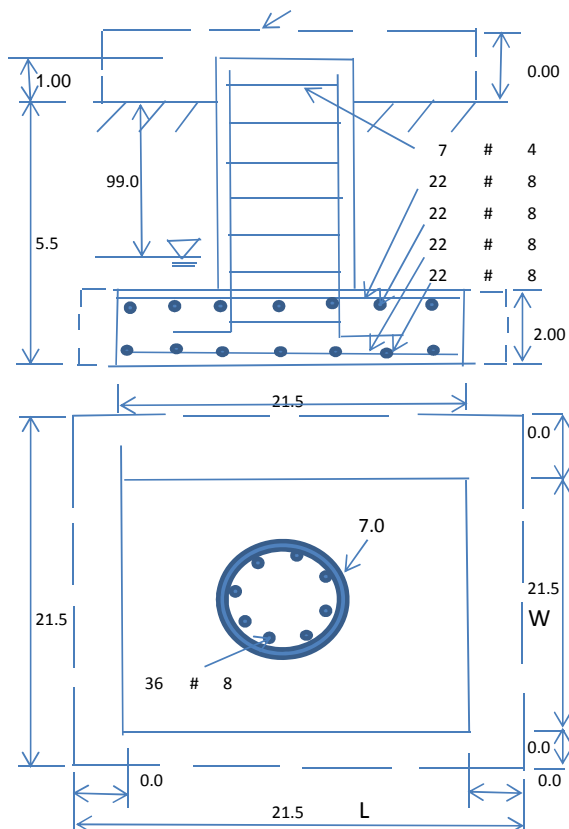
|                                      |       |  |      |     |
|--------------------------------------|-------|--|------|-----|
| Soil Unit Weight (pcf):              | 120.0 | Soil Buoyant Weight:                                   | 57.6 | Pcf |
| Water Table B.G.S. (ft):             | 99.0  | Unit Weight of Water:                                  | 62.4 | pcf |
| Ultimate Bearing Pressure (psf):     | 24000 | Ultimate Skin Friction:                                | 0    | Psf |
| Consider Friction for O.T.M. (Y/N):  | No    | Consider Friction for bearing (Y/N):                   | No   |     |
| Consider soil hor. resist. for OTM.: | Yes   | Reduction factor on the maximum soil bearing pressure: | 1.00 |     |
|                                      |       | Angle from Top of Pad:                                 | 30   |     |
|                                      |       | Angle from Botm of Pad:                                | 25   |     |
|                                      |       | Angle from Botm of Pad:                                | 25   |     |

#### Foundation Analysis and Design:

|  |         |  |        |
|--|---------|--|--------|
| Uplift Strength Reduction Factor:        | 0.75    | Compression Strength Reduction Factor:     | 0.75   |
| Total Dry Soil Volume (cu. Ft.):         | 1483.18 | Total Dry Soil Weight (Kips):              | 177.98 |
| Total Buoyant Soil Volume (cu. Ft.):     | 0.00    | Total Buoyant Soil Weight (Kips):          | 0.00   |
| Total Effective Soil Weight (Kips):      | 177.98  | Weight from the Concrete Block at Top (K): | 0.00   |
| Total Dry Concrete Volume (cu. Ft.):     | 1097.68 | Total Dry Concrete Weight (Kips):          | 164.65 |
| Total Buoyant Concrete Volume (cu. Ft.): | 0.00    | Total Buoyant Concrete Weight (Kips):      | 0.00   |
| Total Effective Concrete Weight (Kips):  | 164.65  | Total Vertical Load on Base (Kips):        | 380.46 |

#### Check Soil Capacities:

|  |        |     |  |       |      |     |
|--|--------|-----|--|-------|------|-----|
| Calculated Maxium Net Soil Pressure under the base (psf):          | 2968   | <   | Allowable Factored Soil Bearing (psf): | 18000 | 0.16 | OK! |
| Allowable Foundation Overturning Resistance (kips-ft.):            | 3721.7 | >   | Design Factored Momont (kips-ft):      | 2578  | 0.69 | OK! |
| Factor of Safety Against Overturning (O. R. Moment/Design Moment): | 1.44   | OK! |  |       |      |     |





**Check the capacities of Reinforcing Concrete:**

Strength reduction factor (Flexure and axial tension):

0.90

Strength reduction factor (Shear):

0.75

Strength reduction factor (Axial compression):

0.65

Wind Load Factor on Concrete Design:

1.00

Capacity  
Ratio**(1) Concrete Pier:**

Vertical Steel Rebar Area (sq. in./each):

0.79

Tie / Stirrup Area (sq. in./each):

0.20

Calculated Moment Capacity (Mn,Kips-Ft):

4845.7

&gt;

Design Factored Moment (Mu, Kips-Ft)

2615.0

0.54

OK!

Calculated Shear Capacity (Kips):

660.1

&gt;

Design Factored Shear (Kips):

23.5

0.04

OK!

Calculated Tension Capacity (Tn, Kips):

1535.8

&gt;

Design Factored Tension (Tu Kips):

0.0

0.00

OK!

Calculated Compression Capacity (Pn, Kips):

9747.6

&gt;

Design Factored Axial Load (Pu Kips):

37.8

0.00

OK!

Moment &amp; Axial Strength Combination:

0.54

OK!

Check Tie Spacing (Design/Required):

1

OK!

Pier Reinforcement Ratio:

0.005

&gt;

Reinforcement Ratio is satisfied per ACI

**(2).Concrete Pad:**

One-Way Design Shear Capacity (L-Direction, Kips):

501.8

&gt;

One-Way Factored Shear (L-D. Kips):

178.3

0.36

OK!

One-Way Design Shear Capacity (W-Direction, Kips):

501.8

&gt;

One-Way Factored Shear (W-D., Kips)

178.3

0.36

OK!

One-Way Design Shear Capacity (Corner-Corner. Kips):

546.2

&gt;

One-Way Factored Shear (C-C, Kips):

184.9

0.34

OK!

Lower Steel Pad Reinforcement Ratio (L-Direct. ):

0.0033

OK!

Lower Steel Pad Reinf. Ratio (W-Direct

0.0033

Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):

1556.8

&gt;

Moment at Bottom ( L-Direct. K-Ft):

494.0

0.32

OK!

Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):

1556.8

&gt;

Moment at Bottom ( W-Direct. K-Ft):

494.0

0.32

OK!

Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):

2182.0

&gt;

Moment at Bottom ( C-C Dir. K-Ft):

698.7

0.32

OK!

Upper Steel Pad Reinforcement Ratio (L-Direct. ):

0.0033

OK!

Upper Steel Reinf. Ratio (W-Direct. ):

0.0033

Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):

1556.8

&gt;

Moment at the top (L-Dir Kips-Ft):

67.1

0.04

OK!

Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):

1556.8

&gt;

Moment at the top (W-Dir Kips-Ft):

67.1

0.04

OK!

Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):

2182.0

&gt;

Moment at the top (C-C Direc. K-Ft):

266.5

0.12

OK!





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

AT&T Existing Facility

Site ID: CT2006

New Fairfield  
29 Bogus Hill Road  
New Fairfield, CT 06812

**September 20, 2016**

**EBI Project Number: 6216004153**

| Site Compliance Summary                                      |                  |
|--|------------------|
| Compliance Status:   | <b>COMPLIANT</b> |
| Site total MPE% of<br>FCC general public<br>allowable limit: | <b>7.11 %</b>    |





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September 20, 2016

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

## Emissions Analysis for Site: **CT2006 – New Fairfield**

EBI Consulting was directed to analyze the proposed AT&T facility located at **29 Bogus Hill Road, New Fairfield, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

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





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

Additional details can be found in FCC OET 65.

## CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **29 Bogus Hill Road, New Fairfield, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 UMTS channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 5) 2 GSM channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.





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- 6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 7) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antennas used in this modeling are the **Powerwave 7770** and the **CCI HPA-65R-BUU-H6** for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 9) The antenna mounting height centerlines of the proposed antennas are **142 feet** above ground level (AGL) for **Sector A**, **142 feet** above ground level (AGL) for **Sector B** and **142 feet** above ground level (AGL) for Sector C.
- 10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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





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## AT&T Site Inventory and Power Data by Antenna

|                    |                          |                    |                          |                    |                          |
|--------------------|--------------------------|--------------------|--------------------------|--------------------|--------------------------|
| Sector:            | A                        | Sector:            | B                        | Sector:            | C                        |
| Antenna #:         | 1                        | Antenna #:         | 1                        | Antenna #:         | 1                        |
| Make / Model:      | Powerwave 7770           | Make / Model:      | Powerwave 7770           | Make / Model:      | Powerwave 7770           |
| Gain:              | 11.4 / 13.4 dBd          | Gain:              | 11.4 / 13.4 dBd          | Gain:              | 11.4 / 13.4 dBd          |
| Height (AGL):      | 142 feet                 | Height (AGL):      | 142 feet                 | Height (AGL):      | 142 feet                 |
| Frequency Bands    | 850 MHz / 1900 MHz (PCS) | Frequency Bands    | 850 MHz / 1900 MHz (PCS) | Frequency Bands    | 850 MHz / 1900 MHz (PCS) |
| Channel Count      | 4                        | Channel Count      | 4                        | Channel Count      | 4                        |
| Total TX Power(W): | 120 Watts                | Total TX Power(W): | 120 Watts                | Total TX Power(W): | 120 Watts                |
| ERP (W):           | 2,140.89                 | ERP (W):           | 2,140.89                 | ERP (W):           | 2,140.89                 |
| Antenna A1 MPE%    | 0.54 %                   | Antenna B1 MPE%    | 0.54 %                   | Antenna C1 MPE%    | 0.54 %                   |
| Antenna #:         | 2                        | Antenna #:         | 2                        | Antenna #:         | 2                        |
| Make / Model:      | CCI HPA-65R-BUU-H6       | Make / Model:      | CCI HPA-65R-BUU-H6       | Make / Model:      | CCI HPA-65R-BUU-H6       |
| Gain:              | 11.95 / 14.75 dBd        | Gain:              | 11.95 / 14.75 dBd        | Gain:              | 11.95 / 14.75 dBd        |
| Height (AGL):      | 142 feet                 | Height (AGL):      | 142 feet                 | Height (AGL):      | 142 feet                 |
| Frequency Bands    | 700 MHz / 1900 MHz (PCS) | Frequency Bands    | 700 MHz / 1900 MHz (PCS) | Frequency Bands    | 700 MHz / 1900 MHz (PCS) |
| Channel Count      | 4                        | Channel Count      | 4                        | Channel Count      | 4                        |
| Total TX Power(W): | 240 Watts                | Total TX Power(W): | 240 Watts                | Total TX Power(W): | 240 Watts                |
| ERP (W):           | 5,462.56                 | ERP (W):           | 5,462.56                 | ERP (W):           | 5,462.56                 |
| Antenna A2 MPE%    | 1.48 %                   | Antenna B2 MPE%    | 1.48 %                   | Antenna C2 MPE%    | 1.48 %                   |
| Antenna #:         | 3                        | Antenna #:         | 3                        | Antenna #:         | 3                        |
| Make / Model:      | Powerwave 7770           | Make / Model:      | Powerwave 7770           | Make / Model:      | Powerwave 7770           |
| Gain:              | 11.4 dBd                 | Gain:              | 11.4 dBd                 | Gain:              | 11.4 dBd                 |
| Height (AGL):      | 142 feet                 | Height (AGL):      | 142 feet                 | Height (AGL):      | 142 feet                 |
| Frequency Bands    | 850 MHz                  | Frequency Bands    | 850 MHz                  | Frequency Bands    | 850 MHz                  |
| Channel Count      | 2                        | Channel Count      | 2                        | Channel Count      | 2                        |
| Total TX Power(W): | 60 Watts                 | Total TX Power(W): | 60 Watts                 | Total TX Power(W): | 60 Watts                 |
| ERP (W):           | 828.23                   | ERP (W):           | 828.23                   | ERP (W):           | 828.23                   |
| Antenna A3 MPE%    | 0.28 %                   | Antenna B3 MPE%    | 0.28 %                   | Antenna C3 MPE%    | 0.28 %                   |

| Site Composite MPE%   |        |
|-----------------------|--------|
| Carrier               | MPE%   |
| AT&T – Max per sector | 2.30 % |
| CL&P                  | 0.51 % |
| Verizon Wireless      | 2.43 % |
| T-Mobile              | 1.87 % |
| Site Total MPE %:     | 7.11 % |

|                      |        |
|----------------------|--------|
| AT&T Sector A Total: | 2.30 % |
| AT&T Sector B Total: | 2.30 % |
| AT&T Sector C Total: | 2.30 % |
| Site Total:          | 7.11 % |

| AT&T_Frequency Band / Technology | # Channels | Watts ERP (Per Channel) | Height (feet) | Total Power Density ( $\mu\text{W}/\text{cm}^2$ ) | Frequency (MHz) | Allowable MPE ( $\mu\text{W}/\text{cm}^2$ ) | Calculated % MPE |
|----------------------------------|------------|-------------------------|---------------|---|-----------------|---|------------------|
| AT&T 850 MHz UMTS                | 2          | 414.12                  | 142           | 1.61  | 850 MHz         | 567   | 0.28%            |
| AT&T 1900 MHz (PCS) UMTS         | 2          | 656.33                  | 142           | 2.55  | 1900 MHz (PCS)  | 1000  | 0.26%            |
| AT&T 700 MHz LTE                 | 2          | 940.05                  | 142           | 3.65  | 700 MHz         | 467   | 0.78%            |
| AT&T 1900 MHz (PCS) LTE          | 2          | 1,791.23                | 142           | 6.96  | 1900 MHz (PCS)  | 1000  | 0.70%            |
| AT&T 850 MHz GSM                 | 2          | 414.12                  | 142           | 1.61  | 850 MHz         | 567   | 0.28%            |
|                                  |            |                         |               |   |                 | Total:                                      | 2.30%            |





# EBI Consulting

environmental | engineering | due diligence

## Summary

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

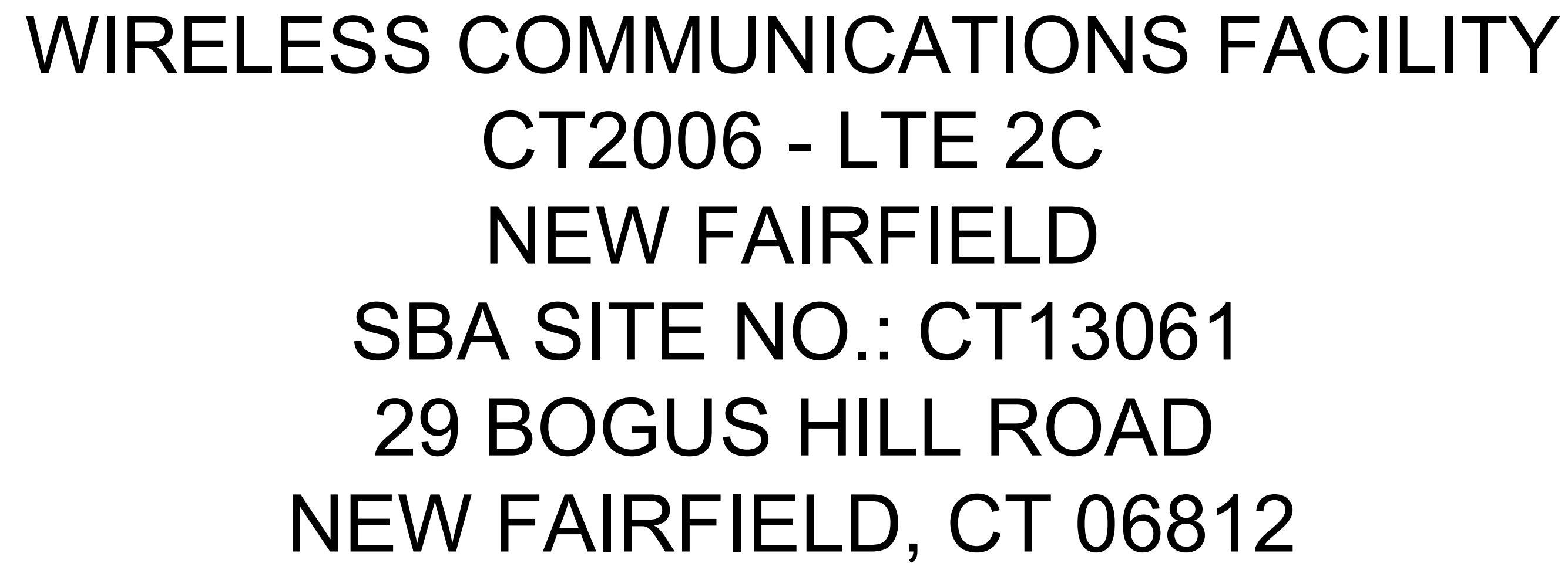
The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

| AT&T Sector                         | Power Density Value (%) |
|-------------------------------------|-------------------------|
| Sector A:                           | 2.30 %                  |
| Sector B:                           | 2.30 %                  |
| Sector C:                           | 2.30 %                  |
| AT&T Maximum Total<br>(per sector): | 2.30 %                  |
|                                     |                         |
| Site Total:                         | 7.11 %                  |
|                                     |                         |
| Site Compliance Status:             | <b>COMPLIANT</b>        |

The anticipated composite MPE value for this site assuming all carriers present is **7.11 %** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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





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

|       |  |         |   |
|-------|--|---------|---|
| FROM: | 500 ENTERPRISE DRIVE<br>ROCKY HILL, CONNECTICUT                  | TO:     | 39 BOGUS HILL ROAD<br>NEW FAIRFIELD, CT |
| 1.    | HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD              | 0.31 M  |   |
| 2.    | TURN LEFT ONTO CAPITAL BLVD                                      | 0.27 M  |   |
| 3.    | TURN LEFT ONTO WEST ST   | 0.30 M  |   |
| 4.    | TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN                  | 9.06 M  |   |
| 5.    | MERGE ONTO I-691 W, EXIT 18 TOWARD MERIDEN/WATERBURY             | 7.98 M  |   |
| 6.    | MERGE ONTO I-84 W, EXIT 1 ON THE LEFT TOWARD WATERBURY/DANBURY   | 34.92 M |   |
| 7.    | TAKE THE CT-37, EXIT 6 TOWARD NEW FAIRFIELD                      | 0.18 M  |   |
| 8.    | TURN RIGHT ONTO NORTH ST/CT-37 CONTINUE TO FOLLOW CT-37          | 4.02 M  |   |
| 9.    | TURN RIGHT ONTO SAW MILL RD                                      | 0.62 M  |   |
| 10.   | TURN SLIGHT RIGHT ONTO STATE ROUTE 39/CT-39.CONTINUE TO FOLLOW   | 3.17 M  |   |
| 11.   | TURN RIGHT ONTO BOGUS HILL RD<br>29 BOGUS HILL RD IS ON THE LEFT | 0.20 M  |   |

W  
Pond

Turners Point

SQUANTZ POND  
STATE PARK

Camp Ludington

PROJECT LOCATION

Bogus Hill

Squantz Cove

Spear Point

Little Neck

1,000 0 500 1,000 2,000

Crest

1. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
  - A. REMOVE AND REPLACE EXISTING LTE ANTENNA FOR PROPOSED HEXPORT ANTENNA, (1) PER SECTOR.
  - B. INSTALL (3) NEW RRUS-12+A2s BEHIND EXISTING POSITION 2 ANTENNAS

|                      |   |
|----------------------|---|
| AT&T SITE NUMBER:    | CT2006  |
| AT&T SITE NAME:      | NEW FAIRFIELD   |
| SITE ADDRESS:        | SBA SITE NO.: CT13061<br>39 BOGUS HILL RD<br>NEW FAIRFIELD, CT 06812  |
| LESSEE/APPLICANT:    | AT&T MOBILITY<br>500 ENTERPRISE DRIVE, SUITE 3A<br>ROCKY HILL, CT 06067   |
| ENGINEER:            | CENTEK ENGINEERING, INC.<br>63-2 NORTH BRANFORD RD.<br>BRANFORD, CT. 06405  |
| PROJECT COORDINATES: | LATITUDE: 41°-30'-42.62" N<br>LONGITUDE: 73°-28'-1.94" W<br>GROUND ELEVATION: ±617' AMSL<br><br>GROUND ELEVATION AND COORDINATES<br>REFERENCED FROM GOOGLE EARTH. |

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



AT&T MOBILITY  
WIRELESS COMMUNICATIONS FACILITY  
**NEW FAIRFIELD**  
CT2006 - LTE 2C  
39 BOGUS HILL ROAD  
NEW FAIRFIELD, CT 06812

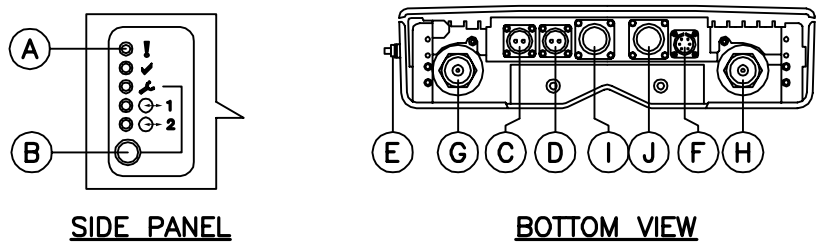
|         |          |
|---------|----------|
| DATE:   | 08/05/16 |
| SCALE:  | AS NOTED |
| JOB NO. | 16071.39 |

# TITLE SHEET

T-1

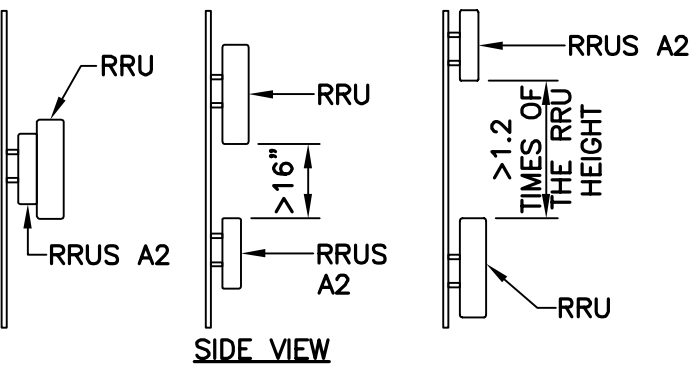
Sheet No. 1 of 7



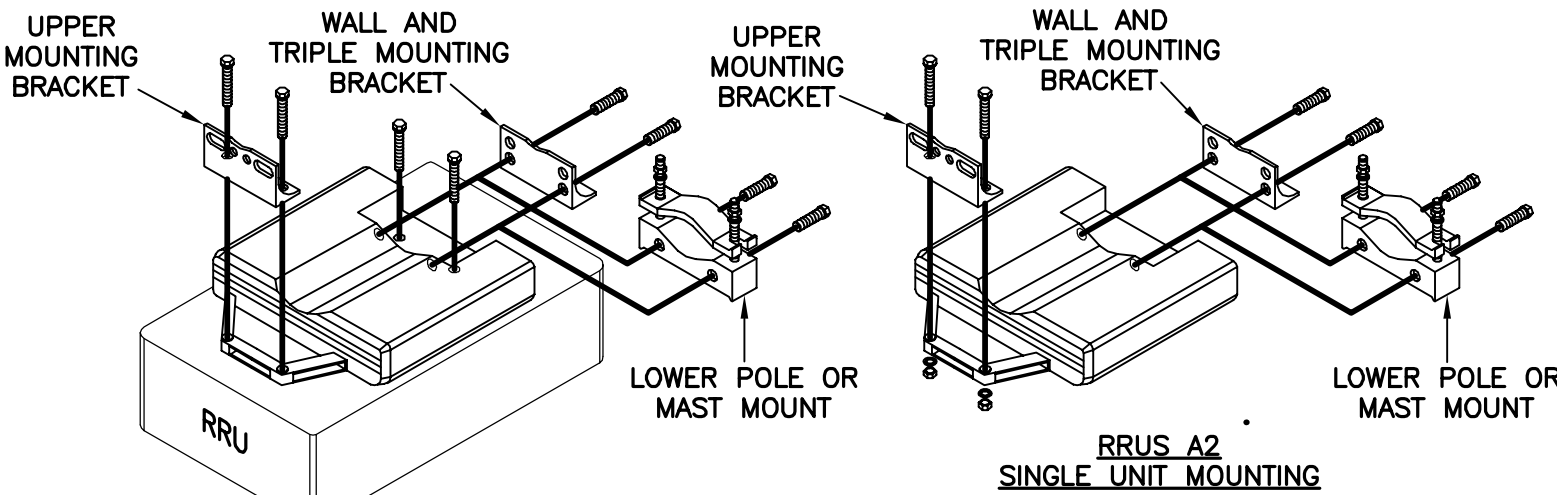


| CONNECTION INTERFACE |                             |   |
|----------------------|-----------------------------|---|
| POSITION (ID)        | DESCRIPTION                 | MARKING   |
| A                    | OPTICAL INDICATORS          | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 |
| B                    | MAINTENANCE                 |   |
| C                    | -48V DC POWER SUPPLY        | POW IN  |
| D                    | -48V DC POWER SUPPLY TO RRU | POW OUT   |
| E                    | GROUNDING                   |   |
| F                    | RET                         | RET   |
| G                    | ANTENNA B                   | B - B   |
| H                    | ANTENNA A                   | A - A   |
| I                    | OPTICAL CABLE 1             | Q-1   |
| J                    | OPTICAL CABLE 2             | Q-2   |

- NOTES:
1. STACKING OF RRU's IS NOT PERMITTED.
  2. NO PAINTING OF RRU OR THE SOLAR SHIELD IS ALLOWED.
  3. A SINGLE RRUS A2 CAN BE INSTALLED AS A STAND ALONE UNIT OR MOUNTED TO THE BACK OF ITS ASSOCIATED RRU.



RRUS A2 MANUFACTURER INSTALLATION REQUIREMENTS

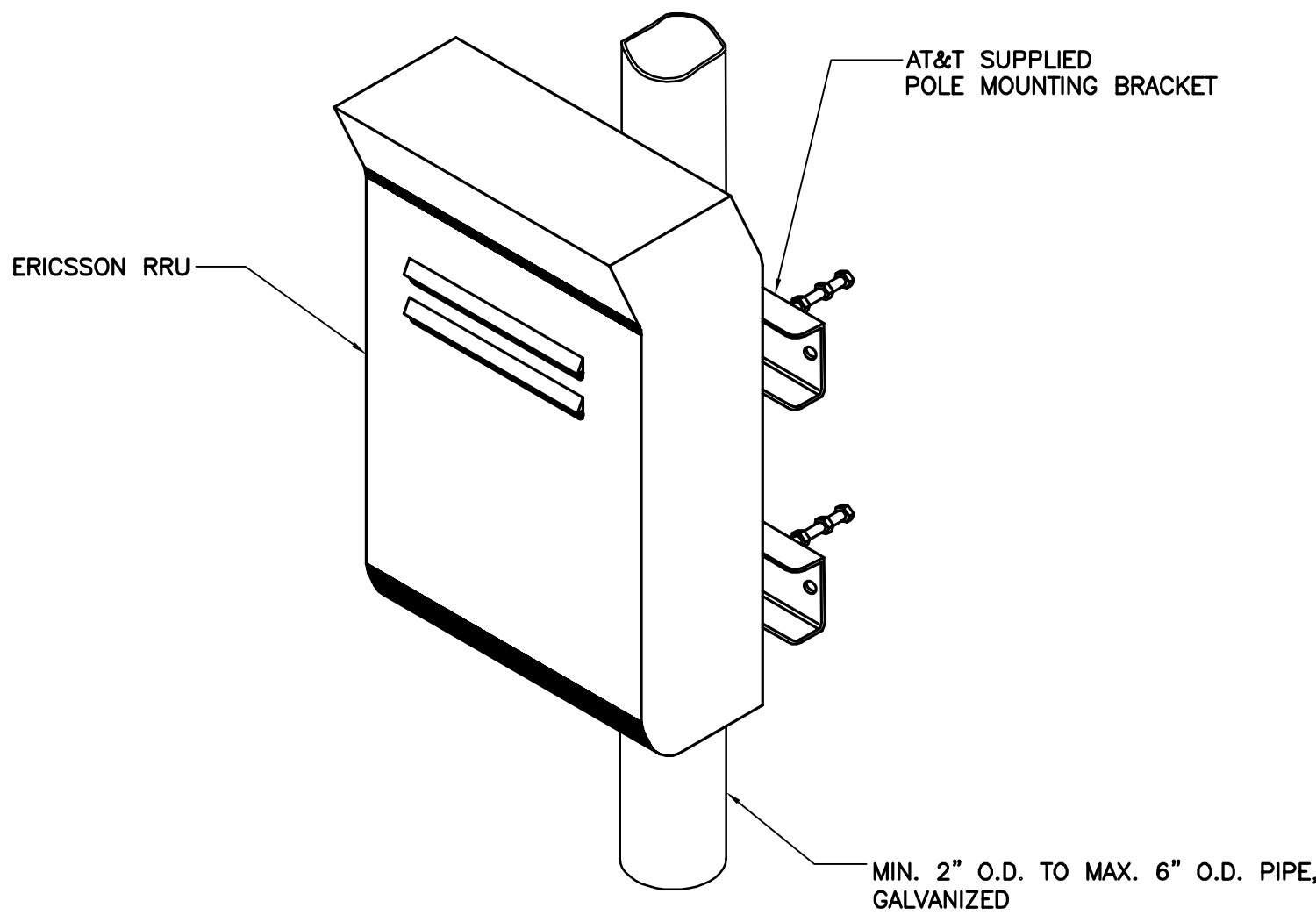


RRUS A2 W/ASSOCIATED RRU MOUNTING

1  
N-1

## ERICSSON RRU A2 DETAILS

NOT TO SCALE



ISOMETRIC VIEW

### NOTES:

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

2  
N-1

## TYPICAL RRUS MOUNTING DETAILS

SCALE: NTS

## NOTES AND SPECIFICATIONS

### DESIGN BASIS:

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

#### 1. DESIGN CRITERIA:

- WIND LOAD: PER EIA/ETIA 222 F-96 (ANTENNA MOUNTS): 85 MPH (FASTEST MILE), EQUIVALENT TO 105 MPH (3 SECOND GUST)
- BUILDING CLASSIFICATION: II (BASED ON IBC TABLE 1604.5)
- BASIC WIND SPEED (OTHER STRUCTURE): 95 MPH (3 SECOND GUST) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-02) PER 2003 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2009 AMMENDMENT.
- SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-02 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

### GENERAL NOTES:

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

### STRUCTURAL STEEL

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

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

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

### PAINT NOTES

#### PAINTING SCHEDULE:

##### 1. ANTENNA PANELS:

- A. SHERWIN WILLIAMS POLANE-B
- B. COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.

##### 2. COAXIAL CABLES:

- A. ONE COAT OF DTM BONDING PRIMER (2-5 MILS. DRY FINISH)
- B. TWO COATS OF DTM ACRYLIC PRIMER/FINISH (2.5-5 MILS. DRY FINISH)
- C. COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.

#### EXAMINATION AND PREPARATION:

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

#### CLEANING:

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

#### APPLICATION:

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

#### COMPLETED WORK:

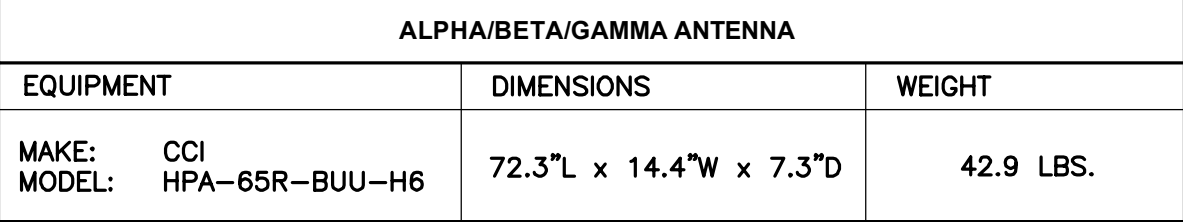
1. SAMPLES: PREPARE 24" x 24" SAMPLE AREA FOR REVIEW.
2. MATCH APPROVED SAMPLES FOR COLOR, TEXTURE AND COVERAGE. REMOVE REFINISH OR REPAINT WORK NOT IN COMPLIANCE WITH SPECIFIED REQUIREMENTS.

|  |  |
|--|--|
| PROFESSIONAL ENGINEER SEAL   | CONSTRUCTION DOCUMENTS - ISSUED FOR CONSTRUCTION |
| at&t   | DATE: 08/05/16                                   |
| EMPIRE telecom   | SCALE: AS NOTED                                  |
| CENTEX engineering<br>Centrex on Solutions<br>(203) 488-0380<br>(203) 488-8387 Fax<br>652 North Branford Road<br>Branford, CT 06405<br>www.CentexEng.com | JOB NO. 16071.39                                 |
| AT&T MOBILITY<br>WIRELESS COMMUNICATIONS FACILITY<br>NEW FAIRFIELD<br>CT2006 - LTE 2C<br>39 BOGUS HILL ROAD<br>NEW FAIRFIELD, CT 06812                   | NOTES AND SPECIFICATIONS                         |
| N-1  |  |
| Sheet No. 2 of 7   |  |









RRUS 12 UNIT.—  
TYPICAL (1) PER SECTOR.

DUS41

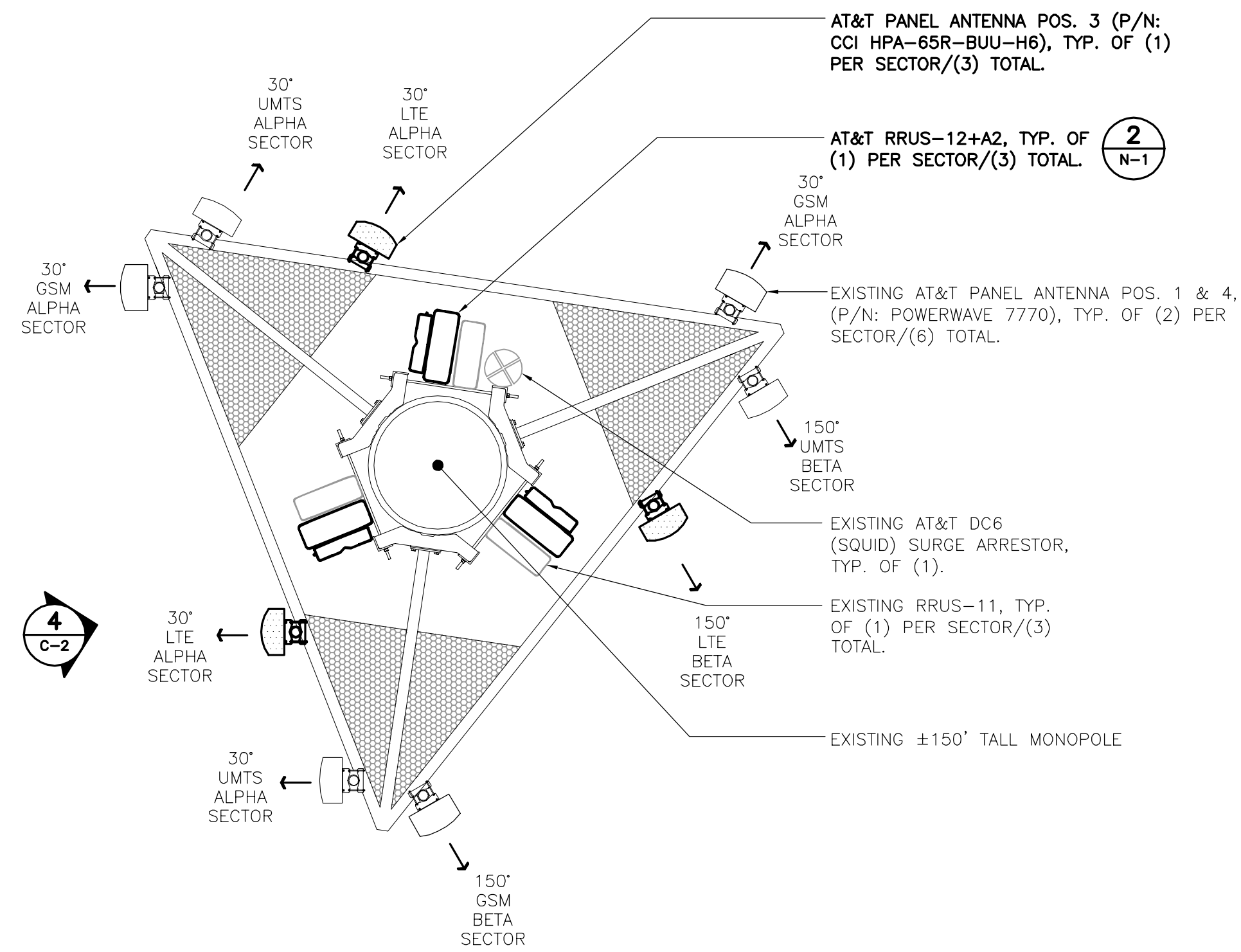
DC6

ALARM CABLE

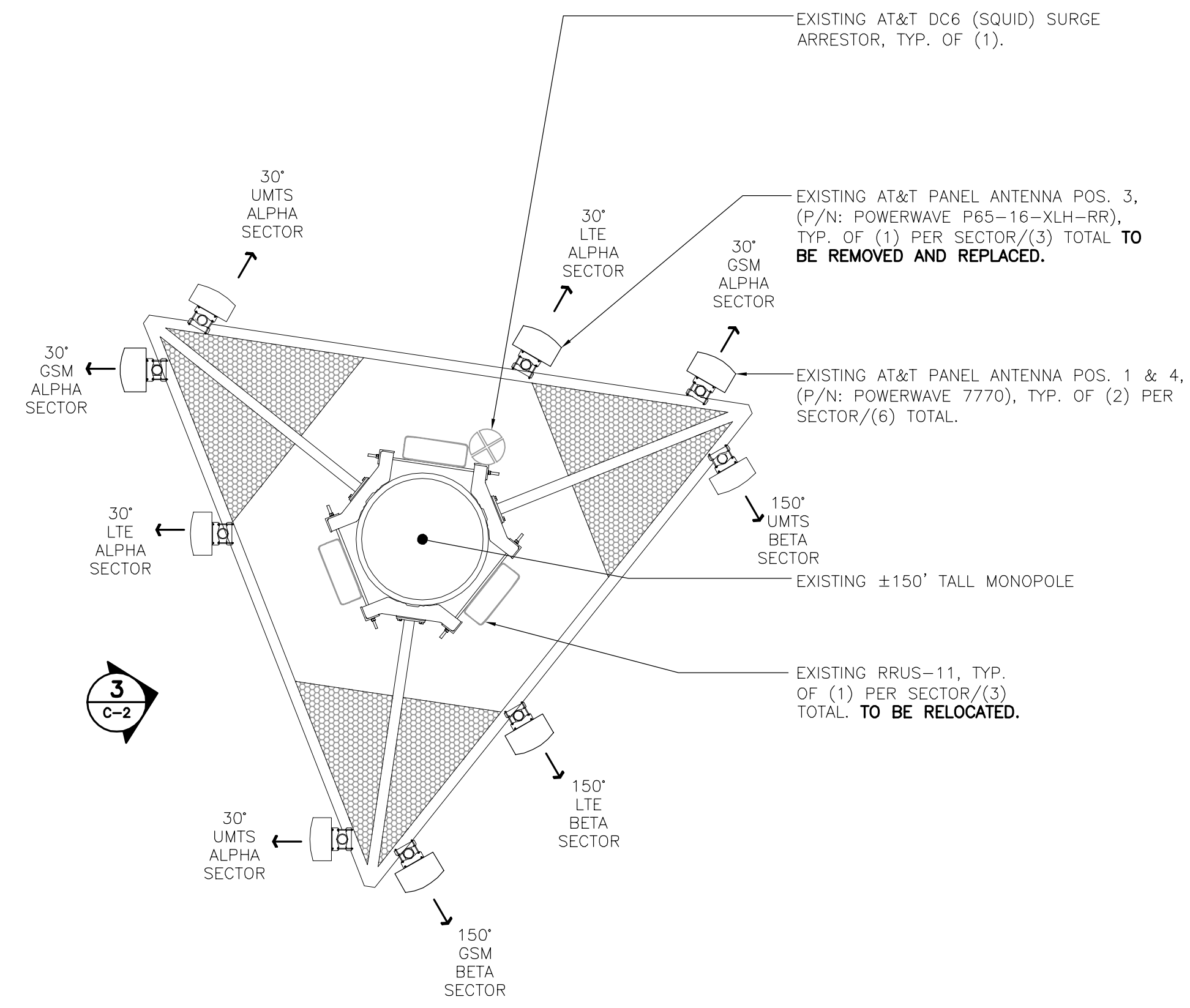
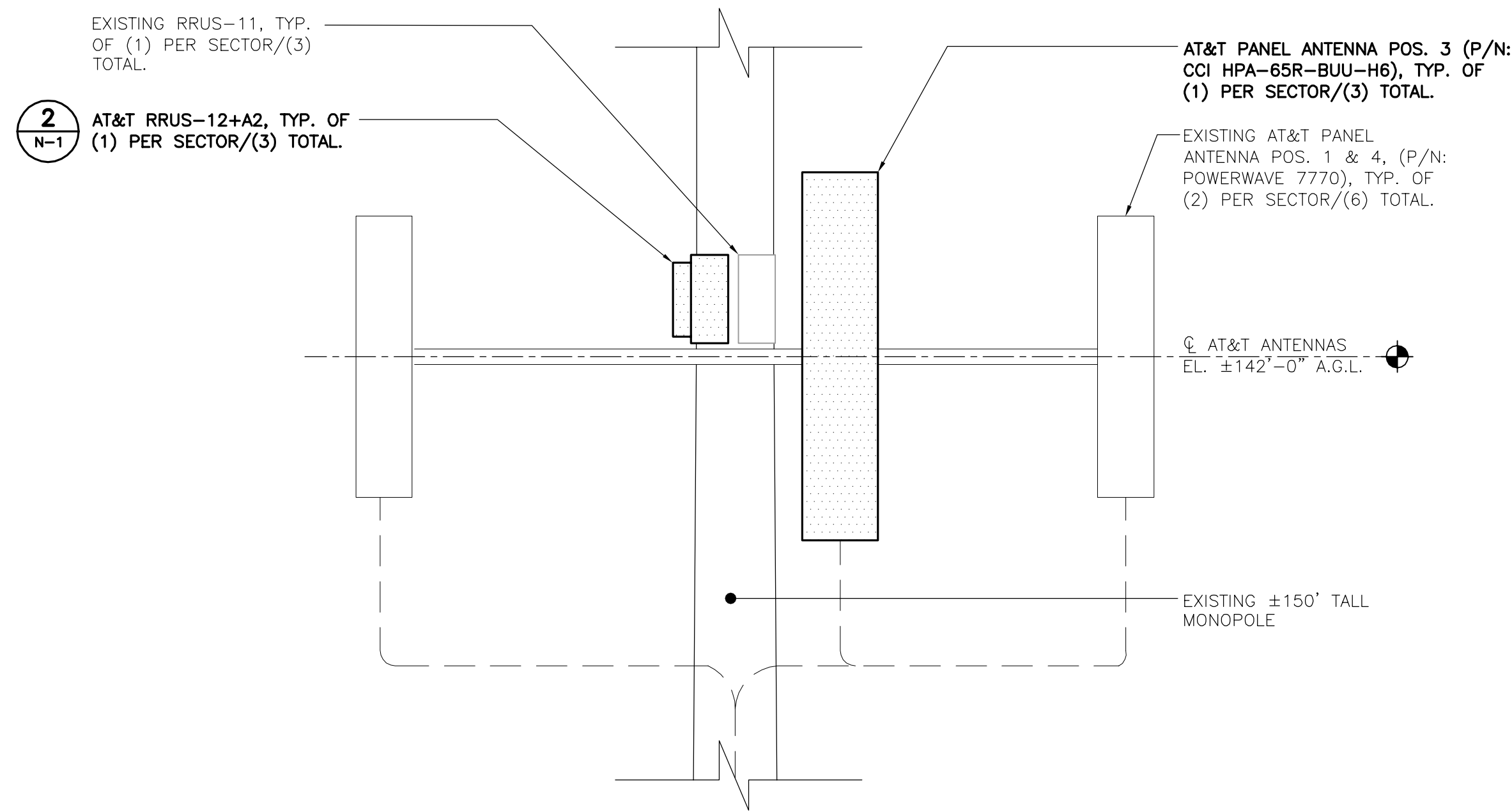
| RRU (REMOTE RADIO UNIT)   |          |                         |         |                 |
|---|----------|-------------------------|---------|-----------------|
| EQUIPMENT   |          | DIMENSIONS              | WEIGHT  | CLEARANCES      |
| MAKE:   | ERICSSON | 20.4"L x 18.5"W x 7.5"D | 50 LBS. | ABOVE: 16" MIN. |
| MODEL:  | RRUS 12  |                         |         | BELOW: 12" MIN. |
|   |          |                         |         | FRONT: 36" MIN. |
| <u>NOTES:</u>   |          |                         |         |                 |
| 1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING. |          |                         |         |                 |

The diagram illustrates the orthographic projections of a rectangular box. The front view shows a rectangle with a handle on top, labeled 'WIDTH' and 'HEIGHT'. The bottom view shows the base of the box with internal components, labeled 'WIDTH' and 'DEPTH'.

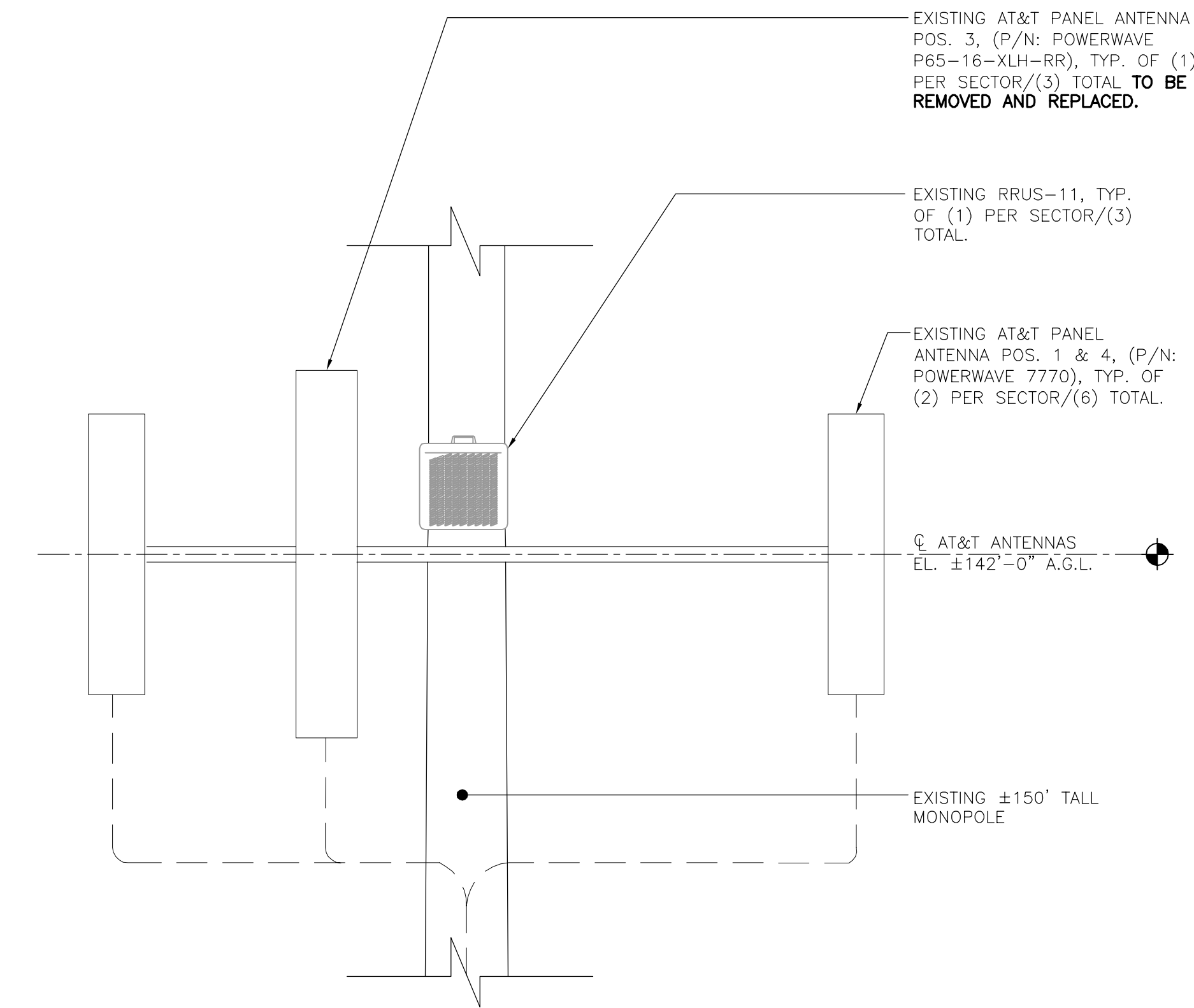
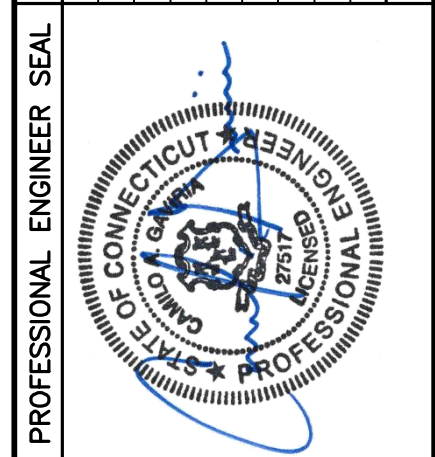
| RRU (REMOTE RADIO UNIT)   |          |                            |            |                 |
|---|----------|----------------------------|------------|-----------------|
| EQUIPMENT   |          | DIMENSIONS                 | WEIGHT     | CLEARANCES      |
| MAKE:   | ERICSSON | 16.42"L x 15.19"W x 3.35"D | 22.05 LBS. | ABOVE: 16" MIN. |
| MODEL:  | RRUS A2  |                            |            | BELOW: 12" MIN. |
|   |          |                            |            | FRONT: 36" MIN. |
| <u>NOTES:</u>   |          |                            |            |                 |
| 1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING. |          |                            |            |                 |



NORTH



NORTH

[illegible]

AT&T MOBILITY  
WIRELESS COMMUNICATIONS FACILITY  
**NEW FAIRFIELD**  
CT2006 - L TE 2C  
39 BOGUS HILL ROAD  
NEW FAIRFIELD, CT 06812

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| JOB NO. | 16071.39 |

## LTE 2C EQUIPMENT DETAILS

**C-2**

Sheet No. 4 of 7













- GROUND BAR DETAIL**
- NOT TO SCALE



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



- ## 5 CONNECTION OF GROUND WIRES TO GROUND BAR

E-3 NOT TO SCALE



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



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



|         |          |
|---------|----------|
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## TYPICAL ELECTRICAL DETAILS

**E-3**

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