EMPIRE
telecom

March 17, 2015

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

| | |
|---|---|
| Regarding: | Notice of Exempt Modification – Addition of 3 radio heads previously approved |
| Property Address: | 47 Inwood Road, Rocky Hill, CT (the "Property") |
| Applicant: | AT&T Mobility ("AT&T") |

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 185 foot monopole tower ("tower") location on the Property. AT&T's facility consists of nine (9) wireless telecommunications antennas at 167 feet. The tower is controlled by American Tower Corporation. The Council approved the previous application on July 20, 2012, reference number EM-AT&T-119-120720. This application (attached) granted AT&T the use of 6 radio heads at this location. The approval expired one year from the issue date. During that time AT&T made the changes to the site per the approval but only installed three (3) of the six (6) radio heads that they received approval. AT&T would now like to install the additional three (3) radio heads that were originally approved under EM-AT&T-119-120720.

Please accept this application as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72 (b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Mayor, the Town Manager and the Director of Planning for the Town of Rocky Hill. A copy of this letter is also being sent to AT&T Towers, the owner of the structure that AT&T is located.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The planned modifications will not result in an increase in the height of the existing structure. AT&T's additional, previously approved 3 radio heads will be installed at 167 foot level of the 185 foot monopole.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibel or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety

16 Esquire Road, Billerica, MA 01862 Mobile 617-639-4908 Email: Dcooper@empiretelecomm.com

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4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. An RF emissions calculation (attached) for AT&T's modified facility was provided in the application which led to the July 20, 2012 Decision.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (Please see attached Structural analysis completed by American Tower Corporation dated May 30, 2012).

For the foregoing reasons AT&T respectfully requests that the proposed addition of 3 radio heads previously approved be allowed within the exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

David P. Cooper

David P. Cooper
Director of Site Acquisition
Empire Telecom

CC: Henry Vasel, Mayor, Town of Rocky Hill
Guy Scaife, Town Manager, Town of Rocky Hill
Kimberly Ricci, Director of Planning, Town of Rocky Hill
American Tower Corporation
Merrifield, LLC – underlying property owner

16 Esquire Road, Billerica, MA 01862 Mobile 617-639-4908 Email: Dcooper@empiretelecomm.com

STATE OF CONNECTICUT
*CONNECTICUT SITING COUNCIL*
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

CT 5121

July 20, 2012

The Honorable Anthony P. LaRosa
Mayor
Town of Rocky Hill
Town Hall
761 Old Main Street
P. O. Box 657
Rocky Hill, CT 06067

RE: **EM-AT&T-119-120720** – AT&T Mobility notice of intent to modify an existing telecommunications facility located at 37 Inwood Road, Rocky Hill, Connecticut

Dear Mayor LaRosa:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

If you have any questions or comments regarding this proposal, please call me or inform the Council by August 3, 2012.

Thank you for your cooperation and consideration.

Very truly yours,

LRoberts

Linda Roberts
Executive Director

LR/cm

Enclosure: Notice of Intent

c: Barbara Gilbert, Town Manager, Town of Rocky Hill
Kimberly Ricci, Director of Planning, Town of Rocky Hill

CSC
CONNECTICUT SITING COUNCIL

EM-AT&T-119-120720

CONNECTICUT
SITING COUNCIL

July 20, 2012

Ms. Linda Roberts, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: AT&T Mobility – Notice of Exempt Modification
37 Inwood Road, Rocky Hill, CT 06067

Dear Ms. Roberts:

This letter and attachments are submitted on behalf of AT&T Mobility ("AT&T"). AT&T is enhancing the capabilities of its wireless system in Connecticut by implementing LTE Technology. In order to do so, AT&T will modify antenna and equipment configurations at a number of existing sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachment is being sent to the Mayor of Rocky Hill.

AT&T plans to modify the existing facility at 37 Inwood Road owned by American Tower Corp. (coordinates 41° 38′ 17.88′′ N. -72° 40′ 48′′ W). Attached are drawings depicting the planned changes, and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration. Also, included are a power density calculation reflecting the modification to AT&T's operations at the site.

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes ("C.G.S.') Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(c)

1. The height of the overall structure will be unaffected. Both AT&T's existing and proposed antennas will be located at an approximate center line of 167′ AGL on the approximately 185′ tower. The existing six (6) antennas will remain. AT&T will add three (3) new antennas and six (6) new RRH's. The existing and proposed equipment will be pipe mounted. Additionally, AT&T will install one (1) surge arrestor at 167′ AGL, and one (1) fiber cable and two (2) DC control cables. One (1) GPS LTE antenna will be mounted to existing ice bridge.

STATE OF CONNECTICUT
*CONNECTICUT SITING COUNCIL*
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

August 3, 2012

Theresa Ranciato-Viele
Nexlink Global Services
55 Lynn Road
Ivoryton, CT 06442

RE: **EM-AT&T-119-120720** – AT&T Mobility notice of intent to modify an existing telecommunications facility located at 37 Inwood Road, Rocky Hill, Connecticut.

Dear Ms. Ranciato-Viele:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not less than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated July 20, 2012. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the

## PROJECT INFORMATION

| | |
|---|---|
| SCOPE OF WORK: | UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS |
| SITE ADDRESS: | 37 INWOOD ROAD<br>ROCKY HILL, CT 06067 |
| LATITUDE: | 41.6383 N 41° 38' 17.88" N |
| LONGITUDE: | 72.6800 W 72° 40' 48" W |
| JURISDICTION: | NATIONAL, STATE & LOCAL CODES OR ORDINANCES |
| CURRENT USE: | TELECOMMUNICATIONS FACILITY |
| PROPOSED USE: | TELECOMMUNICATIONS FACILITY |

at&t

# SITE NUMBER: CT5121
# SITE NAME: CROMWELL EAST

## DRAWING INDEX

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| T-1 | TITLE SHEET | 2 |
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## VICINITY MAP

DIRECTIONS TO SITE:
START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. 0.4 MI. TURN LEFT ONTO CAPITOL BLVD. 0.3 MI. TURN LEFT ONTO WEST ST. 0.6 MI. TURN LEFT ONTO CROMWELL AVE/CT-3. 0.8 MI. TURN RIGHT ONTO INWOOD RD. 0.1 MI. END AT 47 INWOOD RD ROCKY HILL, CT 06067.

## GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

72 HOURS
BEFORE YOU DIG
CALL TOLL FREE 800-922-4455

UNDERGROUND SERVICE ALERT


Hudson Design Group LLC
NEXLINK GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095


SITE NUMBER: CT5121
SITE NAME: CROMWELL EAST
37 INWOOD ROAD
ROCKY HILL, CT 06067
HARTFORD COUNTY

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

| NO. | DATE | REVISIONS | BY | CHK | APP'D |
|---|---|---|---|---|---|
| 2 | 06/04/12 | CONSTRUCTION REVISED | DC | DC | DPH |
| 1 | 04/18/12 | ISSUED FOR CONSTRUCTION | DB | DC | DPH |
| 0 | 04/10/12 | ISSUED FOR REVIEW | DB | DC | DPH |

SCALE: AS SHOWN DESIGNED BY: DC DRAWN BY: DB

STATE OF CONNECTICUT DANIEL P. HAMM No. 24178 LICENSED PROFESSIONAL ENGINEER

AT&T
TITLE SHEET (LTE)

| JOB NUMBER | DRAWING NUMBER | REV |
|---|---|---|
| 5121.01 | T-1 | 2 |

## GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ). THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

## GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – NEXLINK
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
   BUILDING CODE: 2003 IBC WITH 2005 CT SUPPLEMENT & 2009 CT AMENDMENTS
   ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
   LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

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

## ABBREVIATIONS

| | | | | | |
|---|---|---|---|---|---|
| AGL | ABOVE GRADE LEVEL | G.C. | GENERAL CONTRACTOR | RF | RADIO FREQUENCY |
| AWG | AMERICAN WIRE GAUGE | MGB | MASTER GROUND BUS | | |
| BCW | BARE COPPER WIRE | MIN | MINIMUM | TBD | TO BE DETERMINED |
| BTS | BASE TRANSCEIVER STATION | PROPOSED | NEW | TBR | TO BE REMOVED |
| EXISTING | EXISTING | N.T.S. | NOT TO SCALE | TBRR | TO BE REMOVED AND REPLACED |
| EG | EQUIPMENT GROUND | REF. | REFERENCE | | |
| EGR | EQUIPMENT GROUND RING | REQ. | REQUIRED | TYP | TYPICAL |

Nucleum

NEXLINK GLOBAL SERVICES
a United GLOBAL SERVICES Company
600 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5121
SITE NAME: CROMWELL EAST

37 INWOOD ROAD
ROCKY HILL, CT 06067
HARTFORD COUNTY

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

| NO. | DATE | REVISIONS | BY | CHK | APP'D |
|---|---|---|---|---|---|
| 2 | 06/04/12 | CONSTRUCTION REVISED | RC | DC | DPH |
| 1 | 04/16/12 | ISSUED FOR CONSTRUCTION | DB | DC | DPH |
| 0 | 04/10/12 | ISSUED FOR REVIEW | DB | DC | DPH |

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: DB

STATE OF CONNECTICUT
DAVID P. HAMM
No. 28176
LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES (LTE)

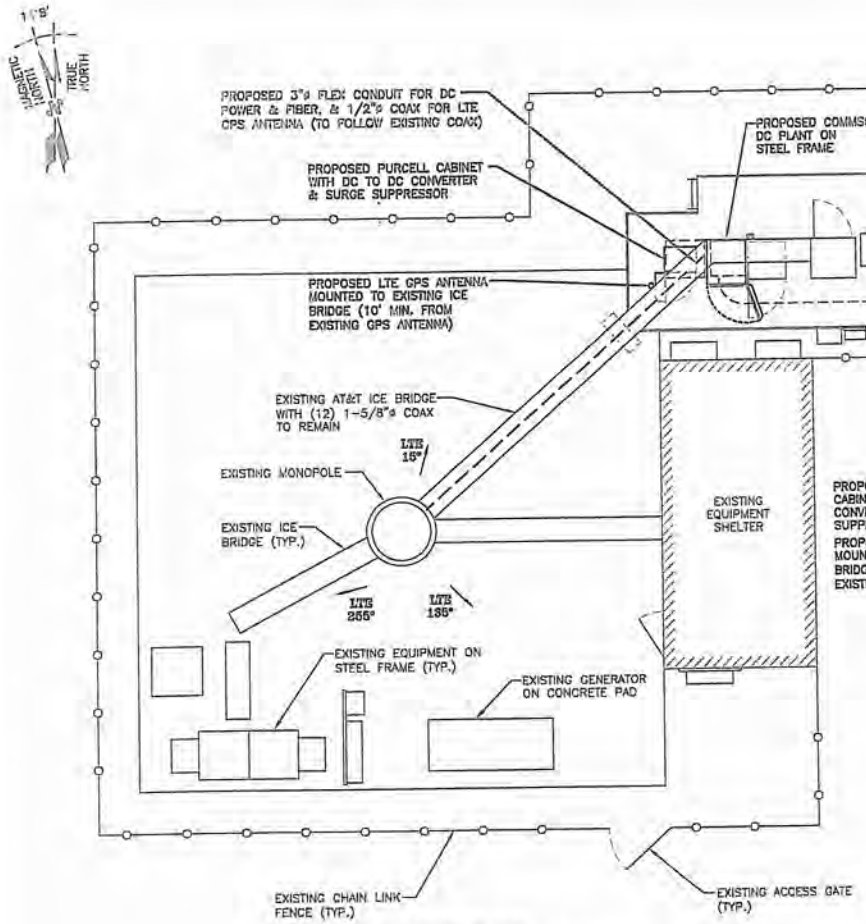
| JOB NUMBER | DRAWING NUMBER | REV |
|---|---|---|
| 5121.01 | GN-1 | 2 |

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

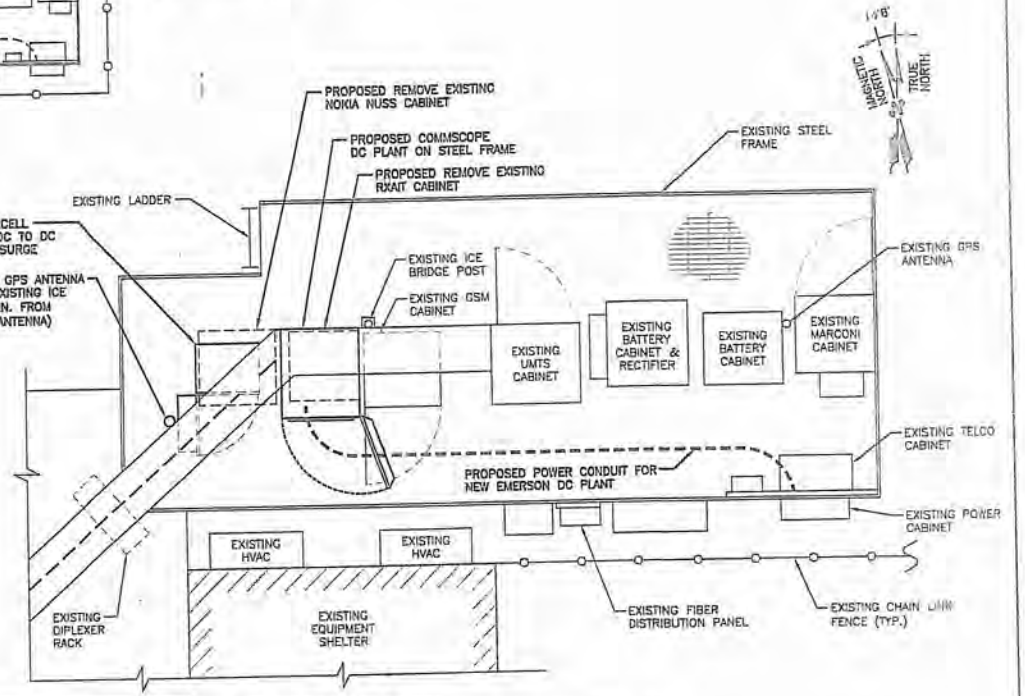
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.




## COMPOUND PLAN

SCALE: 1/4"=1'-0"

0 2'-0" 4'-0" 8'-0" 12'-0"




PROPOSED COMMSCOPE DC PLANT TO BE INSTALLED AND LIVE PRIOR TO NOKIA NUSS REMOVAL AND PURCELL INSTALLATION

## EQUIPMENT PLAN

SCALE: 1/2"=1'-0"

0 1'-0" 2'-0" 4'-0" 8'-0"

Hudson Design Group LLC
180 CINGUNDO STREET
SUITE 2 (2TH FLOOR, SUITE 2-101)
NEWCASTLE, MAINE 04553
TEL. (978) 512-5133
FAX. (978) 334-6294

NEXLINK GLOBAL SERVICES
A LinkTel GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5121
SITE NAME: CROMWELL EAST
37 INWOOD ROAD
ROCKY HILL, CT 06067
HARTFORD COUNTY

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

| NO. | DATE | REVISIONS | BY | CHK | APPD |
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| 2 | 06/04/12 | CONSTRUCTION REVISED | HC | DC | DPH |
| 1 | 04/18/12 | ISSUED FOR CONSTRUCTION | CB | DC | DPH |
| 0 | 04/10/12 | ISSUED FOR REVIEW | CB | DC | DPH |

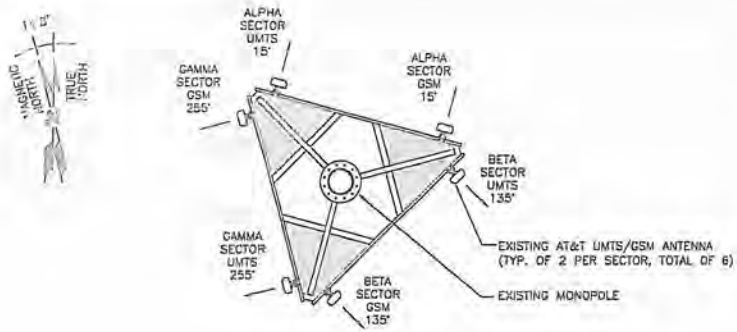
SCALE: AS SHOWN DESIGNED BY: DC DRAWN BY: DB

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24179
LICENSED PROFESSIONAL ENGINEER

AT&T

COMPOUND & EQUIPMENT PLAN (LTE)

| JOB NUMBER | DRAWING NUMBER | REV |
|---|---|---|
| 5121.01 | A-1 | 2 |




## EXISTING UMTS/GSM ANTENNA PLAN

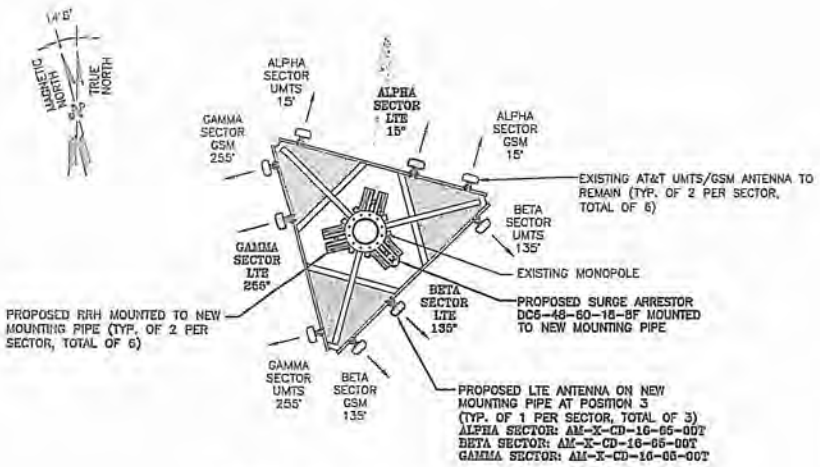
SCALE: N.T.S.

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

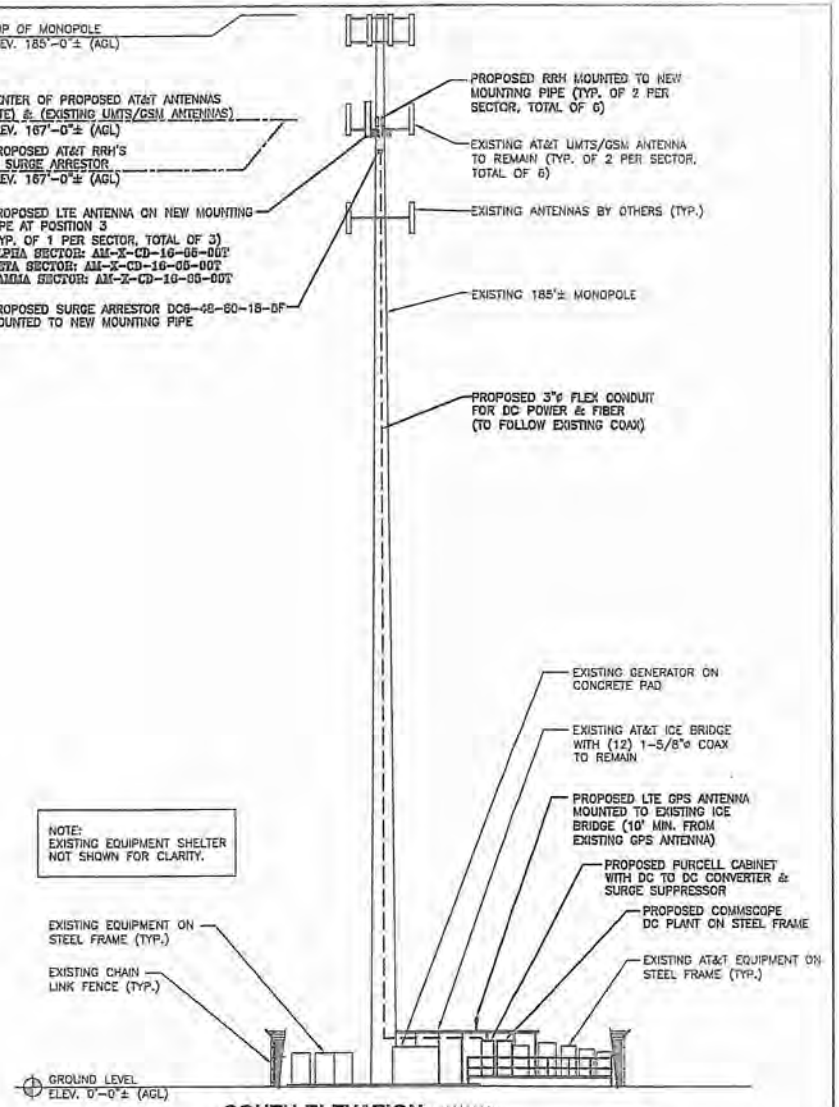
NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.




## PROPOSED LTE ANTENNA PLAN

SCALE: N.T.S.




NOTE:
EXISTING EQUIPMENT SHELTER NOT SHOWN FOR CLARITY.

## SOUTH ELEVATION

SCALE: 3/32"=1'-0"

Hudson Design Group LLC

NEXLINK GLOBAL SERVICES
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5121
SITE NAME: CROMWELL EAST

37 INWOOD ROAD
ROCKY HILL, CT 06067
HARTFORD COUNTY

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

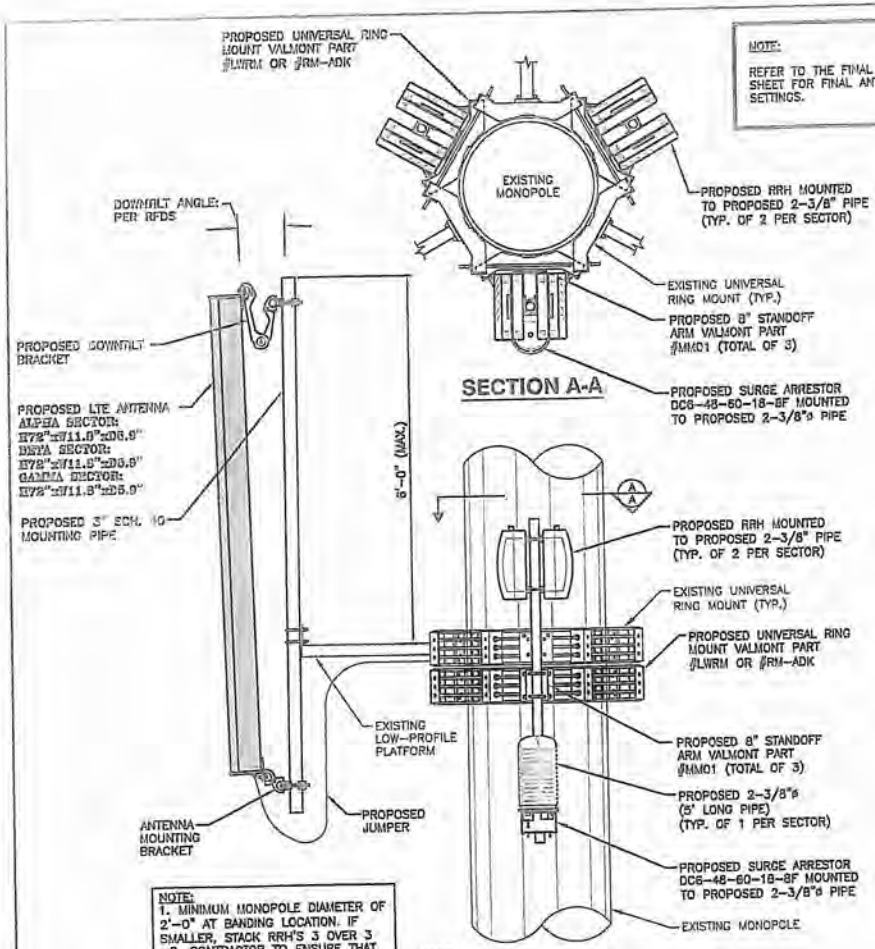
| NO. | DATE | REVISIONS | BY | CHK | APP'D |
|---|---|---|---|---|---|
| 2 | 08/04/12 | CONSTRUCTION REVISED | DC | DC | DPH |
| 1 | 04/18/12 | ISSUED FOR CONSTRUCTION | DB | DC | DPH |
| 0 | 04/10/12 | ISSUED FOR REVIEW | DB | DC | DPH |

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: DB

AT&T

ANTENNA LAYOUT AND ELEVATION (LTE)

| JOB NUMBER | DRAWING NUMBER | REV |
|---|---|---|
| 5121.01 | A-2 | 2 |




## SECTION A-A

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

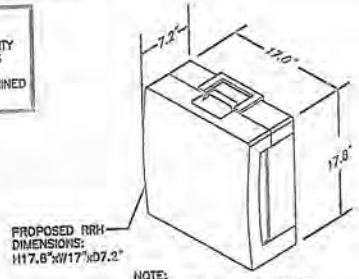
NOTE:
1. MINIMUM MONOPOLE DIAMETER OF 2'-0" AT BANDING LOCATION. IF SMALLER, STACK RRH'S 3 OVER 3
2. CONTRACTOR TO ENSURE THAT RRH MOUNTING DOES NOT INTERFERE WITH CLIMBING LADDER

| PART # | VMI PART # | SIZE RANGE |
|---|---|---|
| LWRM | 801068 | 12"-45" |
| RM-ADK | 157286 | 36"-60" ADAPTER KIT |
| | | |

NOTES:
1. REFER TO RFDS & SECTOR SCHEMATICS FOR ANTENNA MODEL, TYPE & QUANTITY REQUIRED PER SECTOR
2. EXISTING EMPTY RING MOUNT TO BE REMOVED

## PROPOSED RRH & SURGE ARRESTOR MOUNTING DETAIL

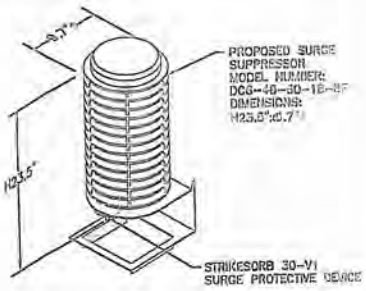
SCALE: N.T.S.




NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

## RRH DETAIL

SCALE: N.T.S.

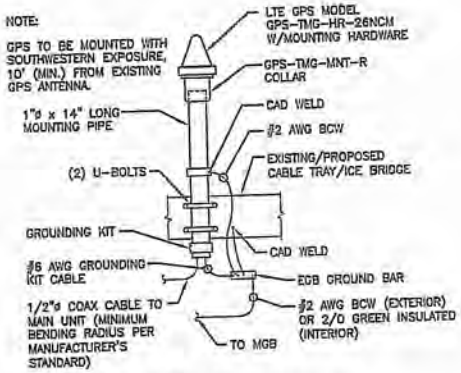



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

## DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.

NOTE:
GPS TO BE MOUNTED WITH SOUTHWESTERN EXPOSURE, 10' (MIN.) FROM EXISTING GPS ANTENNA.




## GPS MOUNTING DETAIL

SCALE: N.T.S.

Hudson Design Group LLC
HDG CONSULTING GROUP
NEXLINK GLOBAL SERVICES
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5121
SITE NAME: CROMWELL EAST
37 INWOOD ROAD
ROCKY HILL, CT 06067
HARTFORD COUNTY

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

| NO. | DATE | REVISIONS | BY | CHK | APP'D |
|---|---|---|---|---|---|
| 2 | 08/04/12 | CONSTRUCTION REVISED | DC | DC | DPH |
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| 0 | 04/10/12 | ISSUED FOR REVIEW | DB | DC | DPH |

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: DB

STATE OF CONNECTICUT LICENSED PROFESSIONAL ENGINEER

AT&T
DETAILS (LTE)

| JOB NUMBER | DRAWING NUMBER | REV |
|---|---|---|
| 5121.01 | A-3 | 2 |

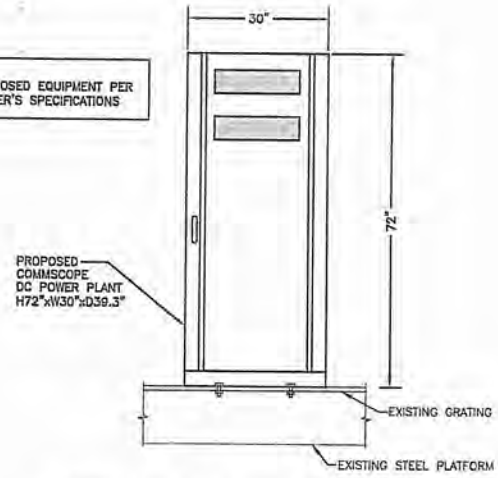
NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

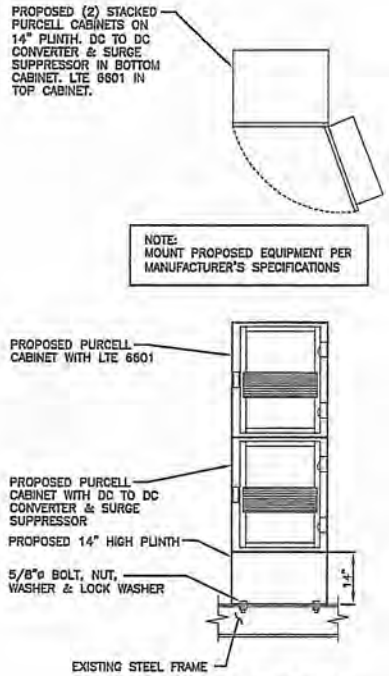
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:
MOUNT PROPOSED EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS




## PROPOSED DC POWER PLANT DETAIL

SCALE: N.T.S.




NOTE:
MOUNT PROPOSED EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS

## PROPOSED EQUIPMENT MOUNTING DETAIL

SCALE: N.T.S.

Hudson Design Group LLC
(Hudson Design Group LLC)
Tel: (978) 557-1012
Fax: (978) 556-9254

NEXLINK GLOBAL SERVICES
LinkTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5121
SITE NAME: CROMWELL EAST

37 INWOOD ROAD
ROCKY HILL, CT 06067
HARTFORD COUNTY

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

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| 2 | 06/04/12 | CONSTRUCTION REVISED | HG | DC | DPH |
| 1 | 04/18/12 | ISSUED FOR CONSTRUCTION | DB | DC | DPH |
| 0 | 04/10/12 | ISSUED FOR REVIEW | DB | DC | DPH |

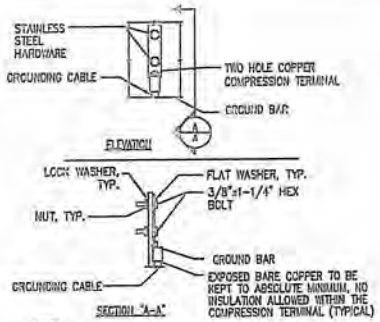
SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: DB

STATE OF CONNECTICUT
DENNIS P. HAMM
No. 24176
LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS (LTE)

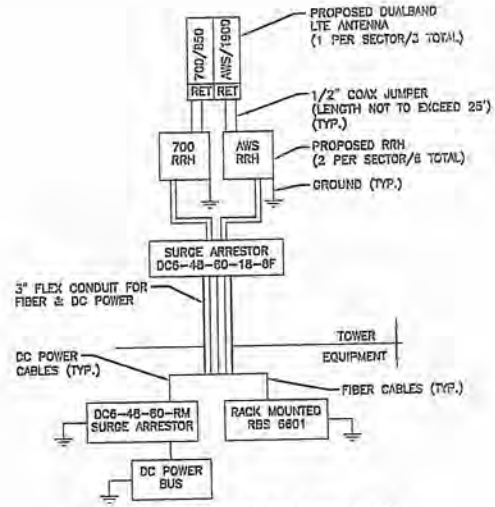
| JOB NUMBER | DRAWING NUMBER | REV |
|---|---|---|
| 5121.01 | A-4 | 2 |




NOTE:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

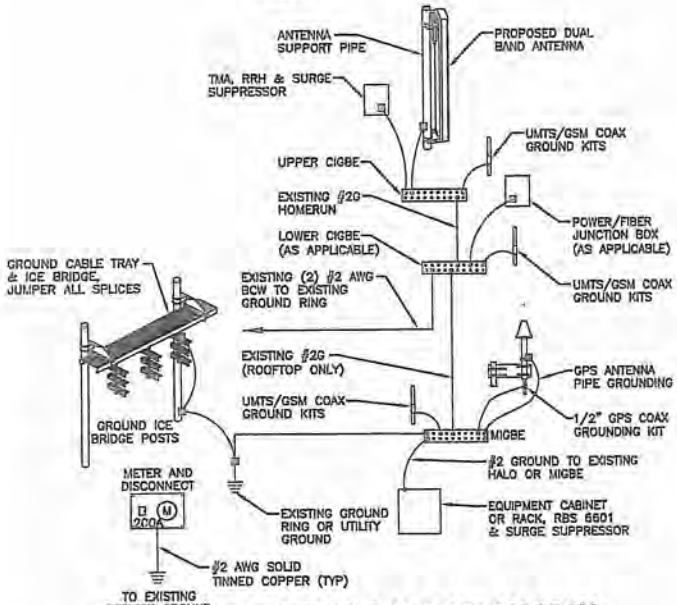
## TYPICAL GROUND BAR CONNECTION DETAIL

1 — N.T.S.




## LTE PLUMBING DIAGRAM

2 — N.T.S.




## GROUNDING RISER DIAGRAM

3 — N.T.S.

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

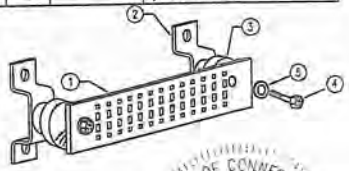
CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

WIRELESS SOLUTIONS INC.

| NO. | REQ. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 1 | HLGB-0420-IS | SOLID GND. BAR (20"x4"x1/4") |
| 2 | 2 | —— | WALL MTG. BRKT. |
| 3 | 2 | —— | INSULATORS |
| 4 | 4 | —— | 5/8"-11x1" H.H.C.S. |
| 5 | 4 | —— | 5/8 LOCKWASHER |




## GROUND BAR - DETAIL

4 — N.T.S.

Hudson Design Group LLC
28 INWOOD STREET
ALBANY, NEW YORK 12226
TEL: (518) 837-0883
FAX: (518) 837-0885

NEXLINK GLOBAL SERVICES
a NeXLink GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5121
SITE NAME: CROMWELL EAST
37 INWOOD ROAD
ROCKY HILL, CT 06067
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
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| 0 | 04/10/12 | ISSUED FOR REVIEW | DB | DC | DPH |

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: DB

STATE OF CONNECTICUT — DANIEL P. HAMM — No. 24178 — LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DIAGRAM & GROUNDING DETAILS (LTE)

JOB NUMBER: 5121.01
DRAWING NUMBER: G-1
REV: 2

CT 5121

AMERICAN TOWER®
CORPORATION

# Structural Analysis Report

| | | |
|---|---|---|
| **Structure** | : | **185 ft Monopole** |
| **ATC Site Name** | : | **Middletown CT 3, CT** |
| **ATC Site Number** | : | **302537** |
| **Engineering Number** | : | **58882521** |
| **Proposed Carrier** | : | **Sprint Nextel** |
| **Carrier Site Name** | : | **Middletown CT 3** |
| **Carrier Site Number** | : | **CT03XC070** |
| **Site Location** | : | **47 Inwood Road**<br>**Rocky Hill, CT 06067-3453**<br>**41.638586,-72.679289** |
| **County** | : | **Hartford** |
| **Date** | : | **May 30, 2014** |
| **Max Usage** | : | **79%** |
| **Result** | : | **Pass** |

Zachary Polaha

STATE OF CONNECTICUT
WM. E. GARRETT
No. 23235
LICENSED
PROFESSIONAL ENGINEER

9/8/14

AMERICAN TOWER®
CORPORATION

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Calculations ..... Attached

AMERICAN TOWER®
CORPORATION

## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 185 ft monopole to reflect the change in loading by Sprint Nextel.

## Supporting Documents

| | |
|---|---|
| **Tower Drawings** | Valmont Drawing #DC1646Z, dated November 2, 1993 |
| **Foundation Drawing** | H. Edmund Bergeron Civil Engineers Project #93127, dated December 21, 1993 |
| **Geotechnical Report** | Materials Testing Inc File #99 GT 93, dated December 2, 1993 |
| **Modifications** | ATC Project #51430332, dated December 12, 2012 |

## Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

| | |
|---|---|
| **Basic Wind Speed:** | 95 mph (3-Second Gust) |
| **Basic Wind Speed w/ Ice:** | 50 mph (3-Second Gust) w/ 1" radial ice concurrent |
| **Code:** | ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 & 2011 CT Amendment |
| **Structure Class:** | II |
| **Exposure Category:** | B |
| **Topographic Category:** | 1 |

## Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

## Existing and Reserved Equipment

| Elevation[1] (ft) | | Qty | Antenna | Mount Type | Lines | Carrier |
|---|---|---|---|---|---|---|
| Mount | RAD | | | | | |
| 182.0 | 184.0 | 9 | 48" x 12" Panels | Platform w/ Handrails | (12) 1 5/8" Coax | Sprint Nextel |
| | | 3 | 72" x 12" Panels | | | |
| 169.0 | 171.0 | 6 | Ericsson RRUS 11 | Low Profile Platform | (2) 0.78" 8 AWG 6<br>(12) 1 5/8" Coax<br>(1) 0.39" Cable<br>(1) 3" Conduit | AT&T Mobility |
| | | 6 | Allgon 7770.00 | | | |
| | | 3 | KMW AM-X-CD-16-65-00T-RET | | | |
| | 170.0 | 12 | Powerwave LGP21401 | | | |
| | | 1 | Raycap DC6-48-60-18-8F | | | |
| 138.0 | 140.0 | 3 | Alcatel-Lucent 800MHz 2X50W RRH w/ Filter | Platform w/ Handrails | (3) 1 1/4" Hybriflex | Sprint Nextel |
| | | 3 | Alcatel-Lucent 4X40W RRH | | | |
| | | 3 | RFS APXVSPP18-C-A20 | | | |

## Equipment to be Removed

| Elevation[1] (ft) | | Qty | Antenna | Mount Type | Lines | Carrier |
|---|---|---|---|---|---|---|
| Mount | RAD | | | | | |
| 140.0 | 140.0 | 6 | Allgon 7184 /M1900-90-16.5I | - | (6) 1 5/8" Coax | Sprint Nextel |

## Proposed Equipment

| Elevation[1] (ft) | | Qty | Antenna | Mount Type | Lines | Carrier |
|---|---|---|---|---|---|---|
| Mount | RAD | | | | | |
| 138.0 | 140.0 | 3 | Alcatel-Lucent TD-RRH8x20 | Platform w/ Handrails | (1) 1 1/4" Hybriflex | Sprint Nextel |
| | | 3 | RFS APXVTM14-C-I20 | | | |

**[1]Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).**

Install proposed coax inside the pole shaft.

## Structure Usages

| Structural Component | Controlling Usage | Pass/Fail |
|---|---|---|
| Anchor Bolts | 58% | Pass |
| Shaft | 79% | Pass |
| Base Plate | 37% | Pass |
| Reinforcement | 65% | Pass |

## Foundations

| Reaction Component | Original Design Reactions | Factored Design Reactions* | Analysis Reactions | % of Design |
|---|---|---|---|---|
| Moment (Kips-Ft) | 3,821.4 | 5,158.9 | 4,064.2 | 79% |
| Shear (Kips) | 32.1 | 43.4 | 34.7 | 80% |

*** The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1**

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

## Deflection and Sway*

| Antenna Elevation (ft) | Deflection (ft) | Sway (Rotation) (°) |
|---|---|---|
| 138.0 | 1.634 | 1.545 |

***Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G**

AMERICAN TOWER®
CORPORATION

**Standard Conditions**

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Tower Services, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Tower Services, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

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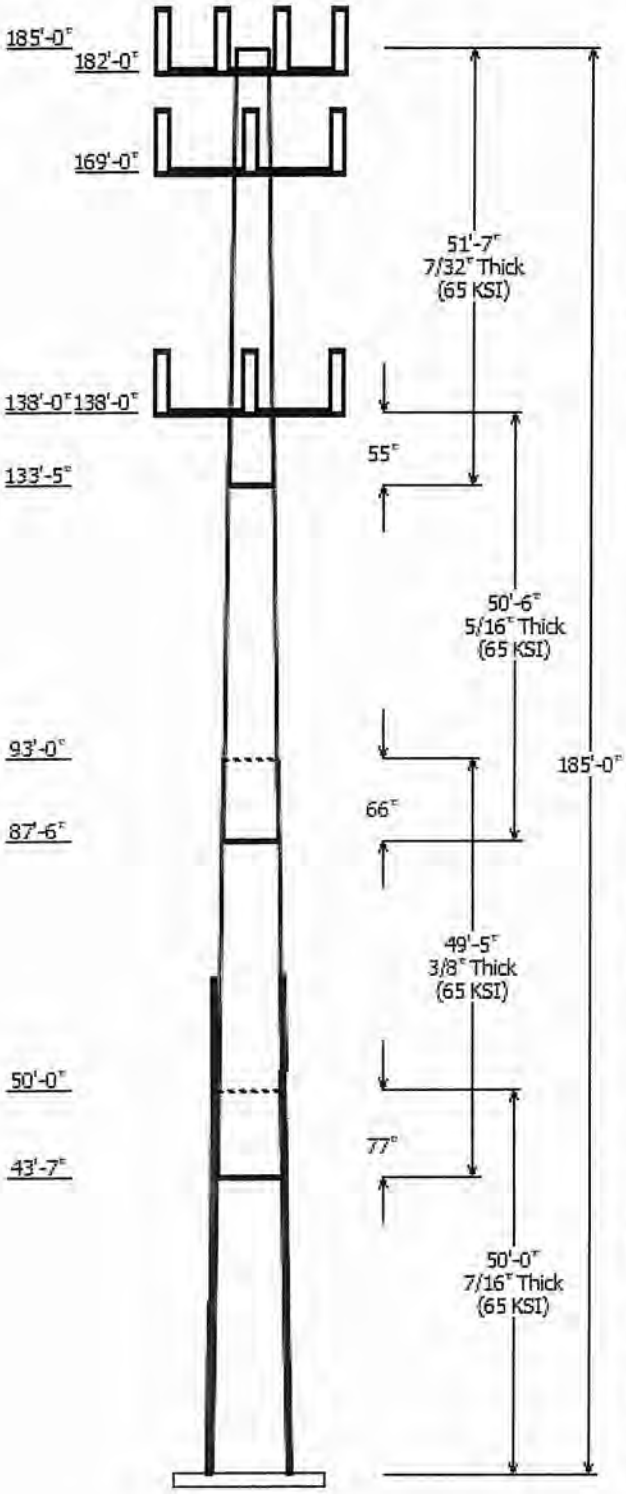



## Job Information

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: | ANSI/TIA-222 Rev G |
| Description : | 185 ft Valmont pole - Model verified 5/30/12 | | |
| Client : | Sprint Nextel | Struct Class : | II |
| Location : | Middletown CT 3, CT | | |
| Shape : | 12 Sides | Exposure : | B |
| Height : | 185.00 (ft) | Topo : | 1 |
| Base Elev (ft): | 0.00 | | |
| Taper: | 0.188014(in/ft) | | |

## Sections Properties

| Shaft Section | Length (ft) | Diameter (in) Accross Flats Top | Bottom | Thick (in) | Joint Type | Overlap Length (in) | Taper (in/ft) | Steel Grade (ksi) |
|---|---|---|---|---|---|---|---|---|
| 1 | 50.000 | 42.59 | 52.00 | 0.438 | | 0.000 | 0.188014 | 65 |
| 2 | 49.417 | 35.26 | 44.55 | 0.375 | Slip Joint | 77.000 | 0.188014 | 65 |
| 3 | 50.500 | 27.42 | 36.92 | 0.313 | Slip Joint | 66.000 | 0.188014 | 65 |
| 4 | 51.583 | 19.03 | 28.72 | 0.219 | Slip Joint | 55.000 | 0.188014 | 65 |

## Discrete Appurtenance

| Attach Elev (ft) | Force Elev (ft) | Qty | Description |
|---|---|---|---|
| 182.000 | 182.000 | 1 | Flat Platform w/ Handrails |
| 182.000 | 184.000 | 3 | 72" x 12" Panels |
| 182.000 | 184.000 | 9 | 48" x 12" Panels |
| 169.000 | 171.000 | 6 | Ericsson RRUS 11 |
| 169.000 | 170.000 | 1 | Raycap DC6-48-60-18-8F |
| 169.000 | 171.000 | 3 | KMW AM-X-CD-16-65-00T-RET |
| 169.000 | 170.000 | 12 | Powerwave LGP21401 |
| 169.000 | 171.000 | 6 | Allgon 7770.00 |
| 169.000 | 169.000 | 1 | Round Low Profile Platform |
| 138.000 | 140.000 | 3 | RFS APXVTM14-C-I20 |
| 138.000 | 140.000 | 3 | Alcatel-Lucent TD-RRH8x20 |
| 138.000 | 140.000 | 3 | Alcatel-Lucent 4X40W RRH |
| 138.000 | 140.000 | 3 | Alcatel-Lucent 800 MHz 2X50W |
| 138.000 | 140.000 | 3 | RFS APXVSPP18-C-A20 |
| 138.000 | 138.000 | 1 | Flat Platform w/ Handrails |

## Linear Appurtenance

| Elev (ft) From | To | Description | Exposed To Wind |
|---|---|---|---|
| 73.620 | 169.0 | 1 5/8" Coax | Yes |
| 0.000 | 182.0 | 1 5/8" Coax | No |
| 0.000 | 73.620 | #20 Dywidag | Yes |
| 0.000 | 73.620 | 1 5/8" Coax | Yes |
| 0.000 | 138.0 | 1 1/4" Hybriflex | Yes |
| 0.000 | 138.0 | 1 1/4" Hybriflex | Yes |
| 0.000 | 169.0 | 0.39" Cable | Yes |
| 0.000 | 169.0 | 0.78" 8 AWG 6 | Yes |
| 0.000 | 169.0 | 3" Conduit | Yes |

## Load Cases

| | |
|---|---|
| 1.2D + 1.6W | 95.00 mph with No Ice |
| 0.9D + 1.6W | 95.00 mph with No Ice (Reduced DL) |
| 1.2D + 1.0Di + 1.0Wi | 50.00 mph with 1.00 in Radial Ice |
| 1.0D + 1.0W | 60.00 mph Serviceability |

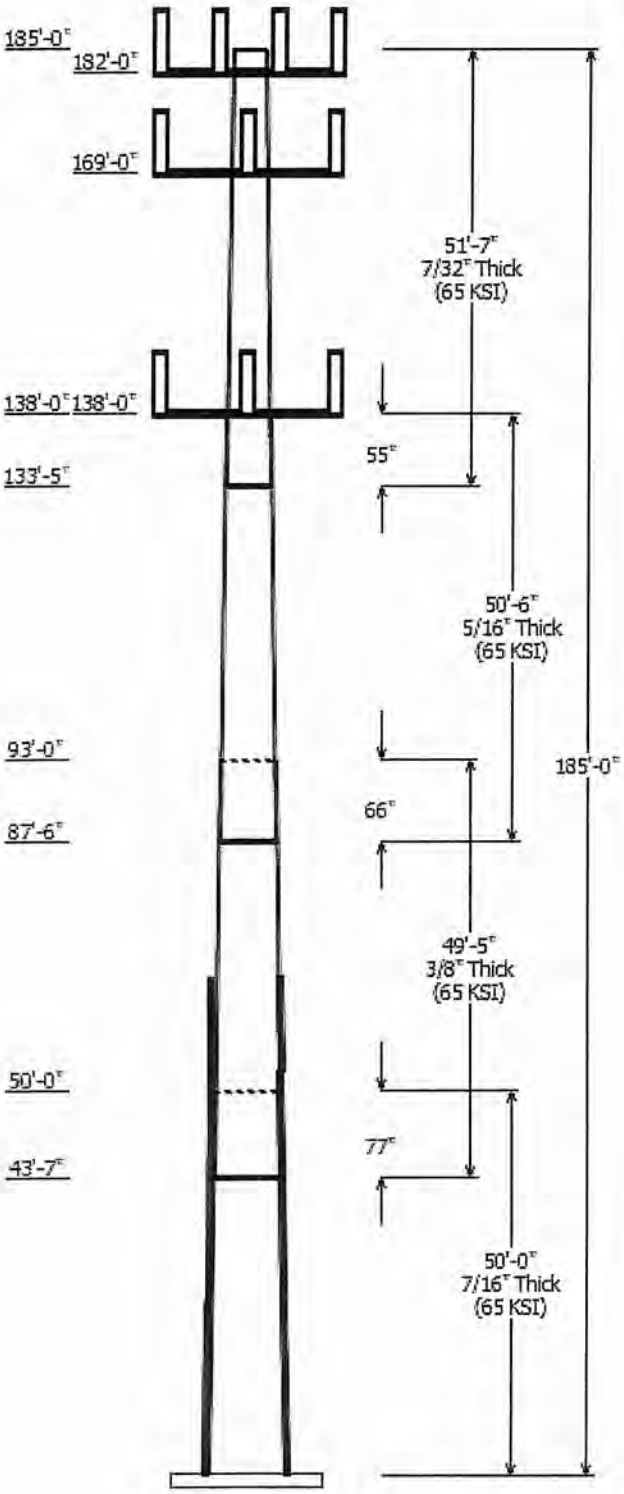
## Reactions

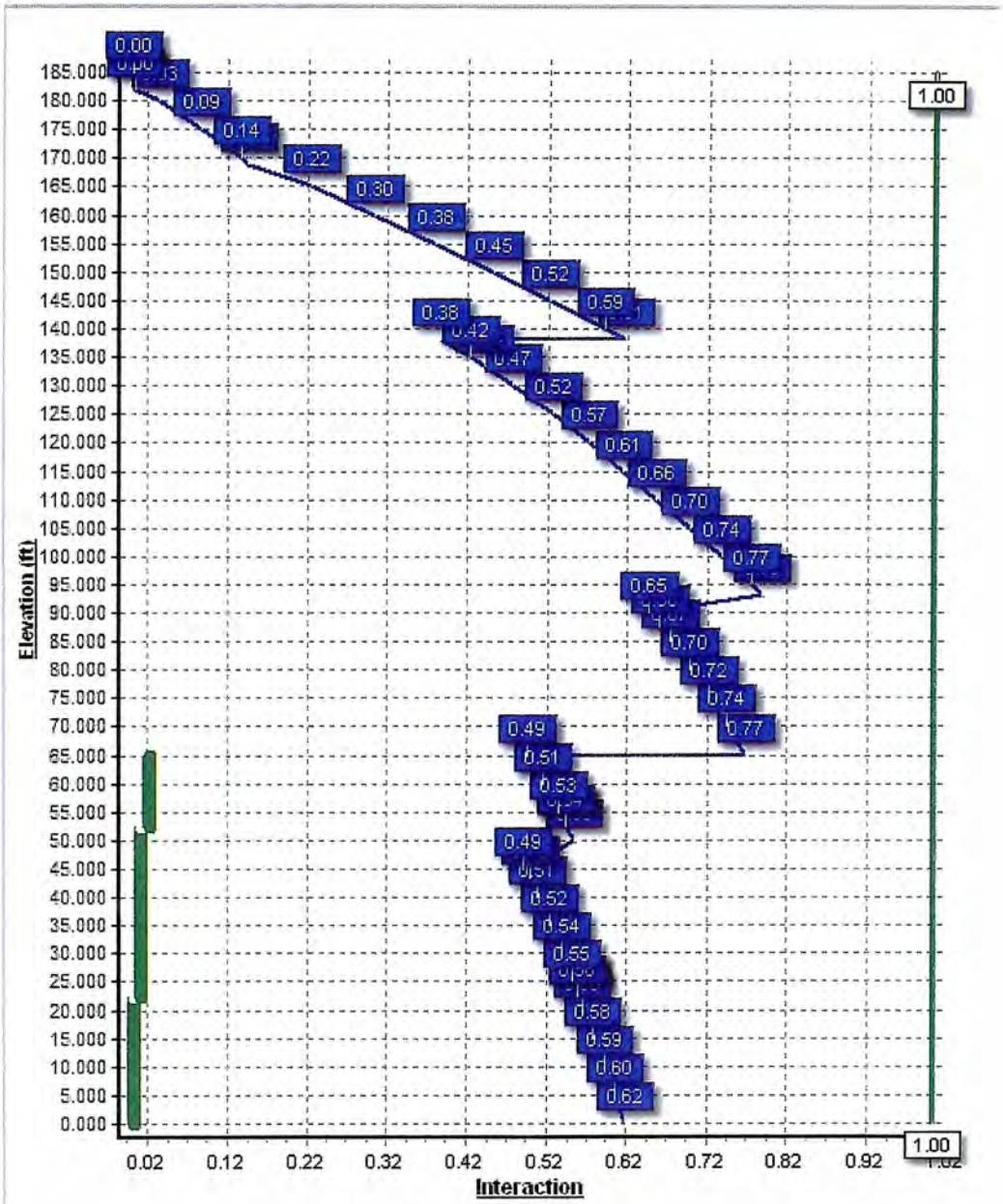
| Load Case | Moment (kip-ft) | Shear (kip) | Axial (kip) |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 1.2D + 1.6W | 4064.17 | 34.66 | 53.45 |
| 0.9D + 1.6W | 3787.54 | 31.48 | 41.17 |
| 1.2D + 1.0Di + 1.0Wi | 1021.60 | 7.63 | 101.12 |
| 1.0D + 1.0W | 963.96 | 7.94 | 45.30 |

**Dish Deflections**

| Load Case | Attach Elev (ft) | Deflection (in) | Rotation (deg) |
|---|---|---|---|
| | 0.00 | 0.000 | 0.000 |




Elevation (ft)
Interaction
185.000
180.000
175.000
170.000
165.000
160.000
155.000
150.000
145.000
140.000
135.000
130.000
125.000
120.000
115.000
110.000
105.000
100.000
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
1.00
0.00
0.09
0.14
0.22
0.30
0.38
0.45
0.52
0.59
0.38
0.42
0.47
0.52
0.57
0.61
0.66
0.70
0.74
0.77
0.65
0.70
0.72
0.74
0.77
0.49
0.51
0.53
0.49
0.52
0.54
0.55
0.58
0.59
0.60
0.62

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:25 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 1 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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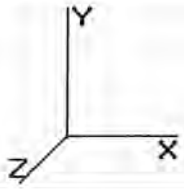


## Shaft Section Properties

| Sect Info | Length (ft) | Thick (in) | Fy (ksi) | Joint Type | Slip Joint Len (in) | Weight (lb) | Bottom Dia (in) | Bottom Elev (ft) | Bottom Area (sqin) | Bottom Ix (in^4) | Bottom W/t Ratio | Bottom D/t Ratio | Top Dia (in) | Top Elev (ft) | Top Area (sqin) | Top Ix (in^4) | Top W/t Ratio | Top D/t Ratio | Taper (in/ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-12 | 50.000 | 0.4375 | 65 | | 0.00 | 11,232 | 52.00 | 0.00 | 72.64 | 24650.3 | 29.70 | 118.86 | 42.59 | 50.00 | 59.40 | 13476.5 | 23.95 | 97.37 | 0.188014 |
| 2-12 | 49.417 | 0.3750 | 65 | Slip | 77.00 | 8,028 | 44.55 | 43.58 | 53.35 | 13291.4 | 29.69 | 118.82 | 35.26 | 93.00 | 42.13 | 6545.8 | 23.05 | 94.04 | 0.188014 |
| 3-12 | 50.500 | 0.3125 | 65 | Slip | 66.00 | 5,510 | 36.92 | 87.50 | 36.84 | 6302.8 | 29.52 | 118.16 | 27.42 | 138.00 | 27.29 | 2560.9 | 21.38 | 87.77 | 0.188014 |
| 4-12 | 51.583 | 0.2188 | 65 | Slip | 55.00 | 2,925 | 28.72 | 133.42 | 20.08 | 2083.3 | 33.05 | 131.33 | 19.03 | 185.00 | 13.25 | 598.5 | 21.17 | 86.99 | 0.188014 |
| | | | | Shaft Weight | | 27,695 | | | | | | | | | | | | | |

## Discrete Appurtenance Properties

| Attach Elev (ft) | Description | Qty | No Ice Weight (lb) | No Ice EPAa (sf) | No Ice Orientation Factor | Ice Weight (lb) | Ice EPAa (sf) | Ice Orientation Factor | Distance From Face (ft) | Vert Ecc (ft) |
|---|---|---|---|---|---|---|---|---|---|---|
| 182.00 | 48" x 12" Panels | 9 | 30.00 | 5.070 | 0.67 | 225.54 | 6.440 | 0.67 | 0.000 | 2.000 |
| 182.00 | 72" x 12" Panels | 3 | 45.00 | 8.130 | 0.67 | 324.48 | 9.938 | 0.50 | 0.000 | 2.000 |
| 182.00 | Flat Platform w/ Handrails | 1 | 2000.00 | 42.400 | 1.00 | 3,935.85 | 70.967 | 1.00 | 0.000 | 0.000 |
| 169.00 | Allgon 7770.00 | 6 | 35.00 | 5.510 | 0.77 | 232.01 | 6.965 | 0.77 | 0.000 | 2.000 |
| 169.00 | Ericsson RRUS 11 | 6 | 55.00 | 2.520 | 0.67 | 172.83 | 3.420 | 0.67 | 0.000 | 2.000 |
| 169.00 | KMW AM-X-CD-16-65-00T- | 3 | 48.50 | 8.020 | 0.79 | 321.51 | 9.807 | 0.79 | 0.000 | 2.000 |
| 169.00 | Powerwave LGP21401 | 12 | 14.10 | 1.100 | 0.50 | 65.91 | 1.752 | 0.50 | 0.000 | 1.000 |
| 169.00 | Raycap DC6-48-60-18-8F | 1 | 20.00 | 1.110 | 1.00 | 138.15 | 2.767 | 1.00 | 0.000 | 1.000 |
| 169.00 | Round Low Profile Platform | 1 | 1500.00 | 21.700 | 1.00 | 2,376.01 | 47.659 | 1.00 | 0.000 | 0.000 |
| 138.00 | Alcatel-Lucent 4X40W RRH | 3 | 88.00 | 3.260 | 0.67 | 264.24 | 3.408 | 0.67 | 0.000 | 2.000 |
| 138.00 | Alcatel-Lucent 800 MHz | 3 | 64.00 | 2.060 | 0.67 | 192.85 | 2.875 | 0.67 | 0.000 | 2.000 |
| 138.00 | Alcatel-Lucent TD-RRH8x20 | 3 | 66.10 | 3.690 | 0.67 | 181.60 | 5.740 | 0.67 | 0.000 | 2.000 |
| 138.00 | Flat Platform w/ Handrails | 1 | 2000.00 | 42.400 | 1.00 | 3,883.01 | 70.187 | 1.00 | 0.000 | 0.000 |
| 138.00 | RFS APXVSPP18-C-A20 | 3 | 57.00 | 8.020 | 0.83 | 337.68 | 9.768 | 0.83 | 0.000 | 2.000 |
| 138.00 | RFS APXVTM14-C-I20 | 3 | 56.20 | 6.340 | 0.78 | 250.01 | 9.225 | 0.78 | 0.000 | 2.000 |
| | Totals | 58 | 7773.60 | | | 21,199.82 | | | Number of Loadings : | 15 |

## Linear Appurtenance Properties

| Elev From (ft) | Elev To (ft) | Description | Exposed Width (in) | Exposed To Wind |
|---|---|---|---|---|
| 0.00 | 182.00 | (12) 1 5/8" Coax | 0.00 | N |
| 0.00 | 169.00 | (1) 0.39" Cable | 0.00 | Y |
| 0.00 | 169.00 | (2) 0.78" 8 AWG 6 | 0.00 | Y |
| 0.00 | 169.00 | (1) 3" Conduit | 0.00 | Y |
| 73.62 | 169.00 | (12) 1 5/8" Coax | 5.94 | Y |
| 0.00 | 138.00 | (3) 1 1/4" Hybriflex | 0.00 | Y |
| 0.00 | 138.00 | (1) 1 1/4" Hybriflex | 0.00 | Y |
| 0.00 | 73.62 | (4) #20 Dywidag | 8.00 | Y |
| 0.00 | 73.62 | (12) 1 5/8" Coax | 0.00 | Y |

## Additional Steel

| Elev From (ft) | Elev To (ft) | Qty | Description | Fy (ksi) | Offset (in) | Intermediate Connections Description | Spacing (in) | Len (in) | Connectors | Continuation? |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 22.50 | 4 | SOL #20 All Thread | 80 | 2.19 | 6" Angle Bracket | 30.0 | 3.31 | 5/8" A36 U-Bolt | No |
| 22.50 | 52.50 | 4 | SOL #20 All Thread | 80 | 2.19 | 6" Angle Bracket | 30.0 | 3.31 | 5/8" A36 U-Bolt | Yes |
| 52.50 | 65.00 | 4 | SOL #20 All Thread | 80 | 2.19 | 6" Angle Bracket | 30.0 | 3.31 | 5/8" A36 U-Bolt | Yes |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | |
| Location : | Middletown CT 3, CT | Struct Class : II | |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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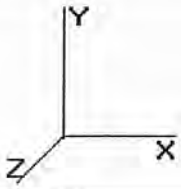
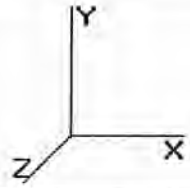


| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:25 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 3 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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## Segment Properties (Max Len : 5 ft)

| Seg Top Elev (ft) | Description | Thick (in) | Flat Dia (in) | Area (in^2) | Ix (in^4) | W/t Ratio | D/t Ratio | Fy (ksi) | S (in3) | Weight (lb) | Additional Reinforcing Area (in^2) | Additional Reinforcing Ix (in^4) | Additional Reinforcing Weight (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | 0.4375 | 52.000 | 72.639 | 24,650.3 | 29.70 | 118.86 | 72.3 | 915.8 | 0.0 | 19.64 | 8,518 | 0.0 |
| 5.00 | | 0.4375 | 51.060 | 71.314 | 23,326.5 | 29.13 | 116.71 | 72.9 | 882.6 | 1,224.6 | 19.64 | 8,249 | 334.0 |
| 10.00 | | 0.4375 | 50.120 | 69.990 | 22,050.9 | 28.55 | 114.56 | 73.6 | 849.9 | 1,202.1 | 19.64 | 7,983 | 334.0 |
| 15.00 | | 0.4375 | 49.180 | 68.666 | 20,822.7 | 27.98 | 112.41 | 74.2 | 817.9 | 1,179.5 | 19.64 | 7,723 | 334.0 |
| 20.00 | | 0.4375 | 48.240 | 67.341 | 19,641.0 | 27.40 | 110.26 | 74.8 | 786.6 | 1,157.0 | 19.64 | 7,466 | 334.0 |
| 22.50 | Reinf. Top Reinf | 0.4375 | 47.770 | 66.679 | 19,067.3 | 27.11 | 109.19 | 75.1 | 771.1 | 570.1 | 19.64 | 7,339 | 167.0 |
| 25.00 | | 0.4375 | 47.300 | 66.017 | 18,504.9 | 26.83 | 108.11 | 75.5 | 755.8 | 564.4 | 19.64 | 7,214 | 167.0 |
| 30.00 | | 0.4375 | 46.360 | 64.693 | 17,413.5 | 26.25 | 105.96 | 76.1 | 725.6 | 1,111.9 | 19.64 | 6,966 | 334.0 |
| 35.00 | | 0.4375 | 45.420 | 63.368 | 16,365.8 | 25.67 | 103.82 | 76.7 | 696.1 | 1,089.4 | 19.64 | 6,722 | 334.0 |
| 40.00 | | 0.4375 | 44.479 | 62.044 | 15,361.0 | 25.10 | 101.67 | 77.3 | 667.2 | 1,066.9 | 19.64 | 6,483 | 334.0 |
| 43.58 | Bot - Section 2 | 0.4375 | 43.806 | 61.095 | 14,666.8 | 24.69 | 100.13 | 77.8 | 646.8 | 750.7 | 19.64 | 6,314 | 239.4 |
| 45.00 | | 0.4375 | 43.539 | 60.720 | 14,398.2 | 24.52 | 99.52 | 78.0 | 638.9 | 550.0 | 19.64 | 6,435 | 94.6 |
| 50.00 | Top - Section 1 | 0.3750 | 43.349 | 51.891 | 12,232.1 | 28.83 | 115.60 | 73.3 | 545.1 | 1,914.3 | 19.64 | 6,201 | 334.0 |
| 52.50 | Reinf. Top Reinf | 0.3750 | 42.879 | 51.324 | 11,835.1 | 28.49 | 114.34 | 73.6 | 533.2 | 439.0 | 19.64 | 6,086 | 167.0 |
| 55.00 | | 0.3750 | 42.409 | 50.756 | 11,446.8 | 28.16 | 113.09 | 74.0 | 521.4 | 434.2 | 19.64 | 5,971 | 167.0 |
| 60.00 | | 0.3750 | 41.469 | 49.621 | 10,695.8 | 27.49 | 110.58 | 74.7 | 498.3 | 853.9 | 19.64 | 5,746 | 334.0 |
| 65.00 | Reinf. Top | 0.3750 | 40.529 | 48.486 | 9,978.5 | 26.82 | 108.08 | 75.5 | 475.6 | 834.6 | 19.64 | 5,525 | 334.0 |
| 70.00 | | 0.3750 | 39.589 | 47.351 | 9,293.9 | 26.14 | 105.57 | 76.2 | 453.5 | 815.3 | | | |
| 75.00 | | 0.3750 | 38.649 | 46.216 | 8,641.4 | 25.47 | 103.06 | 76.9 | 431.9 | 796.0 | | | |
| 80.00 | | 0.3750 | 37.709 | 45.081 | 8,020.2 | 24.80 | 100.56 | 77.7 | 410.9 | 776.7 | | | |
| 85.00 | | 0.3750 | 36.769 | 43.946 | 7,429.5 | 24.13 | 98.05 | 78.4 | 390.3 | 757.3 | | | |
| 87.50 | Bot - Section 3 | 0.3750 | 36.299 | 43.378 | 7,145.3 | 23.79 | 96.80 | 78.8 | 380.3 | 371.5 | | | |
| 90.00 | | 0.3750 | 35.829 | 42.810 | 6,868.5 | 23.46 | 95.54 | 79.1 | 370.3 | 677.9 | | | |
| 93.00 | Top - Section 2 | 0.3125 | 35.890 | 35.800 | 5,783.7 | 28.63 | 114.85 | 73.5 | 311.3 | 802.0 | | | |
| 95.00 | | 0.3125 | 35.514 | 35.421 | 5,602.3 | 28.31 | 113.64 | 73.8 | 304.7 | 242.3 | | | |
| 100.0 | | 0.3125 | 34.574 | 34.475 | 5,165.3 | 27.50 | 110.64 | 74.7 | 288.6 | 594.6 | | | |
| 105.0 | | 0.3125 | 33.634 | 33.529 | 4,751.7 | 26.70 | 107.63 | 75.6 | 272.9 | 578.5 | | | |
| 110.0 | | 0.3125 | 32.694 | 32.583 | 4,360.8 | 25.89 | 104.62 | 76.5 | 257.7 | 562.4 | | | |
| 115.0 | | 0.3125 | 31.753 | 31.637 | 3,991.9 | 25.08 | 101.61 | 77.4 | 242.9 | 546.3 | | | |
| 120.0 | | 0.3125 | 30.813 | 30.691 | 3,644.4 | 24.28 | 98.60 | 78.2 | 228.5 | 530.2 | | | |
| 125.0 | | 0.3125 | 29.873 | 29.746 | 3,317.7 | 23.47 | 95.59 | 79.1 | 214.6 | 514.1 | | | |
| 130.0 | | 0.3125 | 28.933 | 28.800 | 3,011.2 | 22.66 | 92.59 | 80.0 | 201.1 | 498.0 | | | |
| 133.4 | Bot - Section 4 | 0.3125 | 28.291 | 28.153 | 2,812.9 | 22.11 | 90.53 | 80.6 | 192.1 | 331.1 | | | |
| 135.0 | | 0.3125 | 27.993 | 27.854 | 2,724.1 | 21.86 | 89.58 | 80.9 | 188.0 | 258.4 | | | |
| 138.0 | | 0.3125 | 27.429 | 27.286 | 2,560.9 | 21.38 | 87.77 | 81.4 | 180.4 | 482.3 | | | |
| 138.0 | Top - Section 3 | 0.2188 | 27.867 | 19.474 | 1,900.1 | 31.99 | 127.39 | 69.8 | 131.7 | 0.1 | | | |
| 140.0 | | 0.2188 | 27.491 | 19.210 | 1,823.6 | 31.53 | 125.67 | 70.3 | 128.2 | 131.6 | | | |
| 145.0 | | 0.2188 | 26.551 | 18.547 | 1,641.5 | 30.38 | 121.37 | 71.6 | 119.4 | 321.2 | | | |
| 150.0 | | 0.2188 | 25.610 | 17.885 | 1,471.9 | 29.23 | 117.08 | 72.8 | 111.0 | 309.9 | | | |
| 155.0 | | 0.2188 | 24.670 | 17.223 | 1,314.4 | 28.08 | 112.78 | 74.1 | 102.9 | 298.7 | | | |
| 160.0 | | 0.2188 | 23.730 | 16.561 | 1,168.5 | 26.92 | 108.48 | 75.4 | 95.1 | 287.4 | | | |
| 165.0 | | 0.2188 | 22.790 | 15.899 | 1,033.9 | 25.77 | 104.18 | 76.6 | 87.6 | 276.1 | | | |
| 169.0 | | 0.2188 | 22.038 | 15.369 | 933.9 | 24.85 | 100.75 | 77.6 | 81.9 | 212.8 | | | |
| 170.0 | | 0.2188 | 21.850 | 15.237 | 910.0 | 24.62 | 99.89 | 77.9 | 80.5 | 52.1 | | | |
| 175.0 | | 0.2188 | 20.910 | 14.574 | 796.4 | 23.47 | 95.59 | 79.1 | 73.6 | 253.6 | | | |
| 180.0 | | 0.2188 | 19.970 | 13.912 | 692.8 | 22.32 | 91.29 | 80.4 | 67.0 | 242.3 | | | |
| 182.0 | | 0.2188 | 19.594 | 13.647 | 653.9 | 21.86 | 89.57 | 80.9 | 64.5 | 93.8 | | | |
| 185.0 | | 0.2188 | 19.030 | 13.250 | 598.5 | 21.17 | 86.99 | 81.6 | 60.8 | 137.3 | | | |
| | | | | | | | | | | 27,694.6 | | | 4,342.0 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:25 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 4 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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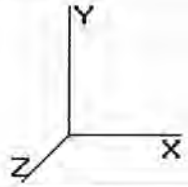


**Load Case:** 1.2D + 1.6W  95.00 mph with No Ice  28 Iterations

Gust Response Factor : 1.10  Wind Importance Factor : 1.00
Dead Load Factor : 1.20
Wind Load Factor : 1.60

## Shaft Segment Forces (Factored)

| Seg Top Elev (ft) | Description | Kzt | Kz | qz (psf) | qzGh (psf) | C (mph-ft) | Cf | Ice Thick (in) | Tributary (ft) | Ap (sf) | EPAs (sf) | Wind Force X (lb) | Dead Load Ice (lb) | Tot Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 356.57 | 1.000 | 0.000 | 0.00 | 0.000 | 0.00 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 350.12 | 1.150 * | 0.000 | 5.00 | 22.228 | 25.56 | 691.2 | 0.0 | 1,803.5 |
| 10.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 343.68 | 1.158 * | 0.000 | 5.00 | 21.823 | 25.28 | 683.5 | 0.0 | 1,776.5 |
| 15.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 337.23 | 1.167 * | 0.000 | 5.00 | 21.417 | 24.99 | 675.8 | 0.0 | 1,749.4 |
| 20.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 330.79 | 1.176 * | 0.000 | 5.00 | 21.012 | 24.71 | 668.1 | 0.0 | 1,722.4 |
| 22.50 | Reinf. Top Reinf Bottom | 1.00 | 0.70 | 15.364 | 16.90 | 327.56 | 1.183 * | 0.000 | 2.50 | 10.354 | 12.25 | 331.2 | 0.0 | 851.1 |
| 25.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 324.34 | 1.188 * | 0.000 | 2.50 | 10.252 | 12.18 | 329.3 | 0.0 | 844.3 |
| 30.00 | | 1.00 | 0.70 | 15.377 | 16.91 | 318.03 | 1.195 * | 0.000 | 5.00 | 20.201 | 24.14 | 653.3 | 0.0 | 1,668.3 |
| 35.00 | | 1.00 | 0.73 | 16.070 | 17.67 | 318.52 | 1.205 * | 0.000 | 5.00 | 19.795 | 23.86 | 674.7 | 0.0 | 1,641.3 |
| 40.00 | | 1.00 | 0.76 | 16.694 | 18.36 | 317.93 | 1.216 * | 0.000 | 5.00 | 19.390 | 23.57 | 692.6 | 0.0 | 1,614.3 |
| 43.58 | Bot - Section 2 | 1.00 | 0.77 | 17.109 | 18.82 | 316.98 | 1.225 * | 0.000 | 3.58 | 13.646 | 16.72 | 503.4 | 0.0 | 1,140.2 |
| 45.00 | | 1.00 | 0.78 | 17.266 | 18.99 | 316.49 | 1.231 * | 0.000 | 1.42 | 5.429 | 6.68 | 203.1 | 0.0 | 754.6 |
| 50.00 | Top - Section 1 | 1.00 | 0.81 | 17.793 | 19.57 | 314.35 | 1.238 * | 0.000 | 5.00 | 18.902 | 23.41 | 733.0 | 0.0 | 2,631.2 |
| 52.50 | Reinf. Top Reinf Bottom | 1.00 | 0.82 | 18.043 | 19.84 | 318.63 | 1.238 * | 0.000 | 2.50 | 9.299 | 11.51 | 365.5 | 0.0 | 693.8 |
| 55.00 | | 1.00 | 0.83 | 18.285 | 20.11 | 317.24 | 1.244 * | 0.000 | 2.50 | 9.198 | 11.44 | 368.1 | 0.0 | 688.0 |
| 60.00 | | 1.00 | 0.85 | 18.745 | 20.61 | 314.09 | 1.253 * | 0.000 | 5.00 | 18.091 | 22.66 | 747.7 | 0.0 | 1,358.7 |
| 65.00 | Reinf. Top | 1.00 | 0.87 | 19.179 | 21.09 | 310.50 | 1.265 * | 0.000 | 5.00 | 17.686 | 22.38 | 755.4 | 0.0 | 1,335.5 |
| 70.00 | | 1.00 | 0.89 | 19.589 | 21.54 | 306.53 | 1.279 * | 0.000 | 5.00 | 17.280 | 22.10 | 761.8 | 0.0 | 978.3 |
| 75.00 | | 1.00 | 0.91 | 19.979 | 21.97 | 302.21 | 1.250 * | 0.000 | 5.00 | 16.875 | 21.10 | 742.0 | 0.0 | 955.2 |
| 80.00 | | 1.00 | 0.92 | 20.351 | 22.38 | 297.59 | 1.151 * | 0.000 | 5.00 | 16.469 | 18.95 | 678.9 | 0.0 | 932.0 |
| 85.00 | | 1.00 | 0.94 | 20.706 | 22.77 | 292.70 | 1.162 * | 0.000 | 5.00 | 16.064 | 18.67 | 680.4 | 0.0 | 908.8 |
| 87.50 | Bot - Section 3 | 1.00 | 0.95 | 20.879 | 22.96 | 290.15 | 1.171 * | 0.000 | 2.50 | 7.881 | 9.23 | 339.2 | 0.0 | 445.8 |
| 90.00 | | 1.00 | 0.95 | 21.047 | 23.15 | 287.55 | 1.177 * | 0.000 | 2.50 | 7.912 | 9.31 | 345.0 | 0.0 | 813.5 |
| 93.00 | Top - Section 2 | 1.00 | 0.96 | 21.245 | 23.37 | 284.35 | 1.184 * | 0.000 | 3.00 | 9.363 | 11.09 | 414.6 | 0.0 | 962.4 |
| 95.00 | | 1.00 | 0.97 | 21.375 | 23.51 | 287.23 | 1.182 * | 0.000 | 2.00 | 6.159 | 7.28 | 273.9 | 0.0 | 290.8 |
| 100.0 | | 1.00 | 0.98 | 21.690 | 23.86 | 281.69 | 1.191 * | 0.000 | 5.00 | 15.117 | 18.01 | 687.4 | 0.0 | 713.5 |
| 105.0 | | 1.00 | 1.00 | 21.995 | 24.19 | 275.94 | 1.205 * | 0.000 | 5.00 | 14.711 | 17.72 | 686.1 | 0.0 | 694.2 |
| 110.0 | | 1.00 | 1.01 | 22.289 | 24.51 | 270.02 | 1.219 * | 0.000 | 5.00 | 14.306 | 17.44 | 684.1 | 0.0 | 674.9 |
| 115.0 | | 1.00 | 1.02 | 22.574 | 24.83 | 263.93 | 1.234 * | 0.000 | 5.00 | 13.900 | 17.16 | 681.6 | 0.0 | 655.6 |
| 120.0 | | 1.00 | 1.04 | 22.850 | 25.13 | 257.67 | 1.250 * | 0.000 | 5.00 | 13.495 | 16.87 | 678.5 | 0.0 | 636.3 |
| 125.0 | | 1.00 | 1.05 | 23.118 | 25.43 | 251.27 | 1.267 * | 0.000 | 5.00 | 13.089 | 16.59 | 674.9 | 0.0 | 617.0 |
| 130.0 | | 1.00 | 1.06 | 23.379 | 25.71 | 244.73 | 1.285 * | 0.000 | 5.00 | 12.684 | 16.30 | 670.8 | 0.0 | 597.6 |
| 133.4 | Bot - Section 4 | 1.00 | 1.07 | 23.553 | 25.90 | 240.19 | 1.200 * | 0.000 | 3.42 | 8.435 | 10.12 | 419.6 | 0.0 | 397.3 |
| 135.0 | | 1.00 | 1.07 | 23.632 | 25.99 | 238.06 | 1.200 * | 0.000 | 1.58 | 3.903 | 4.68 | 194.8 | 0.0 | 310.1 |
| 138.0 | Appertunance(s) | 1.00 | 1.08 | 23.781 | 26.15 | 234.00 | 1.200 * | 0.000 | 3.00 | 7.285 | 8.74 | 365.9 | 0.0 | 578.7 |
| 138.0 | Top - Section 3 | 1.00 | 1.08 | 23.781 | 26.15 | 234.00 | 1.200 * | 0.000 | 0.00 | 0.001 | 0.00 | 0.0 | 0.0 | 0.1 |
| 140.0 | | 1.00 | 1.08 | 23.879 | 26.26 | 235.01 | 1.200 * | 0.000 | 2.00 | 4.775 | 5.73 | 240.8 | 0.0 | 157.9 |
| 145.0 | | 1.00 | 1.09 | 24.120 | 26.53 | 228.11 | 1.200 * | 0.000 | 5.00 | 11.656 | 13.99 | 593.8 | 0.0 | 385.4 |
| 150.0 | | 1.00 | 1.11 | 24.355 | 26.79 | 221.10 | 1.200 * | 0.000 | 5.00 | 11.250 | 13.50 | 578.7 | 0.0 | 371.9 |
| 155.0 | | 1.00 | 1.12 | 24.584 | 27.04 | 213.99 | 1.200 * | 0.000 | 5.00 | 10.845 | 13.01 | 563.1 | 0.0 | 358.4 |
| 160.0 | | 1.00 | 1.13 | 24.808 | 27.28 | 206.77 | 1.200 * | 0.000 | 5.00 | 10.439 | 12.53 | 547.0 | 0.0 | 344.9 |
| 165.0 | | 1.00 | 1.14 | 25.027 | 27.53 | 199.45 | 1.200 * | 0.000 | 5.00 | 10.034 | 12.04 | 530.3 | 0.0 | 331.4 |
| 169.0 | Appertunance(s) | 1.00 | 1.14 | 25.199 | 27.71 | 193.53 | 1.200 * | 0.000 | 4.00 | 7.735 | 9.28 | 411.7 | 0.0 | 255.4 |
| 170.0 | | 1.00 | 1.15 | 25.241 | 27.76 | 192.04 | 1.000 | 0.000 | 1.00 | 1.893 | 1.89 | 84.1 | 0.0 | 62.5 |
| 175.0 | | 1.00 | 1.16 | 25.451 | 27.99 | 184.54 | 1.000 | 0.000 | 5.00 | 9.223 | 9.22 | 413.1 | 0.0 | 304.3 |
| 180.0 | | 1.00 | 1.16 | 25.657 | 28.22 | 176.96 | 1.000 | 0.000 | 5.00 | 8.817 | 8.82 | 398.1 | 0.0 | 290.8 |
| 182.0 | Appertunance(s) | 1.00 | 1.17 | 25.738 | 28.31 | 173.90 | 1.000 | 0.000 | 2.00 | 3.413 | 3.41 | 154.6 | 0.0 | 112.5 |
| 185.0 | | 1.00 | 1.17 | 25.859 | 28.44 | 169.29 | 1.000 | 0.000 | 3.00 | 4.998 | 5.00 | 227.5 | 0.0 | 164.7 |
| | | | | | | | Totals: | | 185.00 | | | 23,798.1 | 0.0 | 37,575.5 |

* = Cf Adjusted By Linear Load Ra Effect

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:25 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 5 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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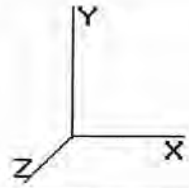


**Load Case:** 1.2D + 1.6W — 95.00 mph with No Ice — 28 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

## Discrete Appurtenance Segment Forces (Factored)

| Elev (ft) | Description | Qty | qz (psf) | qzGh (psf) | Orientation Factor | Ka | Total EPAa (sf) | Horiz Ecc (ft) | Vert Ecc (ft) | Wind FX (lb) | Mom Y (lb-ft) | Mom Z (lb-ft) | Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 138.0 | Flat Platform w/ Han | 1 | 23.781 | 26.159 | 1.00 | 1.00 | 42.40 | 0.000 | 0.000 | 1,774.65 | 0.00 | 0.00 | 2,400.00 |
| 138.0 | RFS APXVSPP18-C- | 3 | 23.879 | 26.267 | 0.83 | 0.75 | 14.98 | 0.000 | 2.000 | 629.46 | 0.00 | 1,258.92 | 205.20 |
| 138.0 | Alcatel-Lucent 800 M | 3 | 23.879 | 26.267 | 0.67 | 0.75 | 3.11 | 0.000 | 2.000 | 130.51 | 0.00 | 261.03 | 230.40 |
| 138.0 | Alcatel-Lucent 4X40W | 3 | 23.879 | 26.267 | 0.67 | 0.75 | 4.91 | 0.000 | 2.000 | 206.54 | 0.00 | 413.08 | 316.80 |
| 138.0 | Alcatel-Lucent TD-RR | 3 | 23.879 | 26.267 | 0.67 | 0.75 | 5.56 | 0.000 | 2.000 | 233.78 | 0.00 | 467.57 | 237.96 |
| 138.0 | RFS APXVTM14-C-I20 | 3 | 23.879 | 26.267 | 0.78 | 0.75 | 11.13 | 0.000 | 2.000 | 467.63 | 0.00 | 935.25 | 202.32 |
| 169.0 | Round Low Profile Pl | 1 | 25.199 | 27.719 | 1.00 | 1.00 | 21.70 | 0.000 | 0.000 | 962.39 | 0.00 | 0.00 | 1,800.00 |
| 169.0 | Allgon 7770.00 | 6 | 25.284 | 27.812 | 0.77 | 0.80 | 20.36 | 0.000 | 2.000 | 906.22 | 0.00 | 1,812.45 | 252.00 |
| 169.0 | Powerwave LGP21401 | 12 | 25.241 | 27.765 | 0.50 | 0.80 | 5.28 | 0.000 | 1.000 | 234.56 | 0.00 | 234.56 | 203.04 |
| 169.0 | KMW AM-X-CD-16-65- | 3 | 25.284 | 27.812 | 0.79 | 0.80 | 15.21 | 0.000 | 2.000 | 676.65 | 0.00 | 1,353.30 | 174.60 |
| 169.0 | Raycap DC6-48-60-18- | 1 | 25.241 | 27.765 | 1.00 | 0.80 | 0.89 | 0.000 | 1.000 | 39.45 | 0.00 | 39.45 | 24.00 |
| 169.0 | Ericsson RRUS 11 | 6 | 25.284 | 27.812 | 0.67 | 0.80 | 8.10 | 0.000 | 2.000 | 360.64 | 0.00 | 721.27 | 396.00 |
| 182.0 | 48" x 12" Panels | 9 | 25.819 | 28.400 | 0.67 | 0.75 | 22.93 | 0.000 | 2.000 | 1,041.91 | 0.00 | 2,083.82 | 324.00 |
| 182.0 | 72" x 12" Panels | 3 | 25.819 | 28.400 | 0.67 | 0.75 | 12.26 | 0.000 | 2.000 | 556.92 | 0.00 | 1,113.84 | 162.00 |
| 182.0 | Flat Platform w/ Han | 1 | 25.738 | 28.312 | 1.00 | 1.00 | 42.40 | 0.000 | 0.000 | 1,920.67 | 0.00 | 0.00 | 2,400.00 |
| | | | | | | | | | | 10,141.99 | | | 9,328.32 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:25 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 6 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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**Load Case:** 1.2D + 1.6W  95.00 mph with No Ice  28 Iterations

Gust Response Factor : 1.10  Wind Importance Factor : 1.00
Dead Load Factor : 1.20
Wind Load Factor : 1.60

## Linear Appurtenance Segment Forces (Factored)

| Seg Top Elev (ft) | Description | Exposed To Wind | Length (ft) | Ca | Exposed Width (in) | Area (sqft) | CaAa (sqft) | qz (psf) | Ra | Cf Adjust Factor | F X (lb) | Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 0.42 |
| 5.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 7.08 |
| 5.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 45.48 |
| 5.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 18.00 |
| 5.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 6.00 |
| 5.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 0.00 |
| 5.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 59.03 |
| 10.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 0.42 |
| 10.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 7.08 |
| 10.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 45.48 |
| 10.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 18.00 |
| 10.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 6.00 |
| 10.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 0.00 |
| 10.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 59.03 |
| 15.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 0.42 |
| 15.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 7.08 |
| 15.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 45.48 |
| 15.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 18.00 |
| 15.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 6.00 |
| 15.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 0.00 |
| 15.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 59.03 |
| 20.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 0.42 |
| 20.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 7.08 |
| 20.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 45.48 |
| 20.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 18.00 |
| 20.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 6.00 |
| 20.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 0.00 |
| 20.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 59.03 |
| 22.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 0.21 |
| 22.50 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 3.54 |
| 22.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 22.74 |
| 22.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 9.00 |
| 22.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 3.00 |
| 22.50 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 0.00 |
| 22.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 29.52 |
| 25.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 0.21 |
| 25.00 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 3.54 |
| 25.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 22.74 |
| 25.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 9.00 |
| 25.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 3.00 |
| 25.00 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 0.00 |
| 25.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 29.52 |
| 30.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 0.42 |
| 30.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 7.08 |
| 30.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 45.48 |
| 30.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 18.00 |
| 30.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 6.00 |
| 30.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 0.00 |
| 30.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 59.03 |
| 35.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 0.42 |
| 35.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 7.08 |

| | | | |
|---|---|---|---|
| Pole : 302537 | Code: ANSI/TIA-222 Rev G | | 5/30/2014 5:25:25 PM |
| Location : Middletown CT 3, CT | Struct Class : II | | Page: 7 |
| Height : 185.0 (ft) | Exposure Category : B | | |
| Base Dia : 52.00 (in) | Topographic Category : 1 | | |
| Top Dia : 19.03 (in) | Base Elev : 0.000 (ft) | | |
| Shape : 12 Sides | | | |
| Taper : 0.188014 (in/ft) | | | |

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**Load Case:** 1.2D + 1.6W — 95.00 mph with No Ice — 28 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 45.48 |
| 35.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 18.00 |
| 35.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 6.00 |
| 35.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 0.00 |
| 35.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 59.03 |
| 40.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 0.42 |
| 40.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 7.08 |
| 40.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 45.48 |
| 40.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 18.00 |
| 40.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 6.00 |
| 40.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 0.00 |
| 40.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 59.03 |
| 43.58 | (1) 0.39" Cable | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 0.30 |
| 43.58 | (2) 0.78" 8 AWG 6 | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 5.07 |
| 43.58 | (1) 3" Conduit | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 32.59 |
| 43.58 | (3) 1 1/4" Hybriflex | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 12.90 |
| 43.58 | (1) 1 1/4" Hybriflex | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 4.30 |
| 43.58 | (4) #20 Dywidag | Yes | 3.58 | 0.000 | 8.00 | 2.39 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 0.00 |
| 43.58 | (12) 1 5/8" Coax | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 42.31 |
| 45.00 | (1) 0.39" Cable | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 0.12 |
| 45.00 | (2) 0.78" 8 AWG 6 | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 2.01 |
| 45.00 | (1) 3" Conduit | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 12.89 |
| 45.00 | (3) 1 1/4" Hybriflex | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 5.10 |
| 45.00 | (1) 1 1/4" Hybriflex | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 1.70 |
| 45.00 | (4) #20 Dywidag | Yes | 1.42 | 0.000 | 8.00 | 0.94 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 0.00 |
| 45.00 | (12) 1 5/8" Coax | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 16.73 |
| 50.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 0.42 |
| 50.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 7.08 |
| 50.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 45.48 |
| 50.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 18.00 |
| 50.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 6.00 |
| 50.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 0.00 |
| 50.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 59.03 |
| 52.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 0.21 |
| 52.50 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 3.54 |
| 52.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 22.74 |
| 52.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 9.00 |
| 52.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 3.00 |
| 52.50 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 0.00 |
| 52.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 29.52 |
| 55.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 0.21 |
| 55.00 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 3.54 |
| 55.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 22.74 |
| 55.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 9.00 |
| 55.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 3.00 |
| 55.00 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 0.00 |
| 55.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 29.52 |
| 60.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 0.42 |
| 60.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 7.08 |
| 60.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 45.48 |
| 60.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 18.00 |
| 60.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 6.00 |
| 60.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 0.00 |
| 60.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 59.03 |
| 65.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 0.42 |
| 65.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 7.08 |
| 65.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 45.48 |

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**Load Case:** 1.2D + 1.6W 95.00 mph with No Ice 28 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 18.00 |
| 65.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 6.00 |
| 65.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 0.00 |
| 65.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 59.03 |
| 70.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 0.42 |
| 70.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 7.08 |
| 70.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 45.48 |
| 70.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 18.00 |
| 70.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 6.00 |
| 70.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 0.00 |
| 70.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 59.03 |
| 75.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 0.42 |
| 75.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 7.08 |
| 75.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 45.48 |
| 75.00 | (12) 1 5/8" Coax | Yes | 1.38 | 0.000 | 5.94 | 0.68 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 16.29 |
| 75.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 18.00 |
| 75.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 6.00 |
| 75.00 | (4) #20 Dywidag | Yes | 3.62 | 0.000 | 8.00 | 2.41 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 0.00 |
| 75.00 | (12) 1 5/8" Coax | Yes | 3.62 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 42.74 |
| 80.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 0.42 |
| 80.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 7.08 |
| 80.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 45.48 |
| 80.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 59.03 |
| 80.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 18.00 |
| 80.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 6.00 |
| 85.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 0.42 |
| 85.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 7.08 |
| 85.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 45.48 |
| 85.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 59.03 |
| 85.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 18.00 |
| 85.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 6.00 |
| 87.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 0.21 |
| 87.50 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 3.54 |
| 87.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 22.74 |
| 87.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 5.94 | 1.24 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 29.52 |
| 87.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 9.00 |
| 87.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 3.00 |
| 90.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 0.21 |
| 90.00 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 3.54 |
| 90.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 22.74 |
| 90.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 5.94 | 1.24 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 29.51 |
| 90.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 9.00 |
| 90.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 3.00 |
| 93.00 | (1) 0.39" Cable | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 0.25 |
| 93.00 | (2) 0.78" 8 AWG 6 | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 4.25 |
| 93.00 | (1) 3" Conduit | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 27.29 |
| 93.00 | (12) 1 5/8" Coax | Yes | 3.00 | 0.000 | 5.94 | 1.49 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 35.42 |
| 93.00 | (3) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 10.80 |
| 93.00 | (1) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 3.60 |
| 95.00 | (1) 0.39" Cable | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 0.17 |
| 95.00 | (2) 0.78" 8 AWG 6 | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 2.83 |
| 95.00 | (1) 3" Conduit | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 18.19 |
| 95.00 | (12) 1 5/8" Coax | Yes | 2.00 | 0.000 | 5.94 | 0.99 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 23.61 |
| 95.00 | (3) 1 1/4" Hybriflex | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 7.20 |
| 95.00 | (1) 1 1/4" Hybriflex | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 2.40 |
| 100.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 0.42 |
| 100.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 7.08 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:26 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 9 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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**Load Case:** 1.2D + 1.6W — 95.00 mph with No Ice — 28 Iterations

Gust Response Factor : 1.10 — Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Wind Load Factor : 1.60

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 45.48 |
| 100.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 59.03 |
| 100.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 18.00 |
| 100.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 6.00 |
| 105.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 0.42 |
| 105.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 7.08 |
| 105.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 45.48 |
| 105.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 59.03 |
| 105.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 18.00 |
| 105.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 6.00 |
| 110.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 0.42 |
| 110.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 7.08 |
| 110.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 45.48 |
| 110.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 59.03 |
| 110.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 18.00 |
| 110.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 6.00 |
| 115.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 0.42 |
| 115.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 7.08 |
| 115.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 45.48 |
| 115.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 59.03 |
| 115.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 18.00 |
| 115.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 6.00 |
| 120.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 0.42 |
| 120.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 7.08 |
| 120.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 45.48 |
| 120.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 59.03 |
| 120.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 18.00 |
| 120.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 6.00 |
| 125.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 0.42 |
| 125.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 7.08 |
| 125.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 45.48 |
| 125.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 59.03 |
| 125.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 18.00 |
| 125.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 6.00 |
| 130.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 0.42 |
| 130.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 7.08 |
| 130.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 45.48 |
| 130.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 59.03 |
| 130.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 18.00 |
| 130.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 6.00 |
| 133.4 | (1) 0.39" Cable | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 23.553 | 0.201 | 0.000 | 0.00 | 0.29 |
| 133.4 | (2) 0.78" 8 AWG 6 | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 23.553 | 0.201 | 0.000 | 0.00 | 4.84 |
| 133.4 | (1) 3" Conduit | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 23.553 | 0.201 | 0.000 | 0.00 | 31.08 |
| 133.4 | (12) 1 5/8" Coax | Yes | 3.42 | 0.788 | 5.94 | 1.69 | 1.33 | 23.553 | 0.201 | 0.000 | 55.27 | 40.34 |
| 133.4 | (3) 1 1/4" Hybriflex | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 23.553 | 0.201 | 0.000 | 0.00 | 12.30 |
| 133.4 | (1) 1 1/4" Hybriflex | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 23.553 | 0.201 | 0.000 | 0.00 | 4.10 |
| 135.0 | (1) 0.39" Cable | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 23.632 | 0.204 | 0.000 | 0.00 | 0.13 |
| 135.0 | (2) 0.78" 8 AWG 6 | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 23.632 | 0.204 | 0.000 | 0.00 | 2.24 |
| 135.0 | (1) 3" Conduit | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 23.632 | 0.204 | 0.000 | 0.00 | 14.40 |
| 135.0 | (12) 1 5/8" Coax | Yes | 1.58 | 0.787 | 5.94 | 0.78 | 0.62 | 23.632 | 0.204 | 0.000 | 25.65 | 18.69 |
| 135.0 | (3) 1 1/4" Hybriflex | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 23.632 | 0.204 | 0.000 | 0.00 | 5.70 |
| 135.0 | (1) 1 1/4" Hybriflex | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 23.632 | 0.204 | 0.000 | 0.00 | 1.90 |
| 138.0 | (1) 0.39" Cable | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.207 | 0.000 | 0.00 | 0.25 |
| 138.0 | (2) 0.78" 8 AWG 6 | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.207 | 0.000 | 0.00 | 4.25 |
| 138.0 | (1) 3" Conduit | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.207 | 0.000 | 0.00 | 27.29 |
| 138.0 | (12) 1 5/8" Coax | Yes | 3.00 | 0.784 | 5.94 | 1.49 | 1.16 | 23.781 | 0.207 | 0.000 | 48.76 | 35.42 |
| 138.0 | (3) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.207 | 0.000 | 0.00 | 10.80 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:26 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 10 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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**Load Case:** 1.2D + 1.6W  95.00 mph with No Ice  28 Iterations

Gust Response Factor : 1.10  Wind Importance Factor : 1.00
Dead Load Factor : 1.20
Wind Load Factor : 1.60

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 138.0 | (1) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.207 | 0.000 | 0.00 | 3.60 |
| 138.0 | (1) 0.39" Cable | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.209 | 0.000 | 0.00 | 0.00 |
| 138.0 | (2) 0.78" 8 AWG 6 | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.209 | 0.000 | 0.00 | 0.00 |
| 138.0 | (1) 3" Conduit | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.209 | 0.000 | 0.00 | 0.00 |
| 138.0 | (12) 1 5/8" Coax | Yes | 0.00 | 0.784 | 5.94 | 0.00 | 0.00 | 23.781 | 0.209 | 0.000 | 0.01 | 0.00 |
| 140.0 | (1) 0.39" Cable | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.879 | 0.207 | 0.000 | 0.00 | 0.17 |
| 140.0 | (2) 0.78" 8 AWG 6 | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.879 | 0.207 | 0.000 | 0.00 | 2.83 |
| 140.0 | (1) 3" Conduit | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.879 | 0.207 | 0.000 | 0.00 | 18.19 |
| 140.0 | (12) 1 5/8" Coax | Yes | 2.00 | 0.783 | 5.94 | 0.99 | 0.77 | 23.879 | 0.207 | 0.000 | 32.57 | 23.61 |
| 145.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.120 | 0.212 | 0.000 | 0.00 | 0.42 |
| 145.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.120 | 0.212 | 0.000 | 0.00 | 7.08 |
| 145.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.120 | 0.212 | 0.000 | 0.00 | 45.48 |
| 145.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.779 | 5.94 | 2.47 | 1.93 | 24.120 | 0.212 | 0.000 | 81.84 | 59.03 |
| 150.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.355 | 0.220 | 0.000 | 0.00 | 0.42 |
| 150.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.355 | 0.220 | 0.000 | 0.00 | 7.08 |
| 150.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.355 | 0.220 | 0.000 | 0.00 | 45.48 |
| 150.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.775 | 5.94 | 2.47 | 1.92 | 24.355 | 0.220 | 0.000 | 82.24 | 59.03 |
| 155.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.584 | 0.228 | 0.000 | 0.00 | 0.42 |
| 155.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.584 | 0.228 | 0.000 | 0.00 | 7.08 |
| 155.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.584 | 0.228 | 0.000 | 0.00 | 45.48 |
| 155.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.772 | 5.94 | 2.47 | 1.91 | 24.584 | 0.228 | 0.000 | 82.63 | 59.03 |
| 160.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.808 | 0.237 | 0.000 | 0.00 | 0.42 |
| 160.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.808 | 0.237 | 0.000 | 0.00 | 7.08 |
| 160.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.808 | 0.237 | 0.000 | 0.00 | 45.48 |
| 160.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.768 | 5.94 | 2.47 | 1.90 | 24.808 | 0.237 | 0.000 | 83.00 | 59.03 |
| 165.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.027 | 0.247 | 0.000 | 0.00 | 0.42 |
| 165.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.027 | 0.247 | 0.000 | 0.00 | 7.08 |
| 165.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.027 | 0.247 | 0.000 | 0.00 | 45.48 |
| 165.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.765 | 5.94 | 2.47 | 1.89 | 25.027 | 0.247 | 0.000 | 83.37 | 59.03 |
| 169.0 | (1) 0.39" Cable | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.199 | 0.256 | 0.000 | 0.00 | 0.34 |
| 169.0 | (2) 0.78" 8 AWG 6 | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.199 | 0.256 | 0.000 | 0.00 | 5.66 |
| 169.0 | (1) 3" Conduit | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.199 | 0.256 | 0.000 | 0.00 | 36.38 |
| 169.0 | (12) 1 5/8" Coax | Yes | 4.00 | 0.762 | 5.94 | 1.98 | 1.51 | 25.199 | 0.256 | 0.000 | 66.92 | 47.23 |
| | | | | | | | | | | Totals: | 642.26 | 4,448.43 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | |
| Location : | Middletown CT 3, CT | Struct Class : II | 5/30/2014 5:25:26 PM |
| Height : | 185.0 (ft) | Exposure Category : B | Page: 11 |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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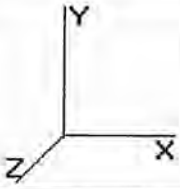


**Load Case:** 1.2D + 1.6W — 95.00 mph with No Ice — 28 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

## Applied Segment Forces Summary

| Seg Elev (ft) | Lateral FX (-) (lb) | Axial FY (-) (lb) | Torsion MY (lb-ft) | Moment MZ (lb-ft) |
|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 691.16 | 1,998.56 | 0.00 | 0.00 |
| 10.00 | 683.48 | 1,971.53 | 0.00 | 0.00 |
| 15.00 | 675.81 | 1,944.49 | 0.00 | 0.00 |
| 20.00 | 668.13 | 1,917.45 | 0.00 | 0.00 |
| 22.50 | 331.19 | 948.59 | 0.00 | 0.00 |
| 25.00 | 329.27 | 941.83 | 0.00 | 0.00 |
| 30.00 | 653.33 | 1,863.37 | 0.00 | 0.00 |
| 35.00 | 674.72 | 1,836.33 | 0.00 | 0.00 |
| 40.00 | 692.62 | 1,809.30 | 0.00 | 0.00 |
| 43.58 | 503.44 | 1,280.03 | 0.00 | 0.00 |
| 45.00 | 203.07 | 809.90 | 0.00 | 0.00 |
| 50.00 | 732.98 | 2,826.26 | 0.00 | 0.00 |
| 52.50 | 365.49 | 791.35 | 0.00 | 0.00 |
| 55.00 | 368.10 | 785.56 | 0.00 | 0.00 |
| 60.00 | 747.70 | 1,553.73 | 0.00 | 0.00 |
| 65.00 | 755.42 | 1,530.56 | 0.00 | 0.00 |
| 70.00 | 761.80 | 1,173.38 | 0.00 | 0.00 |
| 75.00 | 741.99 | 1,150.21 | 0.00 | 0.00 |
| 80.00 | 678.86 | 1,127.03 | 0.00 | 0.00 |
| 85.00 | 680.38 | 1,103.86 | 0.00 | 0.00 |
| 87.50 | 339.15 | 543.31 | 0.00 | 0.00 |
| 90.00 | 345.05 | 910.98 | 0.00 | 0.00 |
| 93.00 | 414.60 | 1,079.42 | 0.00 | 0.00 |
| 95.00 | 273.91 | 368.77 | 0.00 | 0.00 |
| 100.0 | 687.41 | 908.57 | 0.00 | 0.00 |
| 105.0 | 686.07 | 889.26 | 0.00 | 0.00 |
| 110.0 | 684.11 | 869.95 | 0.00 | 0.00 |
| 115.0 | 681.58 | 850.63 | 0.00 | 0.00 |
| 120.0 | 678.50 | 831.32 | 0.00 | 0.00 |
| 125.0 | 674.91 | 812.01 | 0.00 | 0.00 |
| 130.0 | 670.84 | 792.69 | 0.00 | 0.00 |
| 133.4 | 474.84 | 530.62 | 0.00 | 0.00 |
| 135.0 | 220.46 | 371.89 | 0.00 | 0.00 |
| 138.0 | 3,857.25 | 4,288.43 | 0.00 | 3,335.85 |
| 138.0 | 0.05 | 0.08 | 0.00 | 0.00 |
| 140.0 | 273.39 | 226.34 | 0.00 | 0.00 |
| 145.0 | 675.60 | 556.48 | 0.00 | 0.00 |
| 150.0 | 660.92 | 542.96 | 0.00 | 0.00 |
| 155.0 | 645.70 | 529.44 | 0.00 | 0.00 |
| 160.0 | 629.96 | 515.92 | 0.00 | 0.00 |
| 165.0 | 613.72 | 502.41 | 0.00 | 0.00 |
| 169.0 | 3,658.49 | 3,241.83 | 0.00 | 4,161.04 |
| 170.0 | 84.10 | 74.29 | 0.00 | 0.00 |
| 175.0 | 413.12 | 363.35 | 0.00 | 0.00 |
| 180.0 | 398.15 | 349.84 | 0.00 | 0.00 |
| 182.0 | 3,674.12 | 3,022.15 | 0.00 | 3,197.66 |
| 185.0 | 227.48 | 164.75 | 0.00 | 0.00 |
| Totals: | 34,582.39 | 53,501.02 | 0.00 | 10,694.55 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:26 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 12 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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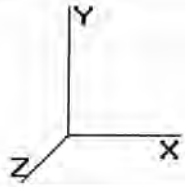


**Load Case:** 1.2D + 1.6W  95.00 mph with No Ice  28 Iterations

Gust Response Factor : 1.10  Wind Importance Factor : 1.00
Dead Load Factor : 1.20
Wind Load Factor : 1.60

## Calculated Forces

| 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 (deg) | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | -53.45 | -34.66 | 0.00 | -4,064.17 | 0.00 | 4,064.17 | 4,727.77 | 2,363.89 | 10,057.5 | 4,967.06 | 0.00 | 0.00 | 0.617 |
| 5.00 | -51.35 | -34.12 | 0.00 | -3,890.86 | 0.00 | 3,890.86 | 4,681.88 | 2,340.94 | 9,776.84 | 4,828.41 | 0.09 | -0.17 | 0.604 |
| 10.00 | -49.28 | -33.58 | 0.00 | -3,720.25 | 0.00 | 3,720.25 | 4,634.49 | 2,317.25 | 9,496.63 | 4,690.03 | 0.36 | -0.34 | 0.591 |
| 15.00 | -47.24 | -33.03 | 0.00 | -3,552.36 | 0.00 | 3,552.36 | 4,585.61 | 2,292.80 | 9,217.10 | 4,551.98 | 0.81 | -0.51 | 0.577 |
| 20.00 | -45.26 | -32.45 | 0.00 | -3,387.20 | 0.00 | 3,387.20 | 4,535.22 | 2,267.61 | 8,938.46 | 4,414.37 | 1.45 | -0.69 | 0.564 |
| 22.50 | -44.26 | -32.17 | 0.00 | -3,306.09 | 0.00 | 3,306.09 | 4,509.47 | 2,254.74 | 8,799.52 | 4,345.75 | 1.83 | -0.77 | 0.557 |
| 22.50 | -44.26 | -32.17 | 0.00 | -3,306.09 | 0.00 | 3,306.09 | 4,509.47 | 2,254.74 | 8,799.52 | 4,345.75 | 1.83 | -0.77 | 0.557 |
| 25.00 | -43.25 | -31.93 | 0.00 | -3,225.67 | 0.00 | 3,225.67 | 4,483.35 | 2,241.67 | 8,660.87 | 4,277.28 | 2.26 | -0.86 | 0.550 |
| 30.00 | -41.31 | -31.37 | 0.00 | -3,066.04 | 0.00 | 3,066.04 | 4,429.97 | 2,214.99 | 8,384.50 | 4,140.79 | 3.26 | -1.04 | 0.536 |
| 35.00 | -39.39 | -30.78 | 0.00 | -2,909.20 | 0.00 | 2,909.20 | 4,375.10 | 2,187.55 | 8,109.53 | 4,004.99 | 4.44 | -1.21 | 0.522 |
| 40.00 | -37.52 | -30.14 | 0.00 | -2,755.32 | 0.00 | 2,755.32 | 4,318.73 | 2,159.36 | 7,836.14 | 3,869.97 | 5.80 | -1.39 | 0.507 |
| 43.58 | -36.21 | -29.66 | 0.00 | -2,647.31 | 0.00 | 2,647.31 | 4,277.41 | 2,138.70 | 7,641.27 | 3,773.74 | 6.89 | -1.51 | 0.497 |
| 45.00 | -35.34 | -29.51 | 0.00 | -2,605.29 | 0.00 | 2,605.29 | 4,260.86 | 2,130.43 | 7,564.50 | 3,735.82 | 7.34 | -1.56 | 0.488 |
| 50.00 | -32.48 | -28.77 | 0.00 | -2,457.76 | 0.00 | 2,457.76 | 3,421.90 | 1,710.95 | 6,065.62 | 2,995.58 | 9.07 | -1.74 | 0.552 |
| 52.50 | -31.65 | -28.43 | 0.00 | -2,385.85 | 0.00 | 2,385.85 | 3,401.39 | 1,700.70 | 5,962.75 | 2,944.78 | 10.01 | -1.82 | 0.542 |
| 52.50 | -31.65 | -28.43 | 0.00 | -2,385.85 | 0.00 | 2,385.85 | 3,401.39 | 1,700.70 | 5,962.75 | 2,944.78 | 10.01 | -1.82 | 0.542 |
| 55.00 | -30.81 | -28.11 | 0.00 | -2,314.79 | 0.00 | 2,314.79 | 3,380.51 | 1,690.25 | 5,860.04 | 2,894.05 | 10.99 | -1.92 | 0.532 |
| 60.00 | -29.20 | -27.40 | 0.00 | -2,174.25 | 0.00 | 2,174.25 | 3,337.62 | 1,668.81 | 5,655.16 | 2,792.87 | 13.09 | -2.10 | 0.513 |
| 65.00 | -27.61 | -26.67 | 0.00 | -2,037.26 | 0.00 | 2,037.26 | 3,293.24 | 1,646.62 | 5,451.16 | 2,692.12 | 15.39 | -2.28 | 0.493 |
| 65.00 | -27.61 | -26.67 | 0.00 | -2,037.26 | 0.00 | 2,037.26 | 3,293.24 | 1,646.62 | 5,451.16 | 2,692.12 | 15.39 | -2.28 | 0.765 |
| 70.00 | -26.36 | -25.97 | 0.00 | -1,903.89 | 0.00 | 1,903.89 | 3,247.36 | 1,623.68 | 5,248.21 | 2,591.90 | 17.87 | -2.46 | 0.743 |
| 75.00 | -25.13 | -25.30 | 0.00 | -1,774.05 | 0.00 | 1,774.05 | 3,199.99 | 1,599.99 | 5,046.49 | 2,492.27 | 20.60 | -2.74 | 0.720 |
| 80.00 | -23.91 | -24.66 | 0.00 | -1,647.55 | 0.00 | 1,647.55 | 3,151.11 | 1,575.56 | 4,846.18 | 2,393.35 | 23.63 | -3.03 | 0.696 |
| 85.00 | -22.76 | -24.03 | 0.00 | -1,524.13 | 0.00 | 1,524.13 | 3,100.74 | 1,550.37 | 4,647.44 | 2,295.20 | 26.94 | -3.31 | 0.672 |
| 87.50 | -22.18 | -23.71 | 0.00 | -1,464.06 | 0.00 | 1,464.06 | 3,074.99 | 1,537.50 | 4,548.71 | 2,246.44 | 28.71 | -3.45 | 0.659 |
| 90.00 | -21.23 | -23.37 | 0.00 | -1,404.79 | 0.00 | 1,404.79 | 3,048.88 | 1,524.44 | 4,450.47 | 2,197.92 | 30.56 | -3.59 | 0.646 |
| 93.00 | -20.12 | -22.94 | 0.00 | -1,334.67 | 0.00 | 1,334.67 | 2,367.81 | 1,183.91 | 3,474.51 | 1,715.93 | 32.87 | -3.76 | 0.787 |
| 95.00 | -19.68 | -22.71 | 0.00 | -1,288.81 | 0.00 | 1,288.81 | 2,354.00 | 1,177.00 | 3,417.42 | 1,687.73 | 34.47 | -3.88 | 0.772 |
| 100.00 | -18.71 | -22.06 | 0.00 | -1,175.24 | 0.00 | 1,175.24 | 2,318.41 | 1,159.21 | 3,275.08 | 1,617.44 | 38.69 | -4.19 | 0.735 |
| 105.00 | -17.76 | -21.41 | 0.00 | -1,064.92 | 0.00 | 1,064.92 | 2,281.33 | 1,140.66 | 3,133.47 | 1,547.50 | 43.24 | -4.50 | 0.696 |
| 110.00 | -16.84 | -20.74 | 0.00 | -957.88 | 0.00 | 957.88 | 2,242.75 | 1,121.37 | 2,992.76 | 1,478.01 | 48.11 | -4.80 | 0.656 |
| 115.00 | -15.95 | -20.07 | 0.00 | -854.16 | 0.00 | 854.16 | 2,202.67 | 1,101.33 | 2,853.13 | 1,409.05 | 53.29 | -5.10 | 0.614 |
| 120.00 | -15.09 | -19.40 | 0.00 | -753.80 | 0.00 | 753.80 | 2,161.09 | 1,080.55 | 2,714.76 | 1,340.72 | 58.78 | -5.38 | 0.570 |
| 125.00 | -14.26 | -18.71 | 0.00 | -656.82 | 0.00 | 656.82 | 2,118.02 | 1,059.01 | 2,577.82 | 1,273.09 | 64.55 | -5.66 | 0.523 |
| 130.00 | -13.47 | -18.02 | 0.00 | -563.26 | 0.00 | 563.26 | 2,073.45 | 1,036.73 | 2,442.48 | 1,206.25 | 70.61 | -5.92 | 0.474 |
| 133.42 | -12.95 | -17.52 | 0.00 | -501.70 | 0.00 | 501.70 | 2,042.13 | 1,021.07 | 2,351.01 | 1,161.07 | 74.91 | -6.09 | 0.439 |
| 135.00 | -12.57 | -17.28 | 0.00 | -473.97 | 0.00 | 473.97 | 2,027.39 | 1,013.69 | 2,308.93 | 1,140.29 | 76.94 | -6.17 | 0.422 |
| 138.00 | -8.71 | -12.99 | 0.00 | -418.79 | 0.00 | 418.79 | 1,999.03 | 999.51 | 2,229.72 | 1,101.18 | 80.85 | -6.31 | 0.385 |
| 138.00 | -8.70 | -13.00 | 0.00 | -418.78 | 0.00 | 418.78 | 1,223.81 | 611.90 | 1,396.77 | 689.81 | 80.85 | -6.31 | 0.615 |
| 140.00 | -8.47 | -12.73 | 0.00 | -392.79 | 0.00 | 392.79 | 1,215.85 | 607.93 | 1,368.67 | 675.93 | 83.51 | -6.40 | 0.589 |
| 145.00 | -7.93 | -12.03 | 0.00 | -329.14 | 0.00 | 329.14 | 1,194.90 | 597.45 | 1,298.35 | 641.21 | 90.35 | -6.68 | 0.520 |
| 150.00 | -7.43 | -11.34 | 0.00 | -268.98 | 0.00 | 268.98 | 1,172.46 | 586.23 | 1,228.11 | 606.52 | 97.47 | -6.94 | 0.450 |
| 155.00 | -6.94 | -10.66 | 0.00 | -212.26 | 0.00 | 212.26 | 1,148.52 | 574.26 | 1,158.11 | 571.95 | 104.85 | -7.17 | 0.378 |
| 160.00 | -6.48 | -9.99 | 0.00 | -158.94 | 0.00 | 158.94 | 1,123.08 | 561.54 | 1,088.54 | 537.59 | 112.46 | -7.37 | 0.302 |
| 165.00 | -6.04 | -9.33 | 0.00 | -108.97 | 0.00 | 108.97 | 1,096.15 | 548.08 | 1,019.56 | 503.52 | 120.25 | -7.54 | 0.222 |
| 169.00 | -3.30 | -5.28 | 0.00 | -67.47 | 0.00 | 67.47 | 1,073.53 | 536.76 | 964.93 | 476.54 | 126.59 | -7.64 | 0.145 |
| 170.00 | -3.23 | -5.19 | 0.00 | -62.19 | 0.00 | 62.19 | 1,067.72 | 533.86 | 951.36 | 469.84 | 128.19 | -7.66 | 0.135 |
| 175.00 | -2.92 | -4.74 | 0.00 | -36.22 | 0.00 | 36.22 | 1,037.79 | 518.90 | 884.11 | 436.63 | 136.23 | -7.73 | 0.086 |
| 180.00 | -2.63 | -4.30 | 0.00 | -12.53 | 0.00 | 12.53 | 1,006.37 | 503.18 | 817.98 | 403.97 | 144.33 | -7.78 | 0.034 |
| 182.00 | -0.13 | -0.25 | 0.00 | -0.74 | 0.00 | 0.74 | 993.38 | 496.69 | 791.88 | 391.08 | 147.58 | -7.78 | 0.002 |
| 185.00 | 0.00 | -0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 973.45 | 486.72 | 753.15 | 371.95 | 152.45 | -7.78 | 0.000 |

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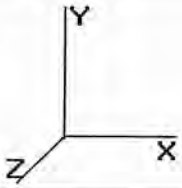


**Load Case:** 1.2D + 1.6W — 95.00 mph with No Ice — 28 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:26 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 14 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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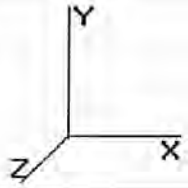


**Load Case:** 0.9D + 1.6W — 95.00 mph with No Ice (Reduced DL) — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

## Shaft Segment Forces (Factored)

| Seg Top Elev (ft) | Description | Kzt | Kz | qz (psf) | qzGh (psf) | C (mph-ft) | Cf | Ice Thick (in) | Tributary (ft) | Ap (sf) | EPAs (sf) | Wind Force X (lb) | Dead Load Ice (lb) | Tot Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 356.57 | 1.000 | 0.000 | 0.00 | 0.000 | 0.00 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 350.12 | 1.000 * | 0.000 | 5.00 | 22.228 | 22.23 | 601.1 | 0.0 | 1,436.1 |
| 10.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 343.68 | 1.000 * | 0.000 | 5.00 | 21.823 | 21.82 | 590.1 | 0.0 | 1,415.9 |
| 15.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 337.23 | 1.000 * | 0.000 | 5.00 | 21.417 | 21.42 | 579.1 | 0.0 | 1,395.6 |
| 20.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 330.79 | 1.000 * | 0.000 | 5.00 | 21.012 | 21.01 | 568.2 | 0.0 | 1,375.3 |
| 22.50 | Reinf. Top Reinf Bottom | 1.00 | 0.70 | 15.364 | 16.90 | 327.56 | 1.000 * | 0.000 | 2.50 | 10.354 | 10.35 | 280.0 | 0.0 | 680.0 |
| 25.00 | | 1.00 | 0.70 | 15.364 | 16.90 | 324.34 | 1.000 * | 0.000 | 2.50 | 10.252 | 10.25 | 277.2 | 0.0 | 675.0 |
| 30.00 | | 1.00 | 0.70 | 15.377 | 16.91 | 318.03 | 1.000 * | 0.000 | 5.00 | 20.201 | 20.20 | 546.7 | 0.0 | 1,334.7 |
| 35.00 | | 1.00 | 0.73 | 16.070 | 17.67 | 318.52 | 1.000 * | 0.000 | 5.00 | 19.795 | 19.80 | 559.9 | 0.0 | 1,314.5 |
| 40.00 | | 1.00 | 0.76 | 16.694 | 18.36 | 317.93 | 1.000 * | 0.000 | 5.00 | 19.390 | 19.39 | 569.7 | 0.0 | 1,294.2 |
| 43.58 | Bot - Section 2 | 1.00 | 0.77 | 17.109 | 18.82 | 316.98 | 1.000 * | 0.000 | 3.58 | 13.646 | 13.65 | 410.9 | 0.0 | 915.0 |
| 45.00 | | 1.00 | 0.78 | 17.266 | 18.99 | 316.49 | 1.000 * | 0.000 | 1.42 | 5.429 | 5.43 | 165.0 | 0.0 | 589.6 |
| 50.00 | Top - Section 1 | 1.00 | 0.81 | 17.793 | 19.57 | 314.35 | 1.000 * | 0.000 | 5.00 | 18.902 | 18.90 | 591.9 | 0.0 | 2,056.9 |
| 52.50 | Reinf. Top Reinf Bottom | 1.00 | 0.82 | 18.043 | 19.84 | 318.63 | 1.000 * | 0.000 | 2.50 | 9.299 | 9.30 | 295.3 | 0.0 | 562.1 |
| 55.00 | | 1.00 | 0.83 | 18.285 | 20.11 | 317.24 | 1.000 * | 0.000 | 2.50 | 9.198 | 9.20 | 296.0 | 0.0 | 557.8 |
| 60.00 | | 1.00 | 0.85 | 18.745 | 20.61 | 314.09 | 1.000 * | 0.000 | 5.00 | 18.091 | 18.09 | 596.8 | 0.0 | 1,102.5 |
| 65.00 | Reinf. Top | 1.00 | 0.87 | 19.179 | 21.09 | 310.50 | 1.000 * | 0.000 | 5.00 | 17.686 | 17.69 | 597.0 | 0.0 | 1,085.1 |
| 70.00 | | 1.00 | 0.89 | 19.589 | 21.54 | 306.53 | 1.000 * | 0.000 | 5.00 | 17.280 | 17.28 | 595.8 | 0.0 | 733.8 |
| 75.00 | | 1.00 | 0.91 | 19.979 | 21.97 | 302.21 | 1.000 * | 0.000 | 5.00 | 16.875 | 16.87 | 593.4 | 0.0 | 716.4 |
| 80.00 | | 1.00 | 0.92 | 20.351 | 22.38 | 297.59 | 1.000 * | 0.000 | 5.00 | 16.469 | 16.47 | 589.9 | 0.0 | 699.0 |
| 85.00 | | 1.00 | 0.94 | 20.706 | 22.77 | 292.70 | 1.000 * | 0.000 | 5.00 | 16.064 | 16.06 | 585.4 | 0.0 | 681.6 |
| 87.50 | Bot - Section 3 | 1.00 | 0.95 | 20.879 | 22.96 | 290.15 | 1.000 * | 0.000 | 2.50 | 7.881 | 7.88 | 289.6 | 0.0 | 334.3 |
| 90.00 | | 1.00 | 0.95 | 21.047 | 23.15 | 287.55 | 1.000 * | 0.000 | 2.50 | 7.912 | 7.91 | 293.1 | 0.0 | 610.1 |
| 93.00 | Top - Section 2 | 1.00 | 0.96 | 21.245 | 23.37 | 284.35 | 1.000 * | 0.000 | 3.00 | 9.363 | 9.36 | 350.1 | 0.0 | 721.8 |
| 95.00 | | 1.00 | 0.97 | 21.375 | 23.51 | 287.23 | 1.000 * | 0.000 | 2.00 | 6.159 | 6.16 | 231.7 | 0.0 | 218.1 |
| 100.0 | | 1.00 | 0.98 | 21.690 | 23.86 | 281.69 | 1.000 * | 0.000 | 5.00 | 15.117 | 15.12 | 577.1 | 0.0 | 535.1 |
| 105.0 | | 1.00 | 1.00 | 21.995 | 24.19 | 275.94 | 1.000 * | 0.000 | 5.00 | 14.711 | 14.71 | 569.5 | 0.0 | 520.7 |
| 110.0 | | 1.00 | 1.01 | 22.289 | 24.51 | 270.02 | 1.000 * | 0.000 | 5.00 | 14.306 | 14.31 | 561.2 | 0.0 | 506.2 |
| 115.0 | | 1.00 | 1.02 | 22.574 | 24.83 | 263.93 | 1.000 * | 0.000 | 5.00 | 13.900 | 13.90 | 552.3 | 0.0 | 491.7 |
| 120.0 | | 1.00 | 1.04 | 22.850 | 25.13 | 257.67 | 1.000 * | 0.000 | 5.00 | 13.495 | 13.49 | 542.7 | 0.0 | 477.2 |
| 125.0 | | 1.00 | 1.05 | 23.118 | 25.43 | 251.27 | 1.000 * | 0.000 | 5.00 | 13.089 | 13.09 | 532.6 | 0.0 | 462.7 |
| 130.0 | | 1.00 | 1.06 | 23.379 | 25.71 | 244.73 | 1.000 * | 0.000 | 5.00 | 12.684 | 12.68 | 521.9 | 0.0 | 448.2 |
| 133.4 | Bot - Section 4 | 1.00 | 1.07 | 23.553 | 25.90 | 240.19 | 1.200 * | 0.000 | 3.42 | 8.435 | 10.12 | 419.6 | 0.0 | 298.0 |
| 135.0 | | 1.00 | 1.07 | 23.632 | 25.99 | 238.06 | 1.200 * | 0.000 | 1.58 | 3.903 | 4.68 | 194.8 | 0.0 | 232.6 |
| 138.0 | Appertunance(s) | 1.00 | 1.08 | 23.781 | 26.15 | 234.00 | 1.200 * | 0.000 | 3.00 | 7.285 | 8.74 | 365.9 | 0.0 | 434.0 |
| 138.0 | Top - Section 3 | 1.00 | 1.08 | 23.781 | 26.15 | 234.00 | 1.200 * | 0.000 | 0.00 | 0.001 | 0.00 | 0.0 | 0.0 | 0.0 |
| 140.0 | | 1.00 | 1.08 | 23.879 | 26.26 | 235.01 | 1.200 * | 0.000 | 2.00 | 4.775 | 5.73 | 240.8 | 0.0 | 118.4 |
| 145.0 | | 1.00 | 1.09 | 24.120 | 26.53 | 228.11 | 1.200 * | 0.000 | 5.00 | 11.656 | 13.99 | 593.8 | 0.0 | 289.1 |
| 150.0 | | 1.00 | 1.11 | 24.355 | 26.79 | 221.10 | 1.200 * | 0.000 | 5.00 | 11.250 | 13.50 | 578.7 | 0.0 | 278.9 |
| 155.0 | | 1.00 | 1.12 | 24.584 | 27.04 | 213.99 | 1.200 * | 0.000 | 5.00 | 10.845 | 13.01 | 563.1 | 0.0 | 268.8 |
| 160.0 | | 1.00 | 1.13 | 24.808 | 27.28 | 206.77 | 1.200 * | 0.000 | 5.00 | 10.439 | 12.53 | 547.0 | 0.0 | 258.7 |
| 165.0 | | 1.00 | 1.14 | 25.027 | 27.53 | 199.45 | 1.200 * | 0.000 | 5.00 | 10.034 | 12.04 | 530.3 | 0.0 | 248.5 |
| 169.0 | Appertunance(s) | 1.00 | 1.14 | 25.199 | 27.71 | 193.53 | 1.200 * | 0.000 | 4.00 | 7.735 | 9.28 | 411.7 | 0.0 | 191.5 |
| 170.0 | | 1.00 | 1.15 | 25.241 | 27.76 | 192.04 | 1.000 | 0.000 | 1.00 | 1.893 | 1.89 | 84.1 | 0.0 | 46.9 |
| 175.0 | | 1.00 | 1.16 | 25.451 | 27.99 | 184.54 | 1.000 | 0.000 | 5.00 | 9.223 | 9.22 | 413.1 | 0.0 | 228.2 |
| 180.0 | | 1.00 | 1.16 | 25.657 | 28.22 | 176.96 | 1.000 | 0.000 | 5.00 | 8.817 | 8.82 | 398.1 | 0.0 | 218.1 |
| 182.0 | Appertunance(s) | 1.00 | 1.17 | 25.738 | 28.31 | 173.90 | 1.000 | 0.000 | 2.00 | 3.413 | 3.41 | 154.6 | 0.0 | 84.4 |
| 185.0 | | 1.00 | 1.17 | 25.859 | 28.44 | 169.29 | 1.000 | 0.000 | 3.00 | 4.998 | 5.00 | 227.5 | 0.0 | 123.6 |
| | | | | | | | Totals: | | 185.00 | | | 20,634.1 | 0.0 | 29,267.1 |

* = Cf Adjusted By Linear Load Ra Effect

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | |
| Location : | Middletown CT 3, CT | Struct Class : II | 5/30/2014 5:25:26 PM |
| Height : | 185.0 (ft) | Exposure Category : B | Page: 15 |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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**Load Case:** 0.9D + 1.6W — 95.00 mph with No Ice (Reduced DL) — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

## Discrete Appurtenance Segment Forces (Factored)

| Elev (ft) | Description | Qty | qz (psf) | qzGh (psf) | Orientation Factor | Ka | Total EPAa (sf) | Horiz Ecc (ft) | Vert Ecc (ft) | Wind FX (lb) | Mom Y (lb-ft) | Mom Z (lb-ft) | Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 138.0 | Flat Platform w/ Han | 1 | 23.781 | 26.159 | 1.00 | 1.00 | 42.40 | 0.000 | 0.000 | 1,774.65 | 0.00 | 0.00 | 1,800.00 |
| 138.0 | RFS APXVSPP18-C- | 3 | 23.879 | 26.267 | 0.83 | 0.75 | 14.98 | 0.000 | 2.000 | 629.46 | 0.00 | 1,258.92 | 153.90 |
| 138.0 | Alcatel-Lucent 800 M | 3 | 23.879 | 26.267 | 0.67 | 0.75 | 3.11 | 0.000 | 2.000 | 130.51 | 0.00 | 261.03 | 172.80 |
| 138.0 | Alcatel-Lucent 4X40W | 3 | 23.879 | 26.267 | 0.67 | 0.75 | 4.91 | 0.000 | 2.000 | 206.54 | 0.00 | 413.08 | 237.60 |
| 138.0 | Alcatel-Lucent TD-RR | 3 | 23.879 | 26.267 | 0.67 | 0.75 | 5.56 | 0.000 | 2.000 | 233.78 | 0.00 | 467.57 | 178.47 |
| 138.0 | RFS APXVTM14-C-I20 | 3 | 23.879 | 26.267 | 0.78 | 0.75 | 11.13 | 0.000 | 2.000 | 467.63 | 0.00 | 935.25 | 151.74 |
| 169.0 | Round Low Profile Pl | 1 | 25.199 | 27.719 | 1.00 | 1.00 | 21.70 | 0.000 | 0.000 | 962.39 | 0.00 | 0.00 | 1,350.00 |
| 169.0 | Allgon 7770.00 | 6 | 25.284 | 27.812 | 0.77 | 0.80 | 20.36 | 0.000 | 2.000 | 906.22 | 0.00 | 1,812.45 | 189.00 |
| 169.0 | Powerwave LGP21401 | 12 | 25.241 | 27.765 | 0.50 | 0.80 | 5.28 | 0.000 | 1.000 | 234.56 | 0.00 | 234.56 | 152.28 |
| 169.0 | KMW AM-X-CD-16-65- | 3 | 25.284 | 27.812 | 0.79 | 0.80 | 15.21 | 0.000 | 2.000 | 676.65 | 0.00 | 1,353.30 | 130.95 |
| 169.0 | Raycap DC6-48-60-18- | 1 | 25.241 | 27.765 | 1.00 | 0.80 | 0.89 | 0.000 | 1.000 | 39.45 | 0.00 | 39.45 | 18.00 |
| 169.0 | Ericsson RRUS 11 | 6 | 25.284 | 27.812 | 0.67 | 0.80 | 8.10 | 0.000 | 2.000 | 360.64 | 0.00 | 721.27 | 297.00 |
| 182.0 | 48" x 12" Panels | 9 | 25.819 | 28.400 | 0.67 | 0.75 | 22.93 | 0.000 | 2.000 | 1,041.91 | 0.00 | 2,083.82 | 243.00 |
| 182.0 | 72" x 12" Panels | 3 | 25.819 | 28.400 | 0.67 | 0.75 | 12.26 | 0.000 | 2.000 | 556.92 | 0.00 | 1,113.84 | 121.50 |
| 182.0 | Flat Platform w/ Han | 1 | 25.738 | 28.312 | 1.00 | 1.00 | 42.40 | 0.000 | 0.000 | 1,920.67 | 0.00 | 0.00 | 1,800.00 |
| | | | | | | | | | | 10,141.99 | | | 6,996.24 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:26 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 16 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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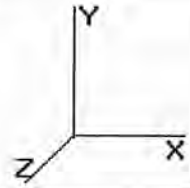


**Load Case:** 0.9D + 1.6W — 95.00 mph with No Ice (Reduced DL) — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

## Linear Appurtenance Segment Forces (Factored)

| Seg Top Elev (ft) | Description | Exposed To Wind | Length (ft) | Ca | Exposed Width (in) | Area (sqft) | CaAa (sqft) | qz (psf) | Ra | Cf Adjust Factor | FX (lb) | Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 0.31 |
| 5.00 | (2) 0.78" 8 AWG6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 5.31 |
| 5.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 34.11 |
| 5.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 13.50 |
| 5.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 4.50 |
| 5.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 0.00 |
| 5.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.150 | 1.150 | 0.00 | 44.27 |
| 10.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 0.31 |
| 10.00 | (2) 0.78" 8 AWG6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 5.31 |
| 10.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 34.11 |
| 10.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 13.50 |
| 10.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 4.50 |
| 10.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 0.00 |
| 10.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.153 | 1.158 | 0.00 | 44.27 |
| 15.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 0.31 |
| 15.00 | (2) 0.78" 8 AWG6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 5.31 |
| 15.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 34.11 |
| 15.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 13.50 |
| 15.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 4.50 |
| 15.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 0.00 |
| 15.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.156 | 1.167 | 0.00 | 44.27 |
| 20.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 0.31 |
| 20.00 | (2) 0.78" 8 AWG6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 5.31 |
| 20.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 34.11 |
| 20.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 13.50 |
| 20.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 4.50 |
| 20.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 0.00 |
| 20.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.159 | 1.176 | 0.00 | 44.27 |
| 22.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 0.16 |
| 22.50 | (2) 0.78" 8 AWG6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 2.65 |
| 22.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 17.06 |
| 22.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 6.75 |
| 22.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 2.25 |
| 22.50 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 0.00 |
| 22.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.161 | 1.183 | 0.00 | 22.14 |
| 25.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 0.16 |
| 25.00 | (2) 0.78" 8 AWG6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 2.65 |
| 25.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 17.06 |
| 25.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 6.75 |
| 25.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 2.25 |
| 25.00 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 0.00 |
| 25.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 15.364 | 0.163 | 1.188 | 0.00 | 22.14 |
| 30.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 0.31 |
| 30.00 | (2) 0.78" 8 AWG6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 5.31 |
| 30.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 34.11 |
| 30.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 13.50 |
| 30.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 4.50 |
| 30.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 0.00 |
| 30.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 15.377 | 0.165 | 1.195 | 0.00 | 44.27 |
| 35.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 0.31 |
| 35.00 | (2) 0.78" 8 AWG6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 5.31 |

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**Load Case:** 0.9D + 1.6W — 95.00 mph with No Ice (Reduced DL) — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 34.11 |
| 35.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 13.50 |
| 35.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 4.50 |
| 35.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 0.00 |
| 35.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.070 | 0.168 | 1.205 | 0.00 | 44.27 |
| 40.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 0.31 |
| 40.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 5.31 |
| 40.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 34.11 |
| 40.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 13.50 |
| 40.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 4.50 |
| 40.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 0.00 |
| 40.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 16.694 | 0.172 | 1.216 | 0.00 | 44.27 |
| 43.58 | (1) 0.39" Cable | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 0.23 |
| 43.58 | (2) 0.78" 8 AWG 6 | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 3.81 |
| 43.58 | (1) 3" Conduit | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 24.45 |
| 43.58 | (3) 1 1/4" Hybriflex | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 9.68 |
| 43.58 | (1) 1 1/4" Hybriflex | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 3.23 |
| 43.58 | (4) #20 Dywidag | Yes | 3.58 | 0.000 | 8.00 | 2.39 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 0.00 |
| 43.58 | (12) 1 5/8" Coax | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 17.109 | 0.175 | 1.225 | 0.00 | 31.73 |
| 45.00 | (1) 0.39" Cable | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 0.09 |
| 45.00 | (2) 0.78" 8 AWG 6 | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 1.50 |
| 45.00 | (1) 3" Conduit | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 9.66 |
| 45.00 | (3) 1 1/4" Hybriflex | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 3.82 |
| 45.00 | (1) 1 1/4" Hybriflex | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 1.27 |
| 45.00 | (4) #20 Dywidag | Yes | 1.42 | 0.000 | 8.00 | 0.94 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 0.00 |
| 45.00 | (12) 1 5/8" Coax | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 17.266 | 0.177 | 1.231 | 0.00 | 12.54 |
| 50.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 0.31 |
| 50.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 5.31 |
| 50.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 34.11 |
| 50.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 13.50 |
| 50.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 4.50 |
| 50.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 0.00 |
| 50.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 17.793 | 0.179 | 1.238 | 0.00 | 44.27 |
| 52.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 0.16 |
| 52.50 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 2.65 |
| 52.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 17.06 |
| 52.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 6.75 |
| 52.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 2.25 |
| 52.50 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 0.00 |
| 52.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.043 | 0.179 | 1.238 | 0.00 | 22.14 |
| 55.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 0.16 |
| 55.00 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 2.65 |
| 55.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 17.06 |
| 55.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 6.75 |
| 55.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 2.25 |
| 55.00 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 0.00 |
| 55.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 18.285 | 0.181 | 1.244 | 0.00 | 22.14 |
| 60.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 0.31 |
| 60.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 5.31 |
| 60.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 34.11 |
| 60.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 13.50 |
| 60.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 4.50 |
| 60.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 0.00 |
| 60.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 18.745 | 0.184 | 1.253 | 0.00 | 44.27 |
| 65.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 0.31 |
| 65.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 5.31 |
| 65.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 34.11 |

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**Load Case:** 0.9D + 1.6W — 95.00 mph with No Ice (Reduced DL) — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 13.50 |
| 65.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 4.50 |
| 65.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 0.00 |
| 65.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.179 | 0.188 | 1.265 | 0.00 | 44.27 |
| 70.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 0.31 |
| 70.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 5.31 |
| 70.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 34.11 |
| 70.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 13.50 |
| 70.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 4.50 |
| 70.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 0.00 |
| 70.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.589 | 0.193 | 1.279 | 0.00 | 44.27 |
| 75.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 0.31 |
| 75.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 5.31 |
| 75.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 34.11 |
| 75.00 | (12) 1 5/8" Coax | Yes | 1.38 | 0.000 | 5.94 | 0.68 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 12.22 |
| 75.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 13.50 |
| 75.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 4.50 |
| 75.00 | (4) #20 Dywidag | Yes | 3.62 | 0.000 | 8.00 | 2.41 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 0.00 |
| 75.00 | (12) 1 5/8" Coax | Yes | 3.62 | 0.000 | 0.00 | 0.00 | 0.00 | 19.979 | 0.183 | 1.250 | 0.00 | 32.05 |
| 80.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 0.31 |
| 80.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 5.31 |
| 80.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 34.11 |
| 80.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 44.27 |
| 80.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 13.50 |
| 80.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.351 | 0.150 | 1.151 | 0.00 | 4.50 |
| 85.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 0.31 |
| 85.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 5.31 |
| 85.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 34.11 |
| 85.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 44.27 |
| 85.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 13.50 |
| 85.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 20.706 | 0.154 | 1.162 | 0.00 | 4.50 |
| 87.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 0.16 |
| 87.50 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 2.66 |
| 87.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 17.06 |
| 87.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 5.94 | 1.24 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 22.14 |
| 87.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 6.75 |
| 87.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 20.879 | 0.157 | 1.171 | 0.00 | 2.25 |
| 90.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 0.16 |
| 90.00 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 2.65 |
| 90.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 17.05 |
| 90.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 5.94 | 1.24 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 22.13 |
| 90.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 6.75 |
| 90.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 21.047 | 0.159 | 1.177 | 0.00 | 2.25 |
| 93.00 | (1) 0.39" Cable | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 0.19 |
| 93.00 | (2) 0.78" 8 AWG 6 | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 3.19 |
| 93.00 | (1) 3" Conduit | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 20.47 |
| 93.00 | (12) 1 5/8" Coax | Yes | 3.00 | 0.000 | 5.94 | 1.49 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 26.57 |
| 93.00 | (3) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 8.10 |
| 93.00 | (1) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.245 | 0.161 | 1.184 | 0.00 | 2.70 |
| 95.00 | (1) 0.39" Cable | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 0.13 |
| 95.00 | (2) 0.78" 8 AWG 6 | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 2.12 |
| 95.00 | (1) 3" Conduit | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 13.64 |
| 95.00 | (12) 1 5/8" Coax | Yes | 2.00 | 0.000 | 5.94 | 0.99 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 17.71 |
| 95.00 | (3) 1 1/4" Hybriflex | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 5.40 |
| 95.00 | (1) 1 1/4" Hybriflex | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.375 | 0.161 | 1.182 | 0.00 | 1.80 |
| 100.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 0.31 |
| 100.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 5.31 |

| | | | |
|---|---|---|---|
| Pole : 302537 | Code: ANSI/TIA-222 Rev G | | 5/30/2014 5:25:26 PM |
| Location : Middletown CT 3, CT | Struct Class : II | | Page: 19 |
| Height : 185.0 (ft) | Exposure Category : B | | |
| Base Dia : 52.00 (in) | Topographic Category : 1 | | |
| Top Dia : 19.03 (in) | Base Elev : 0.000 (ft) | | |
| Shape : 12 Sides | | | |
| Taper : 0.188014 (in/ft) | | | |

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**Load Case:** 0.9D + 1.6W — 95.00 mph with No Ice (Reduced DL) — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 34.11 |
| 100.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 44.27 |
| 100.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 13.50 |
| 100.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.690 | 0.164 | 1.191 | 0.00 | 4.50 |
| 105.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 0.31 |
| 105.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 5.31 |
| 105.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 34.11 |
| 105.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 44.27 |
| 105.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 13.50 |
| 105.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 21.995 | 0.168 | 1.205 | 0.00 | 4.50 |
| 110.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 0.31 |
| 110.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 5.31 |
| 110.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 34.11 |
| 110.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 44.27 |
| 110.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 13.50 |
| 110.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.289 | 0.173 | 1.219 | 0.00 | 4.50 |
| 115.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 0.31 |
| 115.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 5.31 |
| 115.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 34.11 |
| 115.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 44.27 |
| 115.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 13.50 |
| 115.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.574 | 0.178 | 1.234 | 0.00 | 4.50 |
| 120.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 0.31 |
| 120.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 5.31 |
| 120.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 34.11 |
| 120.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 44.27 |
| 120.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 13.50 |
| 120.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 22.850 | 0.183 | 1.250 | 0.00 | 4.50 |
| 125.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 0.31 |
| 125.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 5.31 |
| 125.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 34.11 |
| 125.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 44.27 |
| 125.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 13.50 |
| 125.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.118 | 0.189 | 1.267 | 0.00 | 4.50 |
| 130.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 0.31 |
| 130.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 5.31 |
| 130.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 34.11 |
| 130.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 44.27 |
| 130.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 13.50 |
| 130.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.379 | 0.195 | 1.285 | 0.00 | 4.50 |
| 133.4 | (1) 0.39" Cable | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 23.553 | 0.201 | 0.000 | 0.00 | 0.22 |
| 133.4 | (2) 0.78" 8 AWG 6 | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 23.553 | 0.201 | 0.000 | 0.00 | 3.63 |
| 133.4 | (1) 3" Conduit | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 23.553 | 0.201 | 0.000 | 0.00 | 23.31 |
| 133.4 | (12) 1 5/8" Coax | Yes | 3.42 | 0.788 | 5.94 | 1.69 | 1.33 | 23.553 | 0.201 | 0.000 | 55.27 | 30.26 |
| 133.4 | (3) 1 1/4" Hybriflex | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 23.553 | 0.201 | 0.000 | 0.00 | 9.23 |
| 133.4 | (1) 1 1/4" Hybriflex | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 23.553 | 0.201 | 0.000 | 0.00 | 3.08 |
| 135.0 | (1) 0.39" Cable | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 23.632 | 0.204 | 0.000 | 0.00 | 0.10 |
| 135.0 | (2) 0.78" 8 AWG 6 | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 23.632 | 0.204 | 0.000 | 0.00 | 1.68 |
| 135.0 | (1) 3" Conduit | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 23.632 | 0.204 | 0.000 | 0.00 | 10.80 |
| 135.0 | (12) 1 5/8" Coax | Yes | 1.58 | 0.787 | 5.94 | 0.78 | 0.62 | 23.632 | 0.204 | 0.000 | 25.65 | 14.02 |
| 135.0 | (3) 1 1/4" Hybriflex | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 23.632 | 0.204 | 0.000 | 0.00 | 4.27 |
| 135.0 | (1) 1 1/4" Hybriflex | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 23.632 | 0.204 | 0.000 | 0.00 | 1.42 |
| 138.0 | (1) 0.39" Cable | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.207 | 0.000 | 0.00 | 0.19 |
| 138.0 | (2) 0.78" 8 AWG 6 | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.207 | 0.000 | 0.00 | 3.19 |
| 138.0 | (1) 3" Conduit | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.207 | 0.000 | 0.00 | 20.47 |
| 138.0 | (12) 1 5/8" Coax | Yes | 3.00 | 0.784 | 5.94 | 1.49 | 1.16 | 23.781 | 0.207 | 0.000 | 48.76 | 26.56 |
| 138.0 | (3) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.207 | 0.000 | 0.00 | 8.10 |

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**Load Case:** 0.9D + 1.6W — 95.00 mph with No Ice (Reduced DL) — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 138.0 | (1) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.207 | 0.000 | 0.00 | 2.70 |
| 138.0 | (1) 0.39" Cable | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.209 | 0.000 | 0.00 | 0.00 |
| 138.0 | (2) 0.78" 8 AWG 6 | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.209 | 0.000 | 0.00 | 0.00 |
| 138.0 | (1) 3" Conduit | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.781 | 0.209 | 0.000 | 0.00 | 0.00 |
| 138.0 | (12) 1 5/8" Coax | Yes | 0.00 | 0.784 | 5.94 | 0.00 | 0.00 | 23.781 | 0.209 | 0.000 | 0.01 | 0.00 |
| 140.0 | (1) 0.39" Cable | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.879 | 0.207 | 0.000 | 0.00 | 0.13 |
| 140.0 | (2) 0.78" 8 AWG 6 | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.879 | 0.207 | 0.000 | 0.00 | 2.12 |
| 140.0 | (1) 3" Conduit | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 23.879 | 0.207 | 0.000 | 0.00 | 13.64 |
| 140.0 | (12) 1 5/8" Coax | Yes | 2.00 | 0.783 | 5.94 | 0.99 | 0.77 | 23.879 | 0.207 | 0.000 | 32.57 | 17.71 |
| 145.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.120 | 0.212 | 0.000 | 0.00 | 0.31 |
| 145.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.120 | 0.212 | 0.000 | 0.00 | 5.31 |
| 145.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.120 | 0.212 | 0.000 | 0.00 | 34.11 |
| 145.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.779 | 5.94 | 2.47 | 1.93 | 24.120 | 0.212 | 0.000 | 81.84 | 44.27 |
| 150.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.355 | 0.220 | 0.000 | 0.00 | 0.31 |
| 150.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.355 | 0.220 | 0.000 | 0.00 | 5.31 |
| 150.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.355 | 0.220 | 0.000 | 0.00 | 34.11 |
| 150.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.775 | 5.94 | 2.47 | 1.92 | 24.355 | 0.220 | 0.000 | 82.24 | 44.27 |
| 155.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.584 | 0.228 | 0.000 | 0.00 | 0.31 |
| 155.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.584 | 0.228 | 0.000 | 0.00 | 5.31 |
| 155.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.584 | 0.228 | 0.000 | 0.00 | 34.11 |
| 155.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.772 | 5.94 | 2.47 | 1.91 | 24.584 | 0.228 | 0.000 | 82.63 | 44.27 |
| 160.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.808 | 0.237 | 0.000 | 0.00 | 0.31 |
| 160.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.808 | 0.237 | 0.000 | 0.00 | 5.31 |
| 160.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 24.808 | 0.237 | 0.000 | 0.00 | 34.11 |
| 160.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.768 | 5.94 | 2.47 | 1.90 | 24.808 | 0.237 | 0.000 | 83.00 | 44.27 |
| 165.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.027 | 0.247 | 0.000 | 0.00 | 0.31 |
| 165.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.027 | 0.247 | 0.000 | 0.00 | 5.31 |
| 165.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.027 | 0.247 | 0.000 | 0.00 | 34.11 |
| 165.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.765 | 5.94 | 2.47 | 1.89 | 25.027 | 0.247 | 0.000 | 83.37 | 44.27 |
| 169.0 | (1) 0.39" Cable | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.199 | 0.256 | 0.000 | 0.00 | 0.25 |
| 169.0 | (2) 0.78" 8 AWG 6 | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.199 | 0.256 | 0.000 | 0.00 | 4.25 |
| 169.0 | (1) 3" Conduit | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 25.199 | 0.256 | 0.000 | 0.00 | 27.29 |
| 169.0 | (12) 1 5/8" Coax | Yes | 4.00 | 0.762 | 5.94 | 1.98 | 1.51 | 25.199 | 0.256 | 0.000 | 66.92 | 35.42 |
| | | | | | | | | | | Totals: | 642.26 | 3,336.32 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | |
| Location : | Middletown CT 3, CT | Struct Class : II | 5/30/2014 5:25:27 PM |
| Height : | 185.0 (ft) | Exposure Category : B | Page: 21 |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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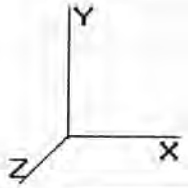


**Load Case:** 0.9D + 1.6W — 95.00 mph with No Ice (Reduced DL) — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

## Applied Segment Forces Summary

| Seg Elev (ft) | Lateral FX (-) (lb) | Axial FY (-) (lb) | Torsion MY (lb-ft) | Moment MZ (lb-ft) |
|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 601.07 | 1,582.42 | 0.00 | 0.00 |
| 10.00 | 590.11 | 1,562.14 | 0.00 | 0.00 |
| 15.00 | 579.14 | 1,541.87 | 0.00 | 0.00 |
| 20.00 | 568.18 | 1,521.59 | 0.00 | 0.00 |
| 22.50 | 279.98 | 753.19 | 0.00 | 0.00 |
| 25.00 | 277.23 | 748.12 | 0.00 | 0.00 |
| 30.00 | 546.71 | 1,481.03 | 0.00 | 0.00 |
| 35.00 | 559.85 | 1,460.75 | 0.00 | 0.00 |
| 40.00 | 569.71 | 1,440.47 | 0.00 | 0.00 |
| 43.58 | 410.91 | 1,019.86 | 0.00 | 0.00 |
| 45.00 | 164.99 | 631.08 | 0.00 | 0.00 |
| 50.00 | 591.95 | 2,203.19 | 0.00 | 0.00 |
| 52.50 | 295.30 | 635.26 | 0.00 | 0.00 |
| 55.00 | 295.99 | 630.92 | 0.00 | 0.00 |
| 60.00 | 596.85 | 1,248.80 | 0.00 | 0.00 |
| 65.00 | 596.96 | 1,231.42 | 0.00 | 0.00 |
| 70.00 | 595.76 | 880.04 | 0.00 | 0.00 |
| 75.00 | 593.36 | 862.65 | 0.00 | 0.00 |
| 80.00 | 589.88 | 845.27 | 0.00 | 0.00 |
| 85.00 | 585.41 | 827.89 | 0.00 | 0.00 |
| 87.50 | 289.59 | 407.48 | 0.00 | 0.00 |
| 90.00 | 293.09 | 683.24 | 0.00 | 0.00 |
| 93.00 | 350.10 | 809.57 | 0.00 | 0.00 |
| 95.00 | 231.71 | 276.58 | 0.00 | 0.00 |
| 100.0 | 577.08 | 681.43 | 0.00 | 0.00 |
| 105.0 | 569.48 | 666.94 | 0.00 | 0.00 |
| 110.0 | 561.20 | 652.46 | 0.00 | 0.00 |
| 115.0 | 552.26 | 637.97 | 0.00 | 0.00 |
| 120.0 | 542.71 | 623.49 | 0.00 | 0.00 |
| 125.0 | 532.57 | 609.01 | 0.00 | 0.00 |
| 130.0 | 521.89 | 594.52 | 0.00 | 0.00 |
| 133.4 | 474.84 | 397.96 | 0.00 | 0.00 |
| 135.0 | 220.46 | 278.92 | 0.00 | 0.00 |
| 138.0 | 3,857.25 | 3,216.33 | 0.00 | 3,335.85 |
| 138.0 | 0.05 | 0.06 | 0.00 | 0.00 |
| 140.0 | 273.39 | 169.76 | 0.00 | 0.00 |
| 145.0 | 675.60 | 417.36 | 0.00 | 0.00 |
| 150.0 | 660.92 | 407.22 | 0.00 | 0.00 |
| 155.0 | 645.70 | 397.08 | 0.00 | 0.00 |
| 160.0 | 629.96 | 386.94 | 0.00 | 0.00 |
| 165.0 | 613.72 | 376.80 | 0.00 | 0.00 |
| 169.0 | 3,658.49 | 2,431.37 | 0.00 | 4,161.04 |
| 170.0 | 84.10 | 55.72 | 0.00 | 0.00 |
| 175.0 | 413.12 | 272.52 | 0.00 | 0.00 |
| 180.0 | 398.15 | 262.38 | 0.00 | 0.00 |
| 182.0 | 3,674.12 | 2,266.61 | 0.00 | 3,197.66 |
| 185.0 | 227.48 | 123.56 | 0.00 | 0.00 |
| Totals: | 31,418.32 | 41,211.25 | 0.00 | 10,694.55 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:27 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 22 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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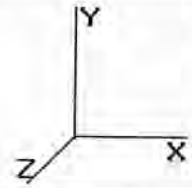


**Load Case:** 0.9D + 1.6W — 95.00 mph with No Ice (Reduced DL) — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

## Calculated Forces

| 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 (deg) | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | -41.17 | -31.48 | 0.00 | -3,787.54 | 0.00 | 3,787.54 | 4,727.77 | 2,363.89 | 10,057.5 | 4,967.06 | 0.00 | 0.00 | 0.574 |
| 5.00 | -39.50 | -30.98 | 0.00 | -3,630.17 | 0.00 | 3,630.17 | 4,681.88 | 2,340.94 | 9,776.84 | 4,828.41 | 0.09 | -0.16 | 0.562 |
| 10.00 | -37.85 | -30.49 | 0.00 | -3,475.26 | 0.00 | 3,475.26 | 4,634.49 | 2,317.25 | 9,496.63 | 4,690.03 | 0.34 | -0.32 | 0.551 |
| 15.00 | -36.23 | -30.00 | 0.00 | -3,322.80 | 0.00 | 3,322.80 | 4,585.61 | 2,292.80 | 9,217.10 | 4,551.98 | 0.76 | -0.48 | 0.539 |
| 20.00 | -34.65 | -29.49 | 0.00 | -3,172.78 | 0.00 | 3,172.78 | 4,535.22 | 2,267.61 | 8,938.46 | 4,414.37 | 1.35 | -0.64 | 0.527 |
| 22.50 | -33.86 | -29.25 | 0.00 | -3,099.04 | 0.00 | 3,099.04 | 4,509.47 | 2,254.74 | 8,799.52 | 4,345.75 | 1.71 | -0.72 | 0.521 |
| 22.50 | -33.86 | -29.25 | 0.00 | -3,099.04 | 0.00 | 3,099.04 | 4,509.47 | 2,254.74 | 8,799.52 | 4,345.75 | 1.71 | -0.72 | 0.521 |
| 25.00 | -33.05 | -29.04 | 0.00 | -3,025.91 | 0.00 | 3,025.91 | 4,483.35 | 2,241.67 | 8,660.87 | 4,277.28 | 2.11 | -0.81 | 0.515 |
| 30.00 | -31.50 | -28.56 | 0.00 | -2,880.72 | 0.00 | 2,880.72 | 4,429.97 | 2,214.99 | 8,384.50 | 4,140.79 | 3.04 | -0.97 | 0.503 |
| 35.00 | -29.97 | -28.06 | 0.00 | -2,737.92 | 0.00 | 2,737.92 | 4,375.10 | 2,187.55 | 8,109.53 | 4,004.99 | 4.15 | -1.13 | 0.490 |
| 40.00 | -28.47 | -27.53 | 0.00 | -2,597.63 | 0.00 | 2,597.63 | 4,318.73 | 2,159.36 | 7,836.14 | 3,869.97 | 5.42 | -1.30 | 0.477 |
| 43.58 | -27.43 | -27.13 | 0.00 | -2,498.99 | 0.00 | 2,498.99 | 4,277.41 | 2,138.70 | 7,641.27 | 3,773.74 | 6.44 | -1.42 | 0.468 |
| 45.00 | -26.75 | -27.00 | 0.00 | -2,460.55 | 0.00 | 2,460.55 | 4,260.86 | 2,130.43 | 7,564.50 | 3,735.82 | 6.87 | -1.46 | 0.460 |
| 50.00 | -24.51 | -26.40 | 0.00 | -2,325.54 | 0.00 | 2,325.54 | 3,421.90 | 1,710.95 | 6,065.62 | 2,995.58 | 8.49 | -1.63 | 0.521 |
| 52.50 | -23.84 | -26.13 | 0.00 | -2,259.53 | 0.00 | 2,259.53 | 3,401.39 | 1,700.70 | 5,962.75 | 2,944.78 | 9.37 | -1.71 | 0.512 |
| 52.50 | -23.84 | -26.13 | 0.00 | -2,259.53 | 0.00 | 2,259.53 | 3,401.39 | 1,700.70 | 5,962.75 | 2,944.78 | 9.37 | -1.71 | 0.512 |
| 55.00 | -23.16 | -25.86 | 0.00 | -2,194.22 | 0.00 | 2,194.22 | 3,380.51 | 1,690.25 | 5,860.04 | 2,894.05 | 10.29 | -1.80 | 0.503 |
| 60.00 | -21.85 | -25.29 | 0.00 | -2,064.90 | 0.00 | 2,064.90 | 3,337.62 | 1,668.81 | 5,655.16 | 2,792.87 | 12.27 | -1.97 | 0.486 |
| 65.00 | -20.57 | -24.71 | 0.00 | -1,938.45 | 0.00 | 1,938.45 | 3,293.24 | 1,646.62 | 5,451.16 | 2,692.12 | 14.43 | -2.15 | 0.468 |
| 65.00 | -20.57 | -24.71 | 0.00 | -1,938.45 | 0.00 | 1,938.45 | 3,293.24 | 1,646.62 | 5,451.16 | 2,692.12 | 14.43 | -2.15 | 0.727 |
| 70.00 | -19.62 | -24.16 | 0.00 | -1,814.88 | 0.00 | 1,814.88 | 3,247.36 | 1,623.68 | 5,248.21 | 2,591.90 | 16.77 | -2.32 | 0.706 |
| 75.00 | -18.67 | -23.62 | 0.00 | -1,694.08 | 0.00 | 1,694.08 | 3,199.99 | 1,599.99 | 5,046.49 | 2,492.27 | 19.34 | -2.59 | 0.686 |
| 80.00 | -17.75 | -23.07 | 0.00 | -1,576.00 | 0.00 | 1,576.00 | 3,151.11 | 1,575.56 | 4,846.18 | 2,393.35 | 22.19 | -2.86 | 0.664 |
| 85.00 | -16.87 | -22.50 | 0.00 | -1,460.64 | 0.00 | 1,460.64 | 3,100.74 | 1,550.37 | 4,647.44 | 2,295.20 | 25.33 | -3.13 | 0.642 |
| 87.50 | -16.43 | -22.23 | 0.00 | -1,404.37 | 0.00 | 1,404.37 | 3,074.99 | 1,537.50 | 4,548.71 | 2,246.44 | 27.00 | -3.26 | 0.631 |
| 90.00 | -15.71 | -21.94 | 0.00 | -1,348.80 | 0.00 | 1,348.80 | 3,048.88 | 1,524.44 | 4,450.47 | 2,197.92 | 28.74 | -3.40 | 0.619 |
| 93.00 | -14.87 | -21.58 | 0.00 | -1,282.97 | 0.00 | 1,282.97 | 2,367.81 | 1,183.91 | 3,474.51 | 1,715.93 | 30.93 | -3.56 | 0.754 |
| 95.00 | -14.53 | -21.38 | 0.00 | -1,239.83 | 0.00 | 1,239.83 | 2,354.00 | 1,177.00 | 3,417.42 | 1,687.73 | 32.45 | -3.67 | 0.741 |
| 100.00 | -13.78 | -20.83 | 0.00 | -1,132.92 | 0.00 | 1,132.92 | 2,318.41 | 1,159.21 | 3,275.08 | 1,617.44 | 36.45 | -3.97 | 0.707 |
| 105.00 | -13.05 | -20.28 | 0.00 | -1,028.76 | 0.00 | 1,028.76 | 2,281.33 | 1,140.66 | 3,133.47 | 1,547.50 | 40.77 | -4.27 | 0.671 |
| 110.00 | -12.35 | -19.74 | 0.00 | -927.34 | 0.00 | 927.34 | 2,242.75 | 1,121.37 | 2,992.76 | 1,478.01 | 45.40 | -4.56 | 0.633 |
| 115.00 | -11.66 | -19.19 | 0.00 | -828.66 | 0.00 | 828.66 | 2,202.67 | 1,101.33 | 2,853.13 | 1,409.05 | 50.33 | -4.85 | 0.594 |
| 120.00 | -11.00 | -18.65 | 0.00 | -732.70 | 0.00 | 732.70 | 2,161.09 | 1,080.55 | 2,714.76 | 1,340.72 | 55.56 | -5.13 | 0.552 |
| 125.00 | -10.36 | -18.11 | 0.00 | -639.46 | 0.00 | 639.46 | 2,118.02 | 1,059.01 | 2,577.82 | 1,273.09 | 61.06 | -5.40 | 0.507 |
| 130.00 | -9.75 | -17.57 | 0.00 | -548.91 | 0.00 | 548.91 | 2,073.45 | 1,036.73 | 2,442.48 | 1,206.25 | 66.85 | -5.65 | 0.460 |
| 133.42 | -9.37 | -17.08 | 0.00 | -488.87 | 0.00 | 488.87 | 2,042.13 | 1,021.07 | 2,351.01 | 1,161.07 | 70.95 | -5.82 | 0.426 |
| 135.00 | -9.08 | -16.85 | 0.00 | -461.84 | 0.00 | 461.84 | 2,027.39 | 1,013.69 | 2,308.93 | 1,140.29 | 72.89 | -5.90 | 0.410 |
| 138.00 | -6.27 | -12.68 | 0.00 | -407.96 | 0.00 | 407.96 | 1,999.03 | 999.51 | 2,229.72 | 1,101.18 | 76.63 | -6.03 | 0.374 |
| 138.00 | -6.26 | -12.69 | 0.00 | -407.96 | 0.00 | 407.96 | 1,223.81 | 611.90 | 1,396.77 | 689.81 | 76.63 | -6.03 | 0.597 |
| 140.00 | -6.08 | -12.42 | 0.00 | -382.59 | 0.00 | 382.59 | 1,215.85 | 607.93 | 1,368.67 | 675.93 | 79.17 | -6.12 | 0.571 |
| 145.00 | -5.68 | -11.73 | 0.00 | -320.50 | 0.00 | 320.50 | 1,194.90 | 597.45 | 1,298.35 | 641.21 | 85.72 | -6.39 | 0.505 |
| 150.00 | -5.31 | -11.05 | 0.00 | -261.86 | 0.00 | 261.86 | 1,172.46 | 586.23 | 1,228.11 | 606.52 | 92.54 | -6.65 | 0.437 |
| 155.00 | -4.95 | -10.38 | 0.00 | -206.63 | 0.00 | 206.63 | 1,148.52 | 574.26 | 1,158.11 | 571.95 | 99.61 | -6.87 | 0.366 |
| 160.00 | -4.61 | -9.72 | 0.00 | -154.75 | 0.00 | 154.75 | 1,123.08 | 561.54 | 1,088.54 | 537.59 | 106.90 | -7.07 | 0.292 |
| 165.00 | -4.30 | -9.07 | 0.00 | -106.15 | 0.00 | 106.15 | 1,096.15 | 548.08 | 1,019.56 | 503.52 | 114.37 | -7.23 | 0.215 |
| 169.00 | -2.34 | -5.14 | 0.00 | -65.70 | 0.00 | 65.70 | 1,073.53 | 536.76 | 964.93 | 476.54 | 120.46 | -7.32 | 0.140 |
| 170.00 | -2.30 | -5.05 | 0.00 | -60.56 | 0.00 | 60.56 | 1,067.72 | 533.86 | 951.36 | 469.84 | 121.99 | -7.34 | 0.131 |
| 175.00 | -2.07 | -4.61 | 0.00 | -35.31 | 0.00 | 35.31 | 1,037.79 | 518.90 | 884.11 | 436.63 | 129.70 | -7.42 | 0.083 |
| 180.00 | -1.86 | -4.18 | 0.00 | -12.28 | 0.00 | 12.28 | 1,006.37 | 503.18 | 817.98 | 403.97 | 137.47 | -7.46 | 0.032 |
| 182.00 | -0.09 | -0.24 | 0.00 | -0.72 | 0.00 | 0.72 | 993.38 | 496.69 | 791.88 | 391.08 | 140.59 | -7.47 | 0.002 |
| 185.00 | 0.00 | -0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 973.45 | 486.72 | 753.15 | 371.95 | 145.27 | -7.47 | 0.000 |

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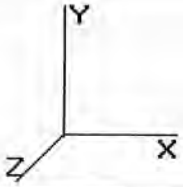




**Load Case:** 0.9D + 1.6W — 95.00 mph with No Ice (Reduced DL) — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:27 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 24 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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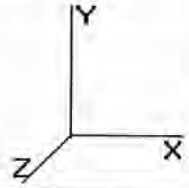


**Load Case:** 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 1.00 in Radial Ice — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance Factor : 1.00

## Shaft Segment Forces (Factored)

| Seg Top Elev (ft) | Description | Kzt | Kz | qz (psf) | qzGh (psf) | C (mph-ft) | Cf | | Ice Thick (in) | Tributary (ft) | Ap (sf) | EPAs (sf) | Wind Force X (lb) | Dead Load Ice (lb) | Tot Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | 1.00 | 0.70 | 4.256 | 4.682 | 0.000 | 1.200 | | 0.000 | 0.00 | 0.000 | 0.00 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 1.00 | 0.70 | 4.256 | 4.682 | 0.000 | 1.200 | * | 1.656 | 5.00 | 23.608 | 28.33 | 132.6 | 565.3 | 2,368.8 |
| 10.00 | | 1.00 | 0.70 | 4.256 | 4.682 | 0.000 | 1.200 | * | 1.775 | 5.00 | 23.302 | 27.96 | 130.9 | 596.4 | 2,372.8 |
| 15.00 | | 1.00 | 0.70 | 4.256 | 4.682 | 0.000 | 1.200 | * | 1.848 | 5.00 | 22.958 | 27.55 | 129.0 | 610.6 | 2,360.1 |
| 20.00 | | 1.00 | 0.70 | 4.256 | 4.682 | 0.000 | 1.200 | * | 1.902 | 5.00 | 22.597 | 27.12 | 126.9 | 617.5 | 2,339.9 |
| 22.50 | Reinf. Top Reinf Bottom | 1.00 | 0.70 | 4.256 | 4.682 | 0.000 | 1.200 | * | 1.925 | 2.50 | 11.156 | 13.39 | 62.7 | 309.6 | 1,160.7 |
| 25.00 | | 1.00 | 0.70 | 4.256 | 4.682 | 0.000 | 1.200 | * | 1.945 | 2.50 | 11.063 | 13.28 | 62.2 | 310.0 | 1,154.3 |
| 30.00 | | 1.00 | 0.70 | 4.260 | 4.686 | 0.000 | 1.200 | * | 1.981 | 5.00 | 21.852 | 26.22 | 122.9 | 619.9 | 2,288.2 |
| 35.00 | | 1.00 | 0.73 | 4.451 | 4.897 | 0.000 | 1.200 | * | 2.012 | 5.00 | 21.472 | 25.77 | 126.2 | 617.6 | 2,258.9 |
| 40.00 | | 1.00 | 0.76 | 4.625 | 5.087 | 0.000 | 1.200 | * | 2.039 | 5.00 | 21.089 | 25.31 | 128.7 | 613.9 | 2,228.1 |
| 43.58 | Bot - Section 2 | 1.00 | 0.77 | 4.739 | 5.213 | 0.000 | 1.200 | * | 2.056 | 3.58 | 14.875 | 17.85 | 93.1 | 437.4 | 1,577.7 |
| 45.00 | | 1.00 | 0.78 | 4.783 | 5.261 | 0.000 | 1.200 | * | 2.063 | 1.42 | 5.916 | 7.10 | 37.4 | 175.4 | 930.0 |
| 50.00 | Top - Section 1 | 1.00 | 0.81 | 4.929 | 5.422 | 0.000 | 1.200 | * | 2.085 | 5.00 | 20.640 | 24.77 | 134.3 | 613.0 | 3,244.3 |
| 52.50 | Reinf. Top Reinf Bottom | 1.00 | 0.82 | 4.998 | 5.498 | 0.000 | 1.200 | * | 2.095 | 2.50 | 10.172 | 12.21 | 67.1 | 304.9 | 998.7 |
| 55.00 | | 1.00 | 0.83 | 5.065 | 5.572 | 0.000 | 1.200 | * | 2.105 | 2.50 | 10.075 | 12.09 | 67.4 | 303.2 | 991.2 |
| 60.00 | | 1.00 | 0.85 | 5.193 | 5.712 | 0.000 | 1.200 | * | 2.123 | 5.00 | 19.860 | 23.83 | 136.1 | 599.0 | 1,957.6 |
| 65.00 | Reinf. Top | 1.00 | 0.87 | 5.313 | 5.844 | 0.000 | 1.200 | * | 2.140 | 5.00 | 19.469 | 23.36 | 136.5 | 591.0 | 1,926.5 |
| 70.00 | | 1.00 | 0.89 | 5.426 | 5.969 | 0.000 | 1.200 | * | 2.156 | 5.00 | 19.077 | 22.89 | 136.6 | 582.4 | 1,560.8 |
| 75.00 | | 1.00 | 0.91 | 5.534 | 6.088 | 0.000 | 1.200 | * | 2.171 | 5.00 | 18.684 | 22.42 | 136.5 | 573.4 | 1,528.6 |
| 80.00 | | 1.00 | 0.92 | 5.637 | 6.201 | 0.000 | 1.200 | * | 2.185 | 5.00 | 18.290 | 21.95 | 136.1 | 564.0 | 1,496.0 |
| 85.00 | | 1.00 | 0.94 | 5.736 | 6.309 | 0.000 | 1.200 | * | 2.198 | 5.00 | 17.896 | 21.47 | 135.5 | 554.2 | 1,463.0 |
| 87.50 | Bot - Section 3 | 1.00 | 0.95 | 5.784 | 6.362 | 0.000 | 1.200 | * | 2.205 | 2.50 | 8.800 | 10.56 | 67.2 | 274.6 | 720.4 |
| 90.00 | | 1.00 | 0.95 | 5.830 | 6.413 | 0.000 | 1.200 | * | 2.211 | 2.50 | 8.833 | 10.60 | 68.0 | 276.5 | 1,090.0 |
| 93.00 | Top - Section 2 | 1.00 | 0.96 | 5.885 | 6.474 | 0.000 | 1.200 | * | 2.218 | 3.00 | 10.472 | 12.57 | 81.4 | 328.2 | 1,290.5 |
| 95.00 | | 1.00 | 0.97 | 5.921 | 6.513 | 0.000 | 1.200 | * | 2.223 | 2.00 | 6.900 | 8.28 | 53.9 | 217.0 | 507.8 |
| 100.0 | | 1.00 | 0.98 | 6.008 | 6.609 | 0.000 | 1.200 | * | 2.234 | 5.00 | 16.979 | 20.37 | 134.7 | 532.0 | 1,245.6 |
| 105.0 | | 1.00 | 1.00 | 6.093 | 6.702 | 0.000 | 1.200 | * | 2.245 | 5.00 | 16.582 | 19.90 | 133.4 | 521.1 | 1,215.3 |
| 110.0 | | 1.00 | 1.01 | 6.174 | 6.792 | 0.000 | 1.200 | * | 2.256 | 5.00 | 16.186 | 19.42 | 131.9 | 509.9 | 1,184.8 |
| 115.0 | | 1.00 | 1.02 | 6.253 | 6.879 | 0.000 | 1.200 | * | 2.266 | 5.00 | 15.788 | 18.95 | 130.3 | 498.5 | 1,154.1 |
| 120.0 | | 1.00 | 1.04 | 6.330 | 6.963 | 0.000 | 1.200 | * | 2.276 | 5.00 | 15.391 | 18.47 | 128.6 | 486.9 | 1,123.2 |
| 125.0 | | 1.00 | 1.05 | 6.404 | 7.044 | 0.000 | 1.200 | * | 2.285 | 5.00 | 14.993 | 17.99 | 126.7 | 475.1 | 1,092.1 |
| 130.0 | | 1.00 | 1.06 | 6.476 | 7.124 | 0.000 | 1.200 | * | 2.294 | 5.00 | 14.595 | 17.51 | 124.8 | 463.2 | 1,060.8 |
| 133.4 | Bot - Section 4 | 1.00 | 1.07 | 6.524 | 7.177 | 0.000 | 1.200 | * | 2.300 | 3.42 | 9.744 | 11.69 | 83.9 | 310.9 | 708.2 |
| 135.0 | | 1.00 | 1.07 | 6.546 | 7.201 | 0.000 | 1.200 | * | 2.303 | 1.58 | 4.511 | 5.41 | 39.0 | 144.9 | 455.0 |
| 138.0 | Appertunance(s) | 1.00 | 1.08 | 6.588 | 7.246 | 0.000 | 1.200 | * | 2.308 | 3.00 | 8.439 | 10.13 | 73.4 | 270.1 | 848.8 |
| 138.0 | Top - Section 3 | 1.00 | 1.08 | 6.588 | 7.246 | 0.000 | 1.200 | * | 2.308 | 0.00 | 0.001 | 0.00 | 0.0 | 0.0 | 0.1 |
| 140.0 | | 1.00 | 1.08 | 6.615 | 7.276 | 0.000 | 1.200 | * | 2.311 | 2.00 | 5.545 | 6.65 | 48.4 | 178.1 | 336.0 |
| 145.0 | | 1.00 | 1.09 | 6.681 | 7.350 | 0.000 | 1.200 | * | 2.319 | 5.00 | 13.588 | 16.31 | 119.8 | 432.8 | 818.2 |
| 150.0 | | 1.00 | 1.11 | 6.746 | 7.421 | 0.000 | 1.200 | * | 2.327 | 5.00 | 13.189 | 15.83 | 117.5 | 420.2 | 792.1 |
| 155.0 | | 1.00 | 1.12 | 6.810 | 7.491 | 0.000 | 1.200 | * | 2.335 | 5.00 | 12.790 | 15.35 | 115.0 | 407.5 | 765.9 |
| 160.0 | | 1.00 | 1.13 | 6.872 | 7.559 | 0.000 | 1.200 | * | 2.342 | 5.00 | 12.391 | 14.87 | 112.4 | 394.6 | 739.5 |
| 165.0 | | 1.00 | 1.14 | 6.933 | 7.626 | 0.000 | 1.200 | * | 2.349 | 5.00 | 11.991 | 14.39 | 109.7 | 381.6 | 713.0 |
| 169.0 | Appertunance(s) | 1.00 | 1.14 | 6.980 | 7.678 | 0.000 | 1.200 | * | 2.355 | 4.00 | 9.305 | 11.17 | 85.7 | 296.9 | 552.2 |
| 170.0 | | 1.00 | 1.15 | 6.992 | 7.691 | 0.000 | 1.200 | | 2.356 | 1.00 | 2.286 | 2.74 | 21.1 | 73.7 | 136.2 |
| 175.0 | | 1.00 | 1.16 | 7.050 | 7.755 | 0.000 | 1.200 | | 2.363 | 5.00 | 11.192 | 13.43 | 104.2 | 355.3 | 659.6 |
| 180.0 | | 1.00 | 1.16 | 7.107 | 7.818 | 0.000 | 1.200 | | 2.370 | 5.00 | 10.792 | 12.95 | 101.2 | 341.9 | 632.7 |
| 182.0 | Appertunance(s) | 1.00 | 1.17 | 7.130 | 7.843 | 0.000 | 1.200 | | 2.372 | 2.00 | 4.204 | 5.04 | 39.6 | 134.6 | 247.2 |
| 185.0 | | 1.00 | 1.17 | 7.163 | 7.879 | 0.000 | 1.200 | | 2.376 | 3.00 | 6.186 | 7.42 | 58.5 | 197.1 | 361.8 |
| | | | | | | | | Totals: | | 185.00 | | | 4,648.8 | 19,081.8 | 56,657.3 |

* = Cf Adjusted By Linear Load Ra Effect

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | |
| Location : | Middletown CT 3, CT | Struct Class : II | 5/30/2014 5:25:27 PM |
| Height : | 185.0 (ft) | Exposure Category : B | Page: 25 |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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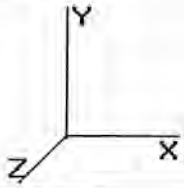


**Load Case:** 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 1.00 in Radial Ice — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance Factor : 1.00

## Discrete Appurtenance Segment Forces (Factored)

| Elev (ft) | Description | Qty | qz (psf) | qzGh (psf) | Orientation Factor | Ka | Total EPAa (sf) | Horiz Ecc (ft) | Vert Ecc (ft) | Wind FX (lb) | Mom Y (lb-ft) | Mom Z (lb-ft) | Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 138.0 | Flat Platform w/ Han | 1 | 6.588 | 7.246 | 1.00 | 1.00 | 70.19 | 0.000 | 0.000 | 508.60 | 0.00 | 0.00 | 3,833.01 |
| 138.0 | RFS APXVSPP18-C- | 3 | 6.615 | 7.276 | 0.83 | 0.75 | 18.24 | 0.000 | 2.000 | 132.74 | 0.00 | 265.47 | 1,047.23 |
| 138.0 | Alcatel-Lucent 800 M | 3 | 6.615 | 7.276 | 0.67 | 0.75 | 4.33 | 0.000 | 2.000 | 31.53 | 0.00 | 63.06 | 616.96 |
| 138.0 | Alcatel-Lucent 4X40W | 3 | 6.615 | 7.276 | 0.67 | 0.75 | 5.14 | 0.000 | 2.000 | 37.38 | 0.00 | 74.77 | 845.51 |
| 138.0 | Alcatel-Lucent TD-RR | 3 | 6.615 | 7.276 | 0.67 | 0.75 | 8.65 | 0.000 | 2.000 | 62.97 | 0.00 | 125.93 | 534.66 |
| 138.0 | RFS APXVTM14-C-I20 | 3 | 6.615 | 7.276 | 0.78 | 0.75 | 16.19 | 0.000 | 2.000 | 117.80 | 0.00 | 235.60 | 675.14 |
| 169.0 | Round Low Profile Pl | 1 | 6.980 | 7.678 | 1.00 | 1.00 | 47.66 | 0.000 | 0.000 | 365.94 | 0.00 | 0.00 | 2,476.01 |
| 169.0 | Allgon 7770.00 | 6 | 7.004 | 7.704 | 0.77 | 0.80 | 25.74 | 0.000 | 2.000 | 198.32 | 0.00 | 396.64 | 1,434.04 |
| 169.0 | Powerwave LGP21401 | 12 | 6.992 | 7.691 | 0.50 | 0.80 | 8.41 | 0.000 | 1.000 | 64.69 | 0.00 | 64.69 | 824.70 |
| 169.0 | KMW AM-X-CD-16-65- | 3 | 7.004 | 7.704 | 0.79 | 0.80 | 18.59 | 0.000 | 2.000 | 143.26 | 0.00 | 286.51 | 993.62 |
| 169.0 | Raycap DC6-48-60-18- | 1 | 6.992 | 7.691 | 1.00 | 0.80 | 2.21 | 0.000 | 1.000 | 17.03 | 0.00 | 17.03 | 142.15 |
| 169.0 | Ericsson RRUS 11 | 6 | 7.004 | 7.704 | 0.67 | 0.80 | 11.00 | 0.000 | 2.000 | 84.73 | 0.00 | 169.45 | 1,102.98 |
| 182.0 | 48" x 12" Panels | 9 | 7.152 | 7.867 | 0.67 | 0.75 | 29.12 | 0.000 | 2.000 | 229.12 | 0.00 | 458.24 | 2,083.85 |
| 182.0 | 72" x 12" Panels | 3 | 7.152 | 7.867 | 0.50 | 0.75 | 11.18 | 0.000 | 2.000 | 87.95 | 0.00 | 175.91 | 1,000.43 |
| 182.0 | Flat Platform w/ Han | 1 | 7.130 | 7.843 | 1.00 | 1.00 | 70.97 | 0.000 | 0.000 | 556.57 | 0.00 | 0.00 | 3,885.85 |
| | | | | | | | | | | 2,638.62 | | | 21,496.14 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:27 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 26 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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**Load Case:** 1.2D + 1.0Di + 1.0Wi  50.00 mph with 1.00 in Radial Ice  27 Iterations

Gust Response Factor : 1.10  Ice Dead Load Factor : 1.00  Wind Importance Factor : 1.00
Dead Load Factor : 1.20  Ice Importance Factor : 1.00
Wind Load Factor : 1.00

## Linear Appurtenance Segment Forces (Factored)

| Seg Top Elev (ft) | Description | Exposed To Wind | Length (ft) | Ca | Exposed Width (in) | Area (sqft) | CaAa (sqft) | qz (psf) | Ra | Cf Adjust Factor | FX (lb) | Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.150 | 1.150 | 0.00 | 19.75 |
| 5.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.150 | 1.150 | 0.00 | 34.39 |
| 5.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.150 | 1.150 | 0.00 | 89.89 |
| 5.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.150 | 1.150 | 0.00 | 67.48 |
| 5.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.150 | 1.150 | 0.00 | 33.66 |
| 5.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 4.71 | 0.00 | 4.256 | 0.150 | 1.150 | 0.00 | 16.75 |
| 5.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.150 | 1.150 | 0.00 | 248.44 |
| 10.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.153 | 1.158 | 0.00 | 22.42 |
| 10.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.153 | 1.158 | 0.00 | 37.60 |
| 10.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.153 | 1.158 | 0.00 | 93.99 |
| 10.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.153 | 1.158 | 0.00 | 72.10 |
| 10.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.153 | 1.158 | 0.00 | 36.86 |
| 10.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 4.81 | 0.00 | 4.256 | 0.153 | 1.158 | 0.00 | 19.24 |
| 10.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.153 | 1.158 | 0.00 | 261.91 |
| 15.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.156 | 1.167 | 0.00 | 24.16 |
| 15.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.156 | 1.167 | 0.00 | 39.67 |
| 15.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.156 | 1.167 | 0.00 | 96.62 |
| 15.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.156 | 1.167 | 0.00 | 75.05 |
| 15.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.156 | 1.167 | 0.00 | 38.93 |
| 15.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 4.87 | 0.00 | 4.256 | 0.156 | 1.167 | 0.00 | 20.87 |
| 15.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.156 | 1.167 | 0.00 | 270.32 |
| 20.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.159 | 1.176 | 0.00 | 25.47 |
| 20.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.159 | 1.176 | 0.00 | 41.23 |
| 20.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.159 | 1.176 | 0.00 | 98.59 |
| 20.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.159 | 1.176 | 0.00 | 77.25 |
| 20.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.159 | 1.176 | 0.00 | 40.49 |
| 20.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 4.92 | 0.00 | 4.256 | 0.159 | 1.176 | 0.00 | 22.11 |
| 20.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.159 | 1.176 | 0.00 | 276.54 |
| 22.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.161 | 1.183 | 0.00 | 13.02 |
| 22.50 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.161 | 1.183 | 0.00 | 20.95 |
| 22.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.161 | 1.183 | 0.00 | 49.71 |
| 22.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.161 | 1.183 | 0.00 | 39.09 |
| 22.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.161 | 1.183 | 0.00 | 20.58 |
| 22.50 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 2.47 | 0.00 | 4.256 | 0.161 | 1.183 | 0.00 | 11.32 |
| 22.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.161 | 1.183 | 0.00 | 139.58 |
| 25.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.163 | 1.188 | 0.00 | 13.27 |
| 25.00 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.163 | 1.188 | 0.00 | 21.25 |
| 25.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.163 | 1.188 | 0.00 | 50.09 |
| 25.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.163 | 1.188 | 0.00 | 39.52 |
| 25.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.163 | 1.188 | 0.00 | 20.88 |
| 25.00 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 2.48 | 0.00 | 4.256 | 0.163 | 1.188 | 0.00 | 11.56 |
| 25.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.256 | 0.163 | 1.188 | 0.00 | 140.76 |
| 30.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.260 | 0.165 | 1.195 | 0.00 | 27.46 |
| 30.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.260 | 0.165 | 1.195 | 0.00 | 43.58 |
| 30.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.260 | 0.165 | 1.195 | 0.00 | 101.53 |
| 30.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.260 | 0.165 | 1.195 | 0.00 | 80.53 |
| 30.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.260 | 0.165 | 1.195 | 0.00 | 42.83 |
| 30.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 4.98 | 0.00 | 4.260 | 0.165 | 1.195 | 0.00 | 23.97 |
| 30.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.260 | 0.165 | 1.195 | 0.00 | 285.68 |
| 35.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.451 | 0.168 | 1.205 | 0.00 | 28.26 |
| 35.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.451 | 0.168 | 1.205 | 0.00 | 44.52 |

| | | | |
|---|---|---|---|
| Pole : 302537 | Code: ANSI/TIA-222 Rev G | | 5/30/2014 5:25:27 PM |
| Location : Middletown CT 3, CT | Struct Class : II | | Page: 27 |
| Height : 185.0 (ft) | Exposure Category : B | | |
| Base Dia : 52.00 (in) | Topographic Category : 1 | | |
| Top Dia : 19.03 (in) | Base Elev : 0.000 (ft) | | |
| Shape : 12 Sides | | | |
| Taper : 0.188014 (in/ft) | | | |

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**Load Case:** 1.2D + 1.0Di + 1.0Wi  50.00 mph with 1.00 in Radial Ice  27 Iterations

Gust Response Factor : 1.10  Ice Dead Load Factor : 1.00  Wind Importance Factor : 1.00
Dead Load Factor : 1.20  Ice Importance Factor : 1.00
Wind Load Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.451 | 0.168 | 1.205 | 0.00 | 102.70 |
| 35.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.451 | 0.168 | 1.205 | 0.00 | 81.84 |
| 35.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.451 | 0.168 | 1.205 | 0.00 | 43.76 |
| 35.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 5.01 | 0.00 | 4.451 | 0.168 | 1.205 | 0.00 | 24.72 |
| 35.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.451 | 0.168 | 1.205 | 0.00 | 289.28 |
| 40.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.625 | 0.172 | 1.216 | 0.00 | 28.97 |
| 40.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.625 | 0.172 | 1.216 | 0.00 | 45.35 |
| 40.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.625 | 0.172 | 1.216 | 0.00 | 103.74 |
| 40.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.625 | 0.172 | 1.216 | 0.00 | 82.99 |
| 40.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.625 | 0.172 | 1.216 | 0.00 | 44.59 |
| 40.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 5.03 | 0.00 | 4.625 | 0.172 | 1.216 | 0.00 | 25.39 |
| 40.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.625 | 0.172 | 1.216 | 0.00 | 292.45 |
| 43.58 | (1) 0.39" Cable | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 4.739 | 0.175 | 1.225 | 0.00 | 21.10 |
| 43.58 | (2) 0.78" 8 AWG 6 | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 4.739 | 0.175 | 1.225 | 0.00 | 32.89 |
| 43.58 | (1) 3" Conduit | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 4.739 | 0.175 | 1.225 | 0.00 | 74.83 |
| 43.58 | (3) 1 1/4" Hybriflex | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 4.739 | 0.175 | 1.225 | 0.00 | 60.02 |
| 43.58 | (1) 1 1/4" Hybriflex | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 4.739 | 0.175 | 1.225 | 0.00 | 32.35 |
| 43.58 | (4) #20 Dywidag | Yes | 3.58 | 0.000 | 8.00 | 3.62 | 0.00 | 4.739 | 0.175 | 1.225 | 0.00 | 18.51 |
| 43.58 | (12) 1 5/8" Coax | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 4.739 | 0.175 | 1.225 | 0.00 | 211.06 |
| 45.00 | (1) 0.39" Cable | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 4.783 | 0.177 | 1.231 | 0.00 | 8.39 |
| 45.00 | (2) 0.78" 8 AWG 6 | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 4.783 | 0.177 | 1.231 | 0.00 | 13.06 |
| 45.00 | (1) 3" Conduit | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 4.783 | 0.177 | 1.231 | 0.00 | 29.66 |
| 45.00 | (3) 1 1/4" Hybriflex | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 4.783 | 0.177 | 1.231 | 0.00 | 23.81 |
| 45.00 | (1) 1 1/4" Hybriflex | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 4.783 | 0.177 | 1.231 | 0.00 | 12.85 |
| 45.00 | (4) #20 Dywidag | Yes | 1.42 | 0.000 | 8.00 | 1.43 | 0.00 | 4.783 | 0.177 | 1.231 | 0.00 | 7.37 |
| 45.00 | (12) 1 5/8" Coax | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 4.783 | 0.177 | 1.231 | 0.00 | 83.66 |
| 50.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.929 | 0.179 | 1.238 | 0.00 | 30.20 |
| 50.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.929 | 0.179 | 1.238 | 0.00 | 46.79 |
| 50.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.929 | 0.179 | 1.238 | 0.00 | 105.52 |
| 50.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.929 | 0.179 | 1.238 | 0.00 | 84.98 |
| 50.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.929 | 0.179 | 1.238 | 0.00 | 46.03 |
| 50.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 5.07 | 0.00 | 4.929 | 0.179 | 1.238 | 0.00 | 26.55 |
| 50.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 4.929 | 0.179 | 1.238 | 0.00 | 297.86 |
| 52.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.998 | 0.179 | 1.238 | 0.00 | 15.24 |
| 52.50 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.998 | 0.179 | 1.238 | 0.00 | 23.56 |
| 52.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.998 | 0.179 | 1.238 | 0.00 | 52.96 |
| 52.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.998 | 0.179 | 1.238 | 0.00 | 42.71 |
| 52.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.998 | 0.179 | 1.238 | 0.00 | 23.17 |
| 52.50 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 2.54 | 0.00 | 4.998 | 0.179 | 1.238 | 0.00 | 13.41 |
| 52.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 4.998 | 0.179 | 1.238 | 0.00 | 149.53 |
| 55.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.065 | 0.181 | 1.244 | 0.00 | 15.37 |
| 55.00 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.065 | 0.181 | 1.244 | 0.00 | 23.71 |
| 55.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.065 | 0.181 | 1.244 | 0.00 | 53.15 |
| 55.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.065 | 0.181 | 1.244 | 0.00 | 42.92 |
| 55.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.065 | 0.181 | 1.244 | 0.00 | 23.33 |
| 55.00 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 2.54 | 0.00 | 5.065 | 0.181 | 1.244 | 0.00 | 13.53 |
| 55.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.065 | 0.181 | 1.244 | 0.00 | 150.11 |
| 60.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.193 | 0.184 | 1.253 | 0.00 | 31.24 |
| 60.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.193 | 0.184 | 1.253 | 0.00 | 48.01 |
| 60.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.193 | 0.184 | 1.253 | 0.00 | 107.03 |
| 60.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.193 | 0.184 | 1.253 | 0.00 | 86.65 |
| 60.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.193 | 0.184 | 1.253 | 0.00 | 47.24 |
| 60.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 5.10 | 0.00 | 5.193 | 0.184 | 1.253 | 0.00 | 27.54 |
| 60.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.193 | 0.184 | 1.253 | 0.00 | 302.39 |
| 65.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.313 | 0.188 | 1.265 | 0.00 | 31.71 |
| 65.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.313 | 0.188 | 1.265 | 0.00 | 48.55 |
| 65.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.313 | 0.188 | 1.265 | 0.00 | 107.71 |

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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50.00 mph with 1.00 in Radial Ice 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.313 | 0.188 | 1.265 | 0.00 | 87.40 |
| 65.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.313 | 0.188 | 1.265 | 0.00 | 47.79 |
| 65.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 5.12 | 0.00 | 5.313 | 0.188 | 1.265 | 0.00 | 27.98 |
| 65.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.313 | 0.188 | 1.265 | 0.00 | 304.41 |
| 70.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.426 | 0.193 | 1.279 | 0.00 | 32.15 |
| 70.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.426 | 0.193 | 1.279 | 0.00 | 49.07 |
| 70.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.426 | 0.193 | 1.279 | 0.00 | 108.34 |
| 70.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.426 | 0.193 | 1.279 | 0.00 | 88.11 |
| 70.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.426 | 0.193 | 1.279 | 0.00 | 48.30 |
| 70.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 5.13 | 0.00 | 5.426 | 0.193 | 1.279 | 0.00 | 28.40 |
| 70.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.426 | 0.193 | 1.279 | 0.00 | 306.30 |
| 75.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.534 | 0.183 | 1.250 | 0.00 | 32.57 |
| 75.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.534 | 0.183 | 1.250 | 0.00 | 49.55 |
| 75.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.534 | 0.183 | 1.250 | 0.00 | 108.94 |
| 75.00 | (12) 1 5/8" Coax | Yes | 1.38 | 0.000 | 5.94 | 1.18 | 0.00 | 5.534 | 0.183 | 1.250 | 0.00 | 85.03 |
| 75.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.534 | 0.183 | 1.250 | 0.00 | 88.77 |
| 75.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.534 | 0.183 | 1.250 | 0.00 | 48.79 |
| 75.00 | (4) #20 Dywidag | Yes | 3.62 | 0.000 | 8.00 | 3.72 | 0.00 | 5.534 | 0.183 | 1.250 | 0.00 | 20.85 |
| 75.00 | (12) 1 5/8" Coax | Yes | 3.62 | 0.000 | 0.00 | 0.00 | 0.00 | 5.534 | 0.183 | 1.250 | 0.00 | 223.04 |
| 80.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.637 | 0.150 | 1.151 | 0.00 | 32.97 |
| 80.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.637 | 0.150 | 1.151 | 0.00 | 50.01 |
| 80.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.637 | 0.150 | 1.151 | 0.00 | 109.50 |
| 80.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 4.30 | 0.00 | 5.637 | 0.150 | 1.151 | 0.00 | 309.74 |
| 80.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.637 | 0.150 | 1.151 | 0.00 | 89.40 |
| 80.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.637 | 0.150 | 1.151 | 0.00 | 49.25 |
| 85.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.736 | 0.154 | 1.162 | 0.00 | 33.34 |
| 85.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.736 | 0.154 | 1.162 | 0.00 | 50.45 |
| 85.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.736 | 0.154 | 1.162 | 0.00 | 110.04 |
| 85.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 4.31 | 0.00 | 5.736 | 0.154 | 1.162 | 0.00 | 311.33 |
| 85.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.736 | 0.154 | 1.162 | 0.00 | 89.99 |
| 85.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.736 | 0.154 | 1.162 | 0.00 | 49.68 |
| 87.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.784 | 0.157 | 1.171 | 0.00 | 16.76 |
| 87.50 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.784 | 0.157 | 1.171 | 0.00 | 25.33 |
| 87.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.784 | 0.157 | 1.171 | 0.00 | 55.16 |
| 87.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 5.94 | 2.16 | 0.00 | 5.784 | 0.157 | 1.171 | 0.00 | 156.07 |
| 87.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.784 | 0.157 | 1.171 | 0.00 | 45.15 |
| 87.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.784 | 0.157 | 1.171 | 0.00 | 24.95 |
| 90.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.830 | 0.159 | 1.177 | 0.00 | 16.85 |
| 90.00 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.830 | 0.159 | 1.177 | 0.00 | 25.43 |
| 90.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.830 | 0.159 | 1.177 | 0.00 | 55.27 |
| 90.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 5.94 | 2.16 | 0.00 | 5.830 | 0.159 | 1.177 | 0.00 | 156.39 |
| 90.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.830 | 0.159 | 1.177 | 0.00 | 45.27 |
| 90.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 5.830 | 0.159 | 1.177 | 0.00 | 25.04 |
| 93.00 | (1) 0.39" Cable | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.885 | 0.161 | 1.184 | 0.00 | 20.35 |
| 93.00 | (2) 0.78" 8 AWG 6 | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.885 | 0.161 | 1.184 | 0.00 | 30.67 |
| 93.00 | (1) 3" Conduit | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.885 | 0.161 | 1.184 | 0.00 | 66.52 |
| 93.00 | (12) 1 5/8" Coax | Yes | 3.00 | 0.000 | 5.94 | 2.59 | 0.00 | 5.885 | 0.161 | 1.184 | 0.00 | 188.24 |
| 93.00 | (3) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.885 | 0.161 | 1.184 | 0.00 | 54.54 |
| 93.00 | (1) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.885 | 0.161 | 1.184 | 0.00 | 30.20 |
| 95.00 | (1) 0.39" Cable | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.921 | 0.161 | 1.182 | 0.00 | 13.62 |
| 95.00 | (2) 0.78" 8 AWG 6 | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.921 | 0.161 | 1.182 | 0.00 | 20.50 |
| 95.00 | (1) 3" Conduit | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.921 | 0.161 | 1.182 | 0.00 | 44.41 |
| 95.00 | (12) 1 5/8" Coax | Yes | 2.00 | 0.000 | 5.94 | 1.73 | 0.00 | 5.921 | 0.161 | 1.182 | 0.00 | 125.68 |
| 95.00 | (3) 1 1/4" Hybriflex | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.921 | 0.161 | 1.182 | 0.00 | 36.43 |
| 95.00 | (1) 1 1/4" Hybriflex | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 5.921 | 0.161 | 1.182 | 0.00 | 20.19 |
| 100.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.008 | 0.164 | 1.191 | 0.00 | 34.37 |
| 100.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.008 | 0.164 | 1.191 | 0.00 | 51.64 |

| | | | |
|---|---|---|---|
| Pole : 302537 | Code: ANSI/TIA-222 Rev G | | 5/30/2014 5:25:27 PM |
| Location : Middletown CT 3, CT | Struct Class : II | | Page: 29 |
| Height : 185.0 (ft) | Exposure Category : B | | |
| Base Dia : 52.00 (in) | Topographic Category : 1 | | |
| Top Dia : 19.03 (in) | Base Elev : 0.000 (ft) | | |
| Shape : 12 Sides | | | |
| Taper : 0.188014 (in/ft) | | | |

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**Load Case:** 1.2D + 1.0Di + 1.0Wi  50.00 mph with 1.00 in Radial Ice  27 Iterations

Gust Response Factor : 1.10  Ice Dead Load Factor : 1.00  Wind Importance Factor : 1.00
Dead Load Factor : 1.20  Ice Importance Factor : 1.00
Wind Load Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.008 | 0.164 | 1.191 | 0.00 | 111.51 |
| 100.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 4.34 | 0.00 | 6.008 | 0.164 | 1.191 | 0.00 | 315.63 |
| 100.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.008 | 0.164 | 1.191 | 0.00 | 91.62 |
| 100.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.008 | 0.164 | 1.191 | 0.00 | 50.87 |
| 105.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.093 | 0.168 | 1.205 | 0.00 | 34.69 |
| 105.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.093 | 0.168 | 1.205 | 0.00 | 52.01 |
| 105.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.093 | 0.168 | 1.205 | 0.00 | 111.95 |
| 105.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 4.35 | 0.00 | 6.093 | 0.168 | 1.205 | 0.00 | 316.94 |
| 105.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.093 | 0.168 | 1.205 | 0.00 | 92.11 |
| 105.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.093 | 0.168 | 1.205 | 0.00 | 51.24 |
| 110.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.174 | 0.173 | 1.219 | 0.00 | 34.99 |
| 110.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.174 | 0.173 | 1.219 | 0.00 | 52.36 |
| 110.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.174 | 0.173 | 1.219 | 0.00 | 112.38 |
| 110.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 4.35 | 0.00 | 6.174 | 0.173 | 1.219 | 0.00 | 318.20 |
| 110.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.174 | 0.173 | 1.219 | 0.00 | 92.59 |
| 110.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.174 | 0.173 | 1.219 | 0.00 | 51.59 |
| 115.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.253 | 0.178 | 1.234 | 0.00 | 35.28 |
| 115.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.253 | 0.178 | 1.234 | 0.00 | 52.70 |
| 115.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.253 | 0.178 | 1.234 | 0.00 | 112.80 |
| 115.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 4.36 | 0.00 | 6.253 | 0.178 | 1.234 | 0.00 | 319.40 |
| 115.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.253 | 0.178 | 1.234 | 0.00 | 93.05 |
| 115.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.253 | 0.178 | 1.234 | 0.00 | 51.92 |
| 120.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.330 | 0.183 | 1.250 | 0.00 | 35.57 |
| 120.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.330 | 0.183 | 1.250 | 0.00 | 53.03 |
| 120.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.330 | 0.183 | 1.250 | 0.00 | 113.20 |
| 120.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 4.37 | 0.00 | 6.330 | 0.183 | 1.250 | 0.00 | 320.56 |
| 120.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.330 | 0.183 | 1.250 | 0.00 | 93.49 |
| 120.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.330 | 0.183 | 1.250 | 0.00 | 52.25 |
| 125.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.404 | 0.189 | 1.267 | 0.00 | 35.84 |
| 125.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.404 | 0.189 | 1.267 | 0.00 | 53.34 |
| 125.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.404 | 0.189 | 1.267 | 0.00 | 113.58 |
| 125.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 4.38 | 0.00 | 6.404 | 0.189 | 1.267 | 0.00 | 321.68 |
| 125.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.404 | 0.189 | 1.267 | 0.00 | 93.91 |
| 125.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.404 | 0.189 | 1.267 | 0.00 | 52.57 |
| 130.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.476 | 0.195 | 1.285 | 0.00 | 36.11 |
| 130.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.476 | 0.195 | 1.285 | 0.00 | 53.65 |
| 130.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.476 | 0.195 | 1.285 | 0.00 | 113.96 |
| 130.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 4.39 | 0.00 | 6.476 | 0.195 | 1.285 | 0.00 | 322.76 |
| 130.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.476 | 0.195 | 1.285 | 0.00 | 94.33 |
| 130.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.476 | 0.195 | 1.285 | 0.00 | 52.87 |
| 133.4 | (1) 0.39" Cable | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 6.524 | 0.201 | 0.000 | 0.00 | 24.80 |
| 133.4 | (2) 0.78" 8 AWG 6 | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 6.524 | 0.201 | 0.000 | 0.00 | 36.80 |
| 133.4 | (1) 3" Conduit | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 6.524 | 0.201 | 0.000 | 0.00 | 78.05 |
| 133.4 | (12) 1 5/8" Coax | Yes | 3.42 | 1.200 | 5.94 | 3.00 | 3.60 | 6.524 | 0.201 | 0.000 | 25.85 | 221.07 |
| 133.4 | (3) 1 1/4" Hybriflex | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 6.524 | 0.201 | 0.000 | 0.00 | 64.65 |
| 133.4 | (1) 1 1/4" Hybriflex | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 6.524 | 0.201 | 0.000 | 0.00 | 36.27 |
| 135.0 | (1) 0.39" Cable | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 6.546 | 0.204 | 0.000 | 0.00 | 11.51 |
| 135.0 | (2) 0.78" 8 AWG 6 | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 6.546 | 0.204 | 0.000 | 0.00 | 17.08 |
| 135.0 | (1) 3" Conduit | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 6.546 | 0.204 | 0.000 | 0.00 | 36.19 |
| 135.0 | (12) 1 5/8" Coax | Yes | 1.58 | 1.200 | 5.94 | 1.39 | 1.67 | 6.546 | 0.204 | 0.000 | 12.02 | 102.52 |
| 135.0 | (3) 1 1/4" Hybriflex | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 6.546 | 0.204 | 0.000 | 0.00 | 29.99 |
| 135.0 | (1) 1 1/4" Hybriflex | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 6.546 | 0.204 | 0.000 | 0.00 | 16.83 |
| 138.0 | (1) 0.39" Cable | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.588 | 0.207 | 0.000 | 0.00 | 21.91 |
| 138.0 | (2) 0.78" 8 AWG 6 | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.588 | 0.207 | 0.000 | 0.00 | 32.47 |
| 138.0 | (1) 3" Conduit | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.588 | 0.207 | 0.000 | 0.00 | 68.72 |
| 138.0 | (12) 1 5/8" Coax | Yes | 3.00 | 1.200 | 5.94 | 2.64 | 3.17 | 6.588 | 0.207 | 0.000 | 22.95 | 194.65 |
| 138.0 | (3) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.588 | 0.207 | 0.000 | 0.00 | 56.98 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:27 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 30 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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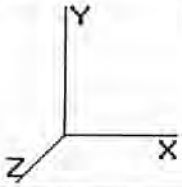


**Load Case:** 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 1.00 in Radial Ice — 27 Iterations

Gust Response Factor : 1.10 — Ice Dead Load Factor : 1.00 — Wind Importance Factor : 1.00

Dead Load Factor : 1.20 — Ice Importance Factor : 1.00

Wind Load Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 138.0 | (1) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.588 | 0.207 | 0.000 | 0.00 | 32.00 |
| 138.0 | (1) 0.39" Cable | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.588 | 0.209 | 0.000 | 0.00 | 0.00 |
| 138.0 | (2) 0.78" 8 AWG 6 | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.588 | 0.209 | 0.000 | 0.00 | 0.00 |
| 138.0 | (1) 3" Conduit | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.588 | 0.209 | 0.000 | 0.00 | 0.01 |
| 138.0 | (12) 1 5/8" Coax | Yes | 0.00 | 1.200 | 5.94 | 0.00 | 0.00 | 6.588 | 0.209 | 0.000 | 0.00 | 0.02 |
| 140.0 | (1) 0.39" Cable | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.615 | 0.207 | 0.000 | 0.00 | 14.64 |
| 140.0 | (2) 0.78" 8 AWG 6 | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.615 | 0.207 | 0.000 | 0.00 | 21.69 |
| 140.0 | (1) 3" Conduit | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.615 | 0.207 | 0.000 | 0.00 | 45.86 |
| 140.0 | (12) 1 5/8" Coax | Yes | 2.00 | 1.200 | 5.94 | 1.76 | 2.11 | 6.615 | 0.207 | 0.000 | 15.37 | 129.91 |
| 145.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.681 | 0.212 | 0.000 | 0.00 | 36.85 |
| 145.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.681 | 0.212 | 0.000 | 0.00 | 54.51 |
| 145.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.681 | 0.212 | 0.000 | 0.00 | 115.01 |
| 145.0 | (12) 1 5/8" Coax | Yes | 5.00 | 1.200 | 5.94 | 4.41 | 5.29 | 6.681 | 0.212 | 0.000 | 38.87 | 325.80 |
| 150.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.746 | 0.220 | 0.000 | 0.00 | 37.09 |
| 150.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.746 | 0.220 | 0.000 | 0.00 | 54.78 |
| 150.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.746 | 0.220 | 0.000 | 0.00 | 115.34 |
| 150.0 | (12) 1 5/8" Coax | Yes | 5.00 | 1.200 | 5.94 | 4.41 | 5.30 | 6.746 | 0.220 | 0.000 | 39.31 | 326.75 |
| 155.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.810 | 0.228 | 0.000 | 0.00 | 37.32 |
| 155.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.810 | 0.228 | 0.000 | 0.00 | 55.05 |
| 155.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.810 | 0.228 | 0.000 | 0.00 | 115.66 |
| 155.0 | (12) 1 5/8" Coax | Yes | 5.00 | 1.200 | 5.94 | 4.42 | 5.30 | 6.810 | 0.228 | 0.000 | 39.74 | 327.67 |
| 160.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.872 | 0.237 | 0.000 | 0.00 | 37.54 |
| 160.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.872 | 0.237 | 0.000 | 0.00 | 55.30 |
| 160.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.872 | 0.237 | 0.000 | 0.00 | 115.98 |
| 160.0 | (12) 1 5/8" Coax | Yes | 5.00 | 1.200 | 5.94 | 4.43 | 5.31 | 6.872 | 0.237 | 0.000 | 40.15 | 328.57 |
| 165.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.933 | 0.247 | 0.000 | 0.00 | 37.76 |
| 165.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.933 | 0.247 | 0.000 | 0.00 | 55.55 |
| 165.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.933 | 0.247 | 0.000 | 0.00 | 116.28 |
| 165.0 | (12) 1 5/8" Coax | Yes | 5.00 | 1.200 | 5.94 | 4.43 | 5.32 | 6.933 | 0.247 | 0.000 | 40.56 | 329.45 |
| 169.0 | (1) 0.39" Cable | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.980 | 0.256 | 0.000 | 0.00 | 30.34 |
| 169.0 | (2) 0.78" 8 AWG 6 | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.980 | 0.256 | 0.000 | 0.00 | 44.60 |
| 169.0 | (1) 3" Conduit | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.980 | 0.256 | 0.000 | 0.00 | 93.22 |
| 169.0 | (12) 1 5/8" Coax | Yes | 4.00 | 1.200 | 5.94 | 3.55 | 4.26 | 6.980 | 0.256 | 0.000 | 32.71 | 264.10 |
| | | | | | | | | | | Totals: | 307.53 | 20,815.94 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | |
| Location : | Middletown CT 3, CT | Struct Class : II | 5/30/2014 5:25:27 PM |
| Height : | 185.0 (ft) | Exposure Category : B | Page: 31 |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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**Load Case:** 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 1.00 in Radial Ice — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance Factor : 1.00

## Applied Segment Forces Summary

| Seg Elev (ft) | Lateral FX (-) (lb) | Axial FY (-) (lb) | Torsion MY (lb-ft) | Moment MZ (lb-ft) |
|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 132.63 | 2,938.18 | 0.00 | 0.00 |
| 10.00 | 130.91 | 2,976.00 | 0.00 | 0.00 |
| 15.00 | 128.97 | 2,984.71 | 0.00 | 0.00 |
| 20.00 | 126.95 | 2,980.62 | 0.00 | 0.00 |
| 22.50 | 62.67 | 1,484.42 | 0.00 | 0.00 |
| 25.00 | 62.15 | 1,481.19 | 0.00 | 0.00 |
| 30.00 | 122.86 | 2,952.82 | 0.00 | 0.00 |
| 35.00 | 126.16 | 2,933.03 | 0.00 | 0.00 |
| 40.00 | 128.73 | 2,910.62 | 0.00 | 0.00 |
| 43.58 | 93.05 | 2,070.77 | 0.00 | 0.00 |
| 45.00 | 37.35 | 1,125.51 | 0.00 | 0.00 |
| 50.00 | 134.28 | 3,941.20 | 0.00 | 0.00 |
| 52.50 | 67.11 | 1,348.81 | 0.00 | 0.00 |
| 55.00 | 67.36 | 1,342.84 | 0.00 | 0.00 |
| 60.00 | 136.13 | 2,666.77 | 0.00 | 0.00 |
| 65.00 | 136.53 | 2,641.05 | 0.00 | 0.00 |
| 70.00 | 136.64 | 2,280.46 | 0.00 | 0.00 |
| 75.00 | 136.49 | 2,245.16 | 0.00 | 0.00 |
| 80.00 | 136.10 | 2,195.91 | 0.00 | 0.00 |
| 85.00 | 135.49 | 2,166.91 | 0.00 | 0.00 |
| 87.50 | 67.18 | 1,073.35 | 0.00 | 0.00 |
| 90.00 | 67.98 | 1,443.74 | 0.00 | 0.00 |
| 93.00 | 81.35 | 1,716.48 | 0.00 | 0.00 |
| 95.00 | 53.93 | 792.25 | 0.00 | 0.00 |
| 100.0 | 134.66 | 1,960.22 | 0.00 | 0.00 |
| 105.0 | 133.36 | 1,933.28 | 0.00 | 0.00 |
| 110.0 | 131.91 | 1,905.97 | 0.00 | 0.00 |
| 115.0 | 130.32 | 1,878.31 | 0.00 | 0.00 |
| 120.0 | 128.59 | 1,850.33 | 0.00 | 0.00 |
| 125.0 | 126.74 | 1,822.06 | 0.00 | 0.00 |
| 130.0 | 124.77 | 1,793.50 | 0.00 | 0.00 |
| 133.4 | 109.77 | 1,210.16 | 0.00 | 0.00 |
| 135.0 | 51.00 | 687.80 | 0.00 | 0.00 |
| 138.0 | 987.35 | 8,843.48 | 0.00 | 764.84 |
| 138.0 | 0.01 | 0.13 | 0.00 | 0.00 |
| 140.0 | 63.79 | 571.70 | 0.00 | 0.00 |
| 145.0 | 158.71 | 1,409.43 | 0.00 | 0.00 |
| 150.0 | 156.76 | 1,385.10 | 0.00 | 0.00 |
| 155.0 | 154.71 | 1,360.59 | 0.00 | 0.00 |
| 160.0 | 152.55 | 1,335.90 | 0.00 | 0.00 |
| 165.0 | 150.30 | 1,311.03 | 0.00 | 0.00 |
| 169.0 | 992.40 | 8,005.24 | 0.00 | 934.32 |
| 170.0 | 21.10 | 147.99 | 0.00 | 0.00 |
| 175.0 | 104.15 | 718.61 | 0.00 | 0.00 |
| 180.0 | 101.24 | 691.75 | 0.00 | 0.00 |
| 182.0 | 913.21 | 7,240.90 | 0.00 | 634.15 |
| 185.0 | 58.49 | 361.83 | 0.00 | 0.00 |
| Totals: | 7,594.93 | 101,118.1 | 0.00 | 2,333.31 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:27 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 32 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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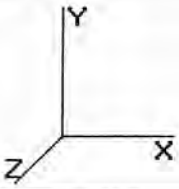
**Load Case:** 1.2D + 1.0Di + 1.0Wi  50.00 mph with 1.00 in Radial Ice  27 Iterations

Gust Response Factor : 1.10  Ice Dead Load Factor : 1.00  Wind Importance Factor : 1.00
Dead Load Factor : 1.20  Ice Importance Factor : 1.00
Wind Load Factor : 1.00

## Calculated Forces

| 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 (deg) | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | -101.12 | -7.63 | 0.00 | -1,021.60 | 0.00 | 1,021.60 | 4,727.77 | 2,363.89 | 10,057.5 | 4,967.06 | 0.00 | 0.00 | 0.170 |
| 5.00 | -98.17 | -7.57 | 0.00 | -983.44 | 0.00 | 983.44 | 4,681.88 | 2,340.94 | 9,776.84 | 4,828.41 | 0.02 | -0.04 | 0.167 |
| 10.00 | -95.19 | -7.51 | 0.00 | -945.57 | 0.00 | 945.57 | 4,634.49 | 2,317.25 | 9,496.63 | 4,690.03 | 0.09 | -0.09 | 0.164 |
| 15.00 | -92.20 | -7.45 | 0.00 | -908.02 | 0.00 | 908.02 | 4,585.61 | 2,292.80 | 9,217.10 | 4,551.98 | 0.21 | -0.13 | 0.161 |
| 20.00 | -89.22 | -7.37 | 0.00 | -870.78 | 0.00 | 870.78 | 4,535.22 | 2,267.61 | 8,938.46 | 4,414.37 | 0.37 | -0.17 | 0.158 |
| 22.50 | -87.73 | -7.33 | 0.00 | -852.37 | 0.00 | 852.37 | 4,509.47 | 2,254.74 | 8,799.52 | 4,345.75 | 0.46 | -0.20 | 0.157 |
| 22.50 | -87.73 | -7.33 | 0.00 | -852.37 | 0.00 | 852.37 | 4,509.47 | 2,254.74 | 8,799.52 | 4,345.75 | 0.46 | -0.20 | 0.157 |
| 25.00 | -86.24 | -7.32 | 0.00 | -834.04 | 0.00 | 834.04 | 4,483.35 | 2,241.67 | 8,660.87 | 4,277.28 | 0.57 | -0.22 | 0.155 |
| 30.00 | -83.28 | -7.25 | 0.00 | -797.46 | 0.00 | 797.46 | 4,429.97 | 2,214.99 | 8,384.50 | 4,140.79 | 0.83 | -0.27 | 0.152 |
| 35.00 | -80.35 | -7.17 | 0.00 | -761.23 | 0.00 | 761.23 | 4,375.10 | 2,187.55 | 8,109.53 | 4,004.99 | 1.13 | -0.31 | 0.149 |
| 40.00 | -77.43 | -7.08 | 0.00 | -725.38 | 0.00 | 725.38 | 4,318.73 | 2,159.36 | 7,836.14 | 3,869.97 | 1.48 | -0.36 | 0.145 |
| 43.58 | -75.36 | -7.00 | 0.00 | -700.02 | 0.00 | 700.02 | 4,277.41 | 2,138.70 | 7,641.27 | 3,773.74 | 1.76 | -0.39 | 0.143 |
| 45.00 | -74.23 | -6.99 | 0.00 | -690.10 | 0.00 | 690.10 | 4,260.86 | 2,130.43 | 7,564.50 | 3,735.82 | 1.88 | -0.40 | 0.141 |
| 50.00 | -70.29 | -6.87 | 0.00 | -655.13 | 0.00 | 655.13 | 3,421.90 | 1,710.95 | 6,065.62 | 2,995.58 | 2.32 | -0.45 | 0.160 |
| 52.50 | -68.93 | -6.82 | 0.00 | -637.95 | 0.00 | 637.95 | 3,401.39 | 1,700.70 | 5,962.75 | 2,944.78 | 2.57 | -0.47 | 0.158 |
| 52.50 | -68.93 | -6.82 | 0.00 | -637.95 | 0.00 | 637.95 | 3,401.39 | 1,700.70 | 5,962.75 | 2,944.78 | 2.57 | -0.47 | 0.158 |
| 55.00 | -67.59 | -6.79 | 0.00 | -620.89 | 0.00 | 620.89 | 3,380.51 | 1,690.25 | 5,860.04 | 2,894.05 | 2.82 | -0.50 | 0.155 |
| 60.00 | -64.92 | -6.69 | 0.00 | -586.94 | 0.00 | 586.94 | 3,337.62 | 1,668.81 | 5,655.16 | 2,792.87 | 3.37 | -0.55 | 0.151 |
| 65.00 | -62.27 | -6.58 | 0.00 | -553.51 | 0.00 | 553.51 | 3,293.24 | 1,646.62 | 5,451.16 | 2,692.12 | 3.97 | -0.60 | 0.146 |
| 65.00 | -62.27 | -6.58 | 0.00 | -553.51 | 0.00 | 553.51 | 3,293.24 | 1,646.62 | 5,451.16 | 2,692.12 | 3.97 | -0.60 | 0.225 |
| 70.00 | -59.99 | -6.48 | 0.00 | -520.64 | 0.00 | 520.64 | 3,247.36 | 1,623.68 | 5,248.21 | 2,591.90 | 4.62 | -0.65 | 0.219 |
| 75.00 | -57.73 | -6.40 | 0.00 | -488.23 | 0.00 | 488.23 | 3,199.99 | 1,599.99 | 5,046.49 | 2,492.27 | 5.33 | -0.72 | 0.214 |
| 80.00 | -55.53 | -6.31 | 0.00 | -456.25 | 0.00 | 456.25 | 3,151.11 | 1,575.56 | 4,846.18 | 2,393.35 | 6.13 | -0.80 | 0.208 |
| 85.00 | -53.36 | -6.19 | 0.00 | -424.72 | 0.00 | 424.72 | 3,100.74 | 1,550.37 | 4,647.44 | 2,295.20 | 7.01 | -0.88 | 0.202 |
| 87.50 | -52.28 | -6.15 | 0.00 | -409.24 | 0.00 | 409.24 | 3,074.99 | 1,537.50 | 4,548.71 | 2,246.44 | 7.48 | -0.92 | 0.199 |
| 90.00 | -50.84 | -6.09 | 0.00 | -393.88 | 0.00 | 393.88 | 3,048.88 | 1,524.44 | 4,450.47 | 2,197.92 | 7.97 | -0.96 | 0.196 |
| 93.00 | -49.12 | -6.02 | 0.00 | -375.60 | 0.00 | 375.60 | 2,367.81 | 1,183.91 | 3,474.51 | 1,715.93 | 8.59 | -1.01 | 0.240 |
| 95.00 | -48.32 | -6.00 | 0.00 | -363.56 | 0.00 | 363.56 | 2,354.00 | 1,177.00 | 3,417.42 | 1,687.73 | 9.02 | -1.04 | 0.236 |
| 100.00 | -46.35 | -5.90 | 0.00 | -333.57 | 0.00 | 333.57 | 2,318.41 | 1,159.21 | 3,275.08 | 1,617.44 | 10.15 | -1.13 | 0.226 |
| 105.00 | -44.42 | -5.79 | 0.00 | -304.07 | 0.00 | 304.07 | 2,281.33 | 1,140.66 | 3,133.47 | 1,547.50 | 11.38 | -1.21 | 0.216 |
| 110.00 | -42.50 | -5.68 | 0.00 | -275.10 | 0.00 | 275.10 | 2,242.75 | 1,121.37 | 2,992.76 | 1,478.01 | 12.70 | -1.30 | 0.205 |
| 115.00 | -40.62 | -5.57 | 0.00 | -246.67 | 0.00 | 246.67 | 2,202.67 | 1,101.33 | 2,853.13 | 1,409.05 | 14.11 | -1.39 | 0.194 |
| 120.00 | -38.77 | -5.45 | 0.00 | -218.83 | 0.00 | 218.83 | 2,161.09 | 1,080.55 | 2,714.76 | 1,340.72 | 15.60 | -1.47 | 0.181 |
| 125.00 | -36.94 | -5.33 | 0.00 | -191.57 | 0.00 | 191.57 | 2,118.02 | 1,059.01 | 2,577.82 | 1,273.09 | 17.19 | -1.55 | 0.168 |
| 130.00 | -35.15 | -5.19 | 0.00 | -164.94 | 0.00 | 164.94 | 2,073.45 | 1,036.73 | 2,442.48 | 1,206.25 | 18.85 | -1.63 | 0.154 |
| 133.42 | -33.94 | -5.07 | 0.00 | -147.21 | 0.00 | 147.21 | 2,042.13 | 1,021.07 | 2,351.01 | 1,161.07 | 20.03 | -1.68 | 0.143 |
| 135.00 | -33.25 | -5.01 | 0.00 | -139.19 | 0.00 | 139.19 | 2,027.39 | 1,013.69 | 2,308.93 | 1,140.29 | 20.59 | -1.70 | 0.138 |
| 138.00 | -24.44 | -3.77 | 0.00 | -123.38 | 0.00 | 123.38 | 1,999.03 | 999.51 | 2,229.72 | 1,101.18 | 21.67 | -1.74 | 0.124 |
| 138.00 | -24.44 | -3.78 | 0.00 | -123.38 | 0.00 | 123.38 | 1,223.81 | 611.90 | 1,396.77 | 689.81 | 21.67 | -1.74 | 0.199 |
| 140.00 | -23.86 | -3.72 | 0.00 | -115.83 | 0.00 | 115.83 | 1,215.85 | 607.93 | 1,368.67 | 675.93 | 22.41 | -1.77 | 0.191 |
| 145.00 | -22.45 | -3.55 | 0.00 | -97.23 | 0.00 | 97.23 | 1,194.90 | 597.45 | 1,298.35 | 641.21 | 24.30 | -1.85 | 0.170 |
| 150.00 | -21.07 | -3.37 | 0.00 | -79.50 | 0.00 | 79.50 | 1,172.46 | 586.23 | 1,228.11 | 606.52 | 26.28 | -1.93 | 0.149 |
| 155.00 | -19.71 | -3.19 | 0.00 | -62.64 | 0.00 | 62.64 | 1,148.52 | 574.26 | 1,158.11 | 571.95 | 28.34 | -2.00 | 0.127 |
| 160.00 | -18.38 | -3.01 | 0.00 | -46.68 | 0.00 | 46.68 | 1,123.08 | 561.54 | 1,088.54 | 537.59 | 30.46 | -2.05 | 0.103 |
| 165.00 | -17.07 | -2.82 | 0.00 | -31.63 | 0.00 | 31.63 | 1,096.15 | 548.08 | 1,019.56 | 503.52 | 32.64 | -2.10 | 0.078 |
| 169.00 | -9.11 | -1.54 | 0.00 | -19.40 | 0.00 | 19.40 | 1,073.53 | 536.76 | 964.93 | 476.54 | 34.41 | -2.13 | 0.049 |
| 170.00 | -8.96 | -1.51 | 0.00 | -17.87 | 0.00 | 17.87 | 1,067.72 | 533.86 | 951.36 | 469.84 | 34.86 | -2.14 | 0.046 |
| 175.00 | -8.25 | -1.39 | 0.00 | -10.30 | 0.00 | 10.30 | 1,037.79 | 518.90 | 884.11 | 436.63 | 37.11 | -2.16 | 0.032 |
| 180.00 | -7.56 | -1.26 | 0.00 | -3.37 | 0.00 | 3.37 | 1,006.37 | 503.18 | 817.98 | 403.97 | 39.37 | -2.17 | 0.016 |
| 182.00 | -0.36 | -0.07 | 0.00 | -0.22 | 0.00 | 0.22 | 993.38 | 496.69 | 791.88 | 391.08 | 40.28 | -2.17 | 0.001 |
| 185.00 | 0.00 | -0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 973.45 | 486.72 | 753.15 | 371.95 | 41.65 | -2.17 | 0.000 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:27 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 33 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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**Load Case:** 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 1.00 in Radial Ice — 27 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance Factor : 1.00

| | | | |
|---|---|---|---|
| Pole : 302537 | Code: ANSI/TIA-222 Rev G | | 5/30/2014 5:25:27 PM |
| Location : Middletown CT 3, CT | Struct Class : II | | Page: 34 |
| Height : 185.0 (ft) | Exposure Category : B | | |
| Base Dia : 52.00 (in) | Topographic Category : 1 | | |
| Top Dia : 19.03 (in) | Base Elev : 0.000 (ft) | | |
| Shape : 12 Sides | | | |
| Taper : 0.188014 (in/ft) | | | |

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**Load Case:** 1.0D + 1.0W  60.00 mph Serviceability  26 Iterations

Gust Response Factor : 1.10  Wind Importance Factor : 1.00
Dead Load Factor : 1.00
Wind Load Factor : 1.00

## Shaft Segment Forces (Factored)

| Seg Top Elev (ft) | Description | Kzt | Kz | qz (psf) | qzGh (psf) | C (mph-ft) | Cf | Ice Thick (in) | Tributary (ft) | Ap (sf) | EPAs (sf) | Wind Force X (lb) | Dead Load Ice (lb) | Tot Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | 1.00 | 0.70 | 6.129 | 6.742 | 225.20 | 1.000 | 0.000 | 0.00 | 0.000 | 0.00 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 1.00 | 0.70 | 6.129 | 6.742 | 221.13 | 1.000 * | 0.000 | 5.00 | 22.228 | 22.23 | 149.9 | 0.0 | 1,558.6 |
| 10.00 | | 1.00 | 0.70 | 6.129 | 6.742 | 217.06 | 1.000 * | 0.000 | 5.00 | 21.823 | 21.82 | 147.1 | 0.0 | 1,536.1 |
| 15.00 | | 1.00 | 0.70 | 6.129 | 6.742 | 212.99 | 1.000 * | 0.000 | 5.00 | 21.417 | 21.42 | 144.4 | 0.0 | 1,513.5 |
| 20.00 | | 1.00 | 0.70 | 6.129 | 6.742 | 208.92 | 1.000 * | 0.000 | 5.00 | 21.012 | 21.01 | 141.7 | 0.0 | 1,491.0 |
| 22.50 | Reinf. Top Reinf Bottom | 1.00 | 0.70 | 6.129 | 6.742 | 206.88 | 1.000 * | 0.000 | 2.50 | 10.354 | 10.35 | 69.8 | 0.0 | 737.1 |
| 25.00 | | 1.00 | 0.70 | 6.129 | 6.742 | 204.84 | 1.000 * | 0.000 | 2.50 | 10.252 | 10.25 | 69.1 | 0.0 | 731.4 |
| 30.00 | | 1.00 | 0.70 | 6.134 | 6.747 | 200.86 | 1.000 * | 0.000 | 5.00 | 20.201 | 20.20 | 136.3 | 0.0 | 1,445.9 |
| 35.00 | | 1.00 | 0.73 | 6.410 | 7.051 | 201.17 | 1.000 * | 0.000 | 5.00 | 19.795 | 19.80 | 139.6 | 0.0 | 1,423.4 |
| 40.00 | | 1.00 | 0.76 | 6.659 | 7.325 | 200.80 | 1.000 * | 0.000 | 5.00 | 19.390 | 19.39 | 142.0 | 0.0 | 1,400.9 |
| 43.58 | Bot - Section 2 | 1.00 | 0.77 | 6.825 | 7.507 | 200.19 | 1.000 * | 0.000 | 3.58 | 13.646 | 13.65 | 102.4 | 0.0 | 990.1 |
| 45.00 | | 1.00 | 0.78 | 6.887 | 7.576 | 199.89 | 1.000 * | 0.000 | 1.42 | 5.429 | 5.43 | 41.1 | 0.0 | 644.6 |
| 50.00 | Top - Section 1 | 1.00 | 0.81 | 7.098 | 7.807 | 198.54 | 1.000 * | 0.000 | 5.00 | 18.902 | 18.90 | 147.6 | 0.0 | 2,248.3 |
| 52.50 | Reinf. Top Reinf Bottom | 1.00 | 0.82 | 7.197 | 7.917 | 201.24 | 1.000 * | 0.000 | 2.50 | 9.299 | 9.30 | 73.6 | 0.0 | 606.0 |
| 55.00 | | 1.00 | 0.83 | 7.294 | 8.023 | 200.36 | 1.000 * | 0.000 | 2.50 | 9.198 | 9.20 | 73.8 | 0.0 | 601.2 |
| 60.00 | | 1.00 | 0.85 | 7.477 | 8.225 | 198.37 | 1.000 * | 0.000 | 5.00 | 18.091 | 18.09 | 148.8 | 0.0 | 1,187.9 |
| 65.00 | Reinf. Top | 1.00 | 0.87 | 7.650 | 8.415 | 196.10 | 1.000 * | 0.000 | 5.00 | 17.686 | 17.69 | 148.8 | 0.0 | 1,168.6 |
| 70.00 | | 1.00 | 0.89 | 7.814 | 8.595 | 193.59 | 1.000 * | 0.000 | 5.00 | 17.280 | 17.28 | 148.5 | 0.0 | 815.3 |
| 75.00 | | 1.00 | 0.91 | 7.969 | 8.766 | 190.87 | 1.000 * | 0.000 | 5.00 | 16.875 | 16.87 | 147.9 | 0.0 | 796.0 |
| 80.00 | | 1.00 | 0.92 | 8.118 | 8.930 | 187.95 | 1.000 * | 0.000 | 5.00 | 16.469 | 16.47 | 147.1 | 0.0 | 776.7 |
| 85.00 | | 1.00 | 0.94 | 8.260 | 9.086 | 184.86 | 1.000 * | 0.000 | 5.00 | 16.064 | 16.06 | 145.9 | 0.0 | 757.3 |
| 87.50 | Bot - Section 3 | 1.00 | 0.95 | 8.328 | 9.161 | 183.25 | 1.000 * | 0.000 | 2.50 | 7.881 | 7.88 | 72.2 | 0.0 | 371.5 |
| 90.00 | | 1.00 | 0.95 | 8.396 | 9.235 | 181.61 | 1.000 * | 0.000 | 2.50 | 7.912 | 7.91 | 73.1 | 0.0 | 677.9 |
| 93.00 | Top - Section 2 | 1.00 | 0.96 | 8.475 | 9.322 | 179.59 | 1.000 * | 0.000 | 3.00 | 9.363 | 9.36 | 87.3 | 0.0 | 802.0 |
| 95.00 | | 1.00 | 0.97 | 8.526 | 9.379 | 181.41 | 1.000 * | 0.000 | 2.00 | 6.159 | 6.16 | 57.8 | 0.0 | 242.3 |
| 100.0 | | 1.00 | 0.98 | 8.652 | 9.517 | 177.91 | 1.000 * | 0.000 | 5.00 | 15.117 | 15.12 | 143.9 | 0.0 | 594.6 |
| 105.0 | | 1.00 | 1.00 | 8.774 | 9.651 | 174.28 | 1.000 * | 0.000 | 5.00 | 14.711 | 14.71 | 142.0 | 0.0 | 578.5 |
| 110.0 | | 1.00 | 1.01 | 8.891 | 9.780 | 170.54 | 1.000 * | 0.000 | 5.00 | 14.306 | 14.31 | 139.9 | 0.0 | 562.4 |
| 115.0 | | 1.00 | 1.02 | 9.005 | 9.905 | 166.69 | 1.000 * | 0.000 | 5.00 | 13.900 | 13.90 | 137.7 | 0.0 | 546.3 |
| 120.0 | | 1.00 | 1.04 | 9.115 | 10.02 | 162.74 | 1.000 * | 0.000 | 5.00 | 13.495 | 13.49 | 135.3 | 0.0 | 530.2 |
| 125.0 | | 1.00 | 1.05 | 9.222 | 10.14 | 158.70 | 1.000 * | 0.000 | 5.00 | 13.089 | 13.09 | 132.8 | 0.0 | 514.1 |
| 130.0 | | 1.00 | 1.06 | 9.326 | 10.25 | 154.57 | 1.000 * | 0.000 | 5.00 | 12.684 | 12.68 | 130.1 | 0.0 | 498.0 |
| 133.4 | Bot - Section 4 | 1.00 | 1.07 | 9.395 | 10.33 | 151.70 | 1.200 * | 0.000 | 3.42 | 8.435 | 10.12 | 104.6 | 0.0 | 331.1 |
| 135.0 | | 1.00 | 1.07 | 9.427 | 10.36 | 150.35 | 1.200 * | 0.000 | 1.58 | 3.903 | 4.68 | 48.6 | 0.0 | 258.4 |
| 138.0 | Appertunance(s) | 1.00 | 1.08 | 9.486 | 10.43 | 147.79 | 1.200 * | 0.000 | 3.00 | 7.285 | 8.74 | 91.2 | 0.0 | 482.3 |
| 138.0 | Top - Section 3 | 1.00 | 1.08 | 9.486 | 10.43 | 147.79 | 1.200 * | 0.000 | 0.00 | 0.001 | 0.00 | 0.0 | 0.0 | 0.1 |
| 140.0 | | 1.00 | 1.08 | 9.525 | 10.47 | 148.42 | 1.200 * | 0.000 | 2.00 | 4.775 | 5.73 | 60.0 | 0.0 | 131.6 |
| 145.0 | | 1.00 | 1.09 | 9.621 | 10.58 | 144.07 | 1.200 * | 0.000 | 5.00 | 11.656 | 13.99 | 148.0 | 0.0 | 321.2 |
| 150.0 | | 1.00 | 1.11 | 9.715 | 10.68 | 139.64 | 1.200 * | 0.000 | 5.00 | 11.250 | 13.50 | 144.3 | 0.0 | 309.9 |
| 155.0 | | 1.00 | 1.12 | 9.806 | 10.78 | 135.15 | 1.200 * | 0.000 | 5.00 | 10.845 | 13.01 | 140.4 | 0.0 | 298.7 |
| 160.0 | | 1.00 | 1.13 | 9.896 | 10.88 | 130.59 | 1.200 * | 0.000 | 5.00 | 10.439 | 12.53 | 136.4 | 0.0 | 287.4 |
| 165.0 | | 1.00 | 1.14 | 9.983 | 10.98 | 125.97 | 1.200 * | 0.000 | 5.00 | 10.034 | 12.04 | 132.2 | 0.0 | 276.1 |
| 169.0 | Appertunance(s) | 1.00 | 1.14 | 10.052 | 11.05 | 122.23 | 1.200 * | 0.000 | 4.00 | 7.735 | 9.28 | 102.6 | 0.0 | 212.8 |
| 170.0 | | 1.00 | 1.15 | 10.069 | 11.07 | 121.29 | 1.000 | 0.000 | 1.00 | 1.893 | 1.89 | 21.0 | 0.0 | 52.1 |
| 175.0 | | 1.00 | 1.16 | 10.152 | 11.16 | 116.55 | 1.000 | 0.000 | 5.00 | 9.223 | 9.22 | 103.0 | 0.0 | 253.6 |
| 180.0 | | 1.00 | 1.16 | 10.234 | 11.25 | 111.76 | 1.000 | 0.000 | 5.00 | 8.817 | 8.82 | 99.3 | 0.0 | 242.3 |
| 182.0 | Appertunance(s) | 1.00 | 1.17 | 10.267 | 11.29 | 109.83 | 1.000 | 0.000 | 2.00 | 3.413 | 3.41 | 38.5 | 0.0 | 93.8 |
| 185.0 | | 1.00 | 1.17 | 10.315 | 11.34 | 106.92 | 1.000 | 0.000 | 3.00 | 4.998 | 5.00 | 56.7 | 0.0 | 137.3 |
| | | | | | | | Totals: | | 185.00 | | | 5,144.2 | 0.0 | 32,036.6 |

* = Cf Adjusted By Linear Load Ra Effect

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**Load Case:** 1.0D + 1.0W  60.00 mph Serviceability  26 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

## Discrete Appurtenance Segment Forces (Factored)

| Elev (ft) | Description | Qty | qz (psf) | qzGh (psf) | Orientation Factor | Ka | Total EPAa (sf) | Horiz Ecc (ft) | Vert Ecc (ft) | Wind FX (lb) | Mom Y (lb-ft) | Mom Z (lb-ft) | Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 138.0 | Flat Platform w/ Han | 1 | 9.486 | 10.435 | 1.00 | 1.00 | 42.40 | 0.000 | 0.000 | 442.43 | 0.00 | 0.00 | 2,000.00 |
| 138.0 | RFS APXVSPP18-C- | 3 | 9.525 | 10.478 | 0.83 | 0.75 | 14.98 | 0.000 | 2.000 | 156.93 | 0.00 | 313.86 | 171.00 |
| 138.0 | Alcatel-Lucent 800 M | 3 | 9.525 | 10.478 | 0.67 | 0.75 | 3.11 | 0.000 | 2.000 | 32.54 | 0.00 | 65.08 | 192.00 |
| 138.0 | Alcatel-Lucent 4X40W | 3 | 9.525 | 10.478 | 0.67 | 0.75 | 4.91 | 0.000 | 2.000 | 51.49 | 0.00 | 102.98 | 264.00 |
| 138.0 | Alcatel-Lucent TD-RR | 3 | 9.525 | 10.478 | 0.67 | 0.75 | 5.56 | 0.000 | 2.000 | 58.28 | 0.00 | 116.57 | 198.30 |
| 138.0 | RFS APXVTM14-C-I20 | 3 | 9.525 | 10.478 | 0.78 | 0.75 | 11.13 | 0.000 | 2.000 | 116.58 | 0.00 | 233.17 | 168.60 |
| 169.0 | Round Low Profile Pl | 1 | 10.052 | 11.057 | 1.00 | 1.00 | 21.70 | 0.000 | 0.000 | 239.93 | 0.00 | 0.00 | 1,500.00 |
| 169.0 | Allgon 7770.00 | 6 | 10.085 | 11.094 | 0.77 | 0.80 | 20.36 | 0.000 | 2.000 | 225.93 | 0.00 | 451.86 | 210.00 |
| 169.0 | Powerwave LGP21401 | 12 | 10.069 | 11.075 | 0.50 | 0.80 | 5.28 | 0.000 | 1.000 | 58.48 | 0.00 | 58.48 | 169.20 |
| 169.0 | KMW AM-X-CD-16-65- | 3 | 10.085 | 11.094 | 0.79 | 0.80 | 15.21 | 0.000 | 2.000 | 168.69 | 0.00 | 337.39 | 145.50 |
| 169.0 | Raycap DC6-48-60-18- | 1 | 10.069 | 11.075 | 1.00 | 0.80 | 0.89 | 0.000 | 1.000 | 9.83 | 0.00 | 9.83 | 20.00 |
| 169.0 | Ericsson RRUS 11 | 6 | 10.085 | 11.094 | 0.67 | 0.80 | 8.10 | 0.000 | 2.000 | 89.91 | 0.00 | 179.82 | 330.00 |
| 182.0 | 48" x 12" Panels | 9 | 10.299 | 11.329 | 0.67 | 0.75 | 22.93 | 0.000 | 2.000 | 259.76 | 0.00 | 519.51 | 270.00 |
| 182.0 | 72" x 12" Panels | 3 | 10.299 | 11.329 | 0.67 | 0.75 | 12.26 | 0.000 | 2.000 | 138.84 | 0.00 | 277.69 | 135.00 |
| 182.0 | Flat Platform w/ Han | 1 | 10.267 | 11.293 | 1.00 | 1.00 | 42.40 | 0.000 | 0.000 | 478.84 | 0.00 | 0.00 | 2,000.00 |
| | | | | | | | | | | 2,528.47 | | | 7,773.60 |

| | | | |
|---|---|---|---|
| Pole : 302537 | Code: ANSI/TIA-222 Rev G | | 5/30/2014 5:25:27 PM |
| Location : Middletown CT 3, CT | Struct Class : II | | Page: 36 |
| Height : 185.0 (ft) | Exposure Category : B | | |
| Base Dia : 52.00 (in) | Topographic Category : 1 | | |
| Top Dia : 19.03 (in) | Base Elev : 0.000 (ft) | | |
| Shape : 12 Sides | | | |
| Taper : 0.188014 (in/ft) | | | |

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**Load Case:** 1.0D + 1.0W  60.00 mph Serviceability  26 Iterations

Gust Response Factor : 1.10  Wind Importance Factor : 1.00
Dead Load Factor : 1.00
Wind Load Factor : 1.00

## Linear Appurtenance Segment Forces (Factored)

| Seg Top Elev (ft) | Description | Exposed To Wind | Length (ft) | Ca | Exposed Width (in) | Area (sqft) | CaAa (sqft) | qz (psf) | Ra | Cf Adjust Factor | FX (lb) | Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.150 | 1.150 | 0.00 | 0.35 |
| 5.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.150 | 1.150 | 0.00 | 5.90 |
| 5.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.150 | 1.150 | 0.00 | 37.90 |
| 5.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.150 | 1.150 | 0.00 | 15.00 |
| 5.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.150 | 1.150 | 0.00 | 5.00 |
| 5.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 6.129 | 0.150 | 1.150 | 0.00 | 0.00 |
| 5.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.150 | 1.150 | 0.00 | 49.19 |
| 10.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.153 | 1.158 | 0.00 | 0.35 |
| 10.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.153 | 1.158 | 0.00 | 5.90 |
| 10.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.153 | 1.158 | 0.00 | 37.90 |
| 10.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.153 | 1.158 | 0.00 | 15.00 |
| 10.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.153 | 1.158 | 0.00 | 5.00 |
| 10.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 6.129 | 0.153 | 1.158 | 0.00 | 0.00 |
| 10.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.153 | 1.158 | 0.00 | 49.19 |
| 15.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.156 | 1.167 | 0.00 | 0.35 |
| 15.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.156 | 1.167 | 0.00 | 5.90 |
| 15.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.156 | 1.167 | 0.00 | 37.90 |
| 15.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.156 | 1.167 | 0.00 | 15.00 |
| 15.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.156 | 1.167 | 0.00 | 5.00 |
| 15.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 6.129 | 0.156 | 1.167 | 0.00 | 0.00 |
| 15.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.156 | 1.167 | 0.00 | 49.19 |
| 20.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.159 | 1.176 | 0.00 | 0.35 |
| 20.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.159 | 1.176 | 0.00 | 5.90 |
| 20.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.159 | 1.176 | 0.00 | 37.90 |
| 20.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.159 | 1.176 | 0.00 | 15.00 |
| 20.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.159 | 1.176 | 0.00 | 5.00 |
| 20.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 6.129 | 0.159 | 1.176 | 0.00 | 0.00 |
| 20.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.159 | 1.176 | 0.00 | 49.19 |
| 22.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.161 | 1.183 | 0.00 | 0.17 |
| 22.50 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.161 | 1.183 | 0.00 | 2.95 |
| 22.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.161 | 1.183 | 0.00 | 18.95 |
| 22.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.161 | 1.183 | 0.00 | 7.50 |
| 22.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.161 | 1.183 | 0.00 | 2.50 |
| 22.50 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 6.129 | 0.161 | 1.183 | 0.00 | 0.00 |
| 22.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.161 | 1.183 | 0.00 | 24.60 |
| 25.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.163 | 1.188 | 0.00 | 0.17 |
| 25.00 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.163 | 1.188 | 0.00 | 2.95 |
| 25.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.163 | 1.188 | 0.00 | 18.95 |
| 25.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.163 | 1.188 | 0.00 | 7.50 |
| 25.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.163 | 1.188 | 0.00 | 2.50 |
| 25.00 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 6.129 | 0.163 | 1.188 | 0.00 | 0.00 |
| 25.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 6.129 | 0.163 | 1.188 | 0.00 | 24.60 |
| 30.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.134 | 0.165 | 1.195 | 0.00 | 0.35 |
| 30.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.134 | 0.165 | 1.195 | 0.00 | 5.90 |
| 30.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.134 | 0.165 | 1.195 | 0.00 | 37.90 |
| 30.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.134 | 0.165 | 1.195 | 0.00 | 15.00 |
| 30.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.134 | 0.165 | 1.195 | 0.00 | 5.00 |
| 30.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 6.134 | 0.165 | 1.195 | 0.00 | 0.00 |
| 30.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.134 | 0.165 | 1.195 | 0.00 | 49.19 |
| 35.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.410 | 0.168 | 1.205 | 0.00 | 0.35 |
| 35.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.410 | 0.168 | 1.205 | 0.00 | 5.90 |

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**Load Case:** 1.0D + 1.0W 60.00 mph Serviceability 26 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.410 | 0.168 | 1.205 | 0.00 | 37.90 |
| 35.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.410 | 0.168 | 1.205 | 0.00 | 15.00 |
| 35.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.410 | 0.168 | 1.205 | 0.00 | 5.00 |
| 35.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 6.410 | 0.168 | 1.205 | 0.00 | 0.00 |
| 35.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.410 | 0.168 | 1.205 | 0.00 | 49.19 |
| 40.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.659 | 0.172 | 1.216 | 0.00 | 0.35 |
| 40.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.659 | 0.172 | 1.216 | 0.00 | 5.90 |
| 40.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.659 | 0.172 | 1.216 | 0.00 | 37.90 |
| 40.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.659 | 0.172 | 1.216 | 0.00 | 15.00 |
| 40.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.659 | 0.172 | 1.216 | 0.00 | 5.00 |
| 40.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 6.659 | 0.172 | 1.216 | 0.00 | 0.00 |
| 40.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 6.659 | 0.172 | 1.216 | 0.00 | 49.19 |
| 43.58 | (1) 0.39" Cable | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 6.825 | 0.175 | 1.225 | 0.00 | 0.25 |
| 43.58 | (2) 0.78" 8 AWG 6 | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 6.825 | 0.175 | 1.225 | 0.00 | 4.23 |
| 43.58 | (1) 3" Conduit | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 6.825 | 0.175 | 1.225 | 0.00 | 27.16 |
| 43.58 | (3) 1 1/4" Hybriflex | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 6.825 | 0.175 | 1.225 | 0.00 | 10.75 |
| 43.58 | (1) 1 1/4" Hybriflex | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 6.825 | 0.175 | 1.225 | 0.00 | 3.58 |
| 43.58 | (4) #20 Dywidag | Yes | 3.58 | 0.000 | 8.00 | 2.39 | 0.00 | 6.825 | 0.175 | 1.225 | 0.00 | 0.00 |
| 43.58 | (12) 1 5/8" Coax | Yes | 3.58 | 0.000 | 0.00 | 0.00 | 0.00 | 6.825 | 0.175 | 1.225 | 0.00 | 35.26 |
| 45.00 | (1) 0.39" Cable | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 6.887 | 0.177 | 1.231 | 0.00 | 0.10 |
| 45.00 | (2) 0.78" 8 AWG 6 | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 6.887 | 0.177 | 1.231 | 0.00 | 1.67 |
| 45.00 | (1) 3" Conduit | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 6.887 | 0.177 | 1.231 | 0.00 | 10.74 |
| 45.00 | (3) 1 1/4" Hybriflex | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 6.887 | 0.177 | 1.231 | 0.00 | 4.25 |
| 45.00 | (1) 1 1/4" Hybriflex | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 6.887 | 0.177 | 1.231 | 0.00 | 1.42 |
| 45.00 | (4) #20 Dywidag | Yes | 1.42 | 0.000 | 8.00 | 0.94 | 0.00 | 6.887 | 0.177 | 1.231 | 0.00 | 0.00 |
| 45.00 | (12) 1 5/8" Coax | Yes | 1.42 | 0.000 | 0.00 | 0.00 | 0.00 | 6.887 | 0.177 | 1.231 | 0.00 | 13.94 |
| 50.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.098 | 0.179 | 1.238 | 0.00 | 0.35 |
| 50.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.098 | 0.179 | 1.238 | 0.00 | 5.90 |
| 50.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.098 | 0.179 | 1.238 | 0.00 | 37.90 |
| 50.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.098 | 0.179 | 1.238 | 0.00 | 15.00 |
| 50.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.098 | 0.179 | 1.238 | 0.00 | 5.00 |
| 50.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 7.098 | 0.179 | 1.238 | 0.00 | 0.00 |
| 50.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.098 | 0.179 | 1.238 | 0.00 | 49.19 |
| 52.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.197 | 0.179 | 1.238 | 0.00 | 0.17 |
| 52.50 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.197 | 0.179 | 1.238 | 0.00 | 2.95 |
| 52.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.197 | 0.179 | 1.238 | 0.00 | 18.95 |
| 52.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.197 | 0.179 | 1.238 | 0.00 | 7.50 |
| 52.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.197 | 0.179 | 1.238 | 0.00 | 2.50 |
| 52.50 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 7.197 | 0.179 | 1.238 | 0.00 | 0.00 |
| 52.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.197 | 0.179 | 1.238 | 0.00 | 24.60 |
| 55.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.294 | 0.181 | 1.244 | 0.00 | 0.17 |
| 55.00 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.294 | 0.181 | 1.244 | 0.00 | 2.95 |
| 55.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.294 | 0.181 | 1.244 | 0.00 | 18.95 |
| 55.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.294 | 0.181 | 1.244 | 0.00 | 7.50 |
| 55.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.294 | 0.181 | 1.244 | 0.00 | 2.50 |
| 55.00 | (4) #20 Dywidag | Yes | 2.50 | 0.000 | 8.00 | 1.67 | 0.00 | 7.294 | 0.181 | 1.244 | 0.00 | 0.00 |
| 55.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 7.294 | 0.181 | 1.244 | 0.00 | 24.60 |
| 60.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.477 | 0.184 | 1.253 | 0.00 | 0.35 |
| 60.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.477 | 0.184 | 1.253 | 0.00 | 5.90 |
| 60.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.477 | 0.184 | 1.253 | 0.00 | 37.90 |
| 60.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.477 | 0.184 | 1.253 | 0.00 | 15.00 |
| 60.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.477 | 0.184 | 1.253 | 0.00 | 5.00 |
| 60.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 7.477 | 0.184 | 1.253 | 0.00 | 0.00 |
| 60.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.477 | 0.184 | 1.253 | 0.00 | 49.19 |
| 65.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.650 | 0.188 | 1.265 | 0.00 | 0.35 |
| 65.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.650 | 0.188 | 1.265 | 0.00 | 5.90 |
| 65.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.650 | 0.188 | 1.265 | 0.00 | 37.90 |

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**Load Case:** 1.0D + 1.0W 60.00 mph Serviceability 26 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.650 | 0.188 | 1.265 | 0.00 | 15.00 |
| 65.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.650 | 0.188 | 1.265 | 0.00 | 5.00 |
| 65.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 7.650 | 0.188 | 1.265 | 0.00 | 0.00 |
| 65.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.650 | 0.188 | 1.265 | 0.00 | 49.19 |
| 70.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.814 | 0.193 | 1.279 | 0.00 | 0.35 |
| 70.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.814 | 0.193 | 1.279 | 0.00 | 5.90 |
| 70.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.814 | 0.193 | 1.279 | 0.00 | 37.90 |
| 70.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.814 | 0.193 | 1.279 | 0.00 | 15.00 |
| 70.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.814 | 0.193 | 1.279 | 0.00 | 5.00 |
| 70.00 | (4) #20 Dywidag | Yes | 5.00 | 0.000 | 8.00 | 3.33 | 0.00 | 7.814 | 0.193 | 1.279 | 0.00 | 0.00 |
| 70.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.814 | 0.193 | 1.279 | 0.00 | 49.19 |
| 75.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.969 | 0.183 | 1.250 | 0.00 | 0.35 |
| 75.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.969 | 0.183 | 1.250 | 0.00 | 5.90 |
| 75.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.969 | 0.183 | 1.250 | 0.00 | 37.90 |
| 75.00 | (12) 1 5/8" Coax | Yes | 1.38 | 0.000 | 5.94 | 0.68 | 0.00 | 7.969 | 0.183 | 1.250 | 0.00 | 13.58 |
| 75.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.969 | 0.183 | 1.250 | 0.00 | 15.00 |
| 75.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 7.969 | 0.183 | 1.250 | 0.00 | 5.00 |
| 75.00 | (4) #20 Dywidag | Yes | 3.62 | 0.000 | 8.00 | 2.41 | 0.00 | 7.969 | 0.183 | 1.250 | 0.00 | 0.00 |
| 75.00 | (12) 1 5/8" Coax | Yes | 3.62 | 0.000 | 0.00 | 0.00 | 0.00 | 7.969 | 0.183 | 1.250 | 0.00 | 35.62 |
| 80.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.118 | 0.150 | 1.151 | 0.00 | 0.35 |
| 80.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.118 | 0.150 | 1.151 | 0.00 | 5.90 |
| 80.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.118 | 0.150 | 1.151 | 0.00 | 37.90 |
| 80.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 8.118 | 0.150 | 1.151 | 0.00 | 49.19 |
| 80.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.118 | 0.150 | 1.151 | 0.00 | 15.00 |
| 80.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.118 | 0.150 | 1.151 | 0.00 | 5.00 |
| 85.00 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.260 | 0.154 | 1.162 | 0.00 | 0.35 |
| 85.00 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.260 | 0.154 | 1.162 | 0.00 | 5.90 |
| 85.00 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.260 | 0.154 | 1.162 | 0.00 | 37.90 |
| 85.00 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 8.260 | 0.154 | 1.162 | 0.00 | 49.19 |
| 85.00 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.260 | 0.154 | 1.162 | 0.00 | 15.00 |
| 85.00 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.260 | 0.154 | 1.162 | 0.00 | 5.00 |
| 87.50 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 8.328 | 0.157 | 1.171 | 0.00 | 0.18 |
| 87.50 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 8.328 | 0.157 | 1.171 | 0.00 | 2.95 |
| 87.50 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 8.328 | 0.157 | 1.171 | 0.00 | 18.95 |
| 87.50 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 5.94 | 1.24 | 0.00 | 8.328 | 0.157 | 1.171 | 0.00 | 24.60 |
| 87.50 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 8.328 | 0.157 | 1.171 | 0.00 | 7.50 |
| 87.50 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 8.328 | 0.157 | 1.171 | 0.00 | 2.50 |
| 90.00 | (1) 0.39" Cable | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 8.396 | 0.159 | 1.177 | 0.00 | 0.17 |
| 90.00 | (2) 0.78" 8 AWG 6 | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 8.396 | 0.159 | 1.177 | 0.00 | 2.95 |
| 90.00 | (1) 3" Conduit | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 8.396 | 0.159 | 1.177 | 0.00 | 18.95 |
| 90.00 | (12) 1 5/8" Coax | Yes | 2.50 | 0.000 | 5.94 | 1.24 | 0.00 | 8.396 | 0.159 | 1.177 | 0.00 | 24.59 |
| 90.00 | (3) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 8.396 | 0.159 | 1.177 | 0.00 | 7.50 |
| 90.00 | (1) 1 1/4" Hybriflex | Yes | 2.50 | 0.000 | 0.00 | 0.00 | 0.00 | 8.396 | 0.159 | 1.177 | 0.00 | 2.50 |
| 93.00 | (1) 0.39" Cable | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.475 | 0.161 | 1.184 | 0.00 | 0.21 |
| 93.00 | (2) 0.78" 8 AWG 6 | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.475 | 0.161 | 1.184 | 0.00 | 3.54 |
| 93.00 | (1) 3" Conduit | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.475 | 0.161 | 1.184 | 0.00 | 22.74 |
| 93.00 | (12) 1 5/8" Coax | Yes | 3.00 | 0.000 | 5.94 | 1.49 | 0.00 | 8.475 | 0.161 | 1.184 | 0.00 | 29.52 |
| 93.00 | (3) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.475 | 0.161 | 1.184 | 0.00 | 9.00 |
| 93.00 | (1) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.475 | 0.161 | 1.184 | 0.00 | 3.00 |
| 95.00 | (1) 0.39" Cable | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.526 | 0.161 | 1.182 | 0.00 | 0.14 |
| 95.00 | (2) 0.78" 8 AWG 6 | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.526 | 0.161 | 1.182 | 0.00 | 2.36 |
| 95.00 | (1) 3" Conduit | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.526 | 0.161 | 1.182 | 0.00 | 15.16 |
| 95.00 | (12) 1 5/8" Coax | Yes | 2.00 | 0.000 | 5.94 | 0.99 | 0.00 | 8.526 | 0.161 | 1.182 | 0.00 | 19.67 |
| 95.00 | (3) 1 1/4" Hybriflex | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.526 | 0.161 | 1.182 | 0.00 | 6.00 |
| 95.00 | (1) 1 1/4" Hybriflex | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.526 | 0.161 | 1.182 | 0.00 | 2.00 |
| 100.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.652 | 0.164 | 1.191 | 0.00 | 0.35 |
| 100.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.652 | 0.164 | 1.191 | 0.00 | 5.90 |

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**Load Case:** 1.0D + 1.0W 60.00 mph Serviceability 26 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.652 | 0.164 | 1.191 | 0.00 | 37.90 |
| 100.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 8.652 | 0.164 | 1.191 | 0.00 | 49.19 |
| 100.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.652 | 0.164 | 1.191 | 0.00 | 15.00 |
| 100.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.652 | 0.164 | 1.191 | 0.00 | 5.00 |
| 105.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.774 | 0.168 | 1.205 | 0.00 | 0.35 |
| 105.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.774 | 0.168 | 1.205 | 0.00 | 5.90 |
| 105.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.774 | 0.168 | 1.205 | 0.00 | 37.90 |
| 105.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 8.774 | 0.168 | 1.205 | 0.00 | 49.19 |
| 105.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.774 | 0.168 | 1.205 | 0.00 | 15.00 |
| 105.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.774 | 0.168 | 1.205 | 0.00 | 5.00 |
| 110.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.891 | 0.173 | 1.219 | 0.00 | 0.35 |
| 110.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.891 | 0.173 | 1.219 | 0.00 | 5.90 |
| 110.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.891 | 0.173 | 1.219 | 0.00 | 37.90 |
| 110.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 8.891 | 0.173 | 1.219 | 0.00 | 49.19 |
| 110.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.891 | 0.173 | 1.219 | 0.00 | 15.00 |
| 110.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 8.891 | 0.173 | 1.219 | 0.00 | 5.00 |
| 115.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.005 | 0.178 | 1.234 | 0.00 | 0.35 |
| 115.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.005 | 0.178 | 1.234 | 0.00 | 5.90 |
| 115.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.005 | 0.178 | 1.234 | 0.00 | 37.90 |
| 115.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 9.005 | 0.178 | 1.234 | 0.00 | 49.19 |
| 115.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.005 | 0.178 | 1.234 | 0.00 | 15.00 |
| 115.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.005 | 0.178 | 1.234 | 0.00 | 5.00 |
| 120.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.115 | 0.183 | 1.250 | 0.00 | 0.35 |
| 120.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.115 | 0.183 | 1.250 | 0.00 | 5.90 |
| 120.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.115 | 0.183 | 1.250 | 0.00 | 37.90 |
| 120.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 9.115 | 0.183 | 1.250 | 0.00 | 49.19 |
| 120.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.115 | 0.183 | 1.250 | 0.00 | 15.00 |
| 120.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.115 | 0.183 | 1.250 | 0.00 | 5.00 |
| 125.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.222 | 0.189 | 1.267 | 0.00 | 0.35 |
| 125.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.222 | 0.189 | 1.267 | 0.00 | 5.90 |
| 125.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.222 | 0.189 | 1.267 | 0.00 | 37.90 |
| 125.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 9.222 | 0.189 | 1.267 | 0.00 | 49.19 |
| 125.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.222 | 0.189 | 1.267 | 0.00 | 15.00 |
| 125.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.222 | 0.189 | 1.267 | 0.00 | 5.00 |
| 130.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.326 | 0.195 | 1.285 | 0.00 | 0.35 |
| 130.0 | (2) 0.78" 8 AWG 6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.326 | 0.195 | 1.285 | 0.00 | 5.90 |
| 130.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.326 | 0.195 | 1.285 | 0.00 | 37.90 |
| 130.0 | (12) 1 5/8" Coax | Yes | 5.00 | 0.000 | 5.94 | 2.47 | 0.00 | 9.326 | 0.195 | 1.285 | 0.00 | 49.19 |
| 130.0 | (3) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.326 | 0.195 | 1.285 | 0.00 | 15.00 |
| 130.0 | (1) 1 1/4" Hybriflex | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.326 | 0.195 | 1.285 | 0.00 | 5.00 |
| 133.4 | (1) 0.39" Cable | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 9.395 | 0.201 | 0.000 | 0.00 | 0.24 |
| 133.4 | (2) 0.78" 8 AWG 6 | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 9.395 | 0.201 | 0.000 | 0.00 | 4.03 |
| 133.4 | (1) 3" Conduit | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 9.395 | 0.201 | 0.000 | 0.00 | 25.90 |
| 133.4 | (12) 1 5/8" Coax | Yes | 3.42 | 1.200 | 5.94 | 1.69 | 2.03 | 9.395 | 0.201 | 0.000 | 20.98 | 33.62 |
| 133.4 | (3) 1 1/4" Hybriflex | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 9.395 | 0.201 | 0.000 | 0.00 | 10.25 |
| 133.4 | (1) 1 1/4" Hybriflex | Yes | 3.42 | 0.000 | 0.00 | 0.00 | 0.00 | 9.395 | 0.201 | 0.000 | 0.00 | 3.42 |
| 135.0 | (1) 0.39" Cable | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 9.427 | 0.204 | 0.000 | 0.00 | 0.11 |
| 135.0 | (2) 0.78" 8 AWG 6 | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 9.427 | 0.204 | 0.000 | 0.00 | 1.87 |
| 135.0 | (1) 3" Conduit | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 9.427 | 0.204 | 0.000 | 0.00 | 12.00 |
| 135.0 | (12) 1 5/8" Coax | Yes | 1.58 | 1.200 | 5.94 | 0.78 | 0.94 | 9.427 | 0.204 | 0.000 | 9.75 | 15.57 |
| 135.0 | (3) 1 1/4" Hybriflex | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 9.427 | 0.204 | 0.000 | 0.00 | 4.75 |
| 135.0 | (1) 1 1/4" Hybriflex | Yes | 1.58 | 0.000 | 0.00 | 0.00 | 0.00 | 9.427 | 0.204 | 0.000 | 0.00 | 1.58 |
| 138.0 | (1) 0.39" Cable | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.486 | 0.207 | 0.000 | 0.00 | 0.21 |
| 138.0 | (2) 0.78" 8 AWG 6 | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.486 | 0.207 | 0.000 | 0.00 | 3.54 |
| 138.0 | (1) 3" Conduit | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.486 | 0.207 | 0.000 | 0.00 | 22.74 |
| 138.0 | (12) 1 5/8" Coax | Yes | 3.00 | 1.200 | 5.94 | 1.49 | 1.78 | 9.486 | 0.207 | 0.000 | 18.59 | 29.52 |
| 138.0 | (3) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.486 | 0.207 | 0.000 | 0.00 | 9.00 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:28 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 40 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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**Load Case:** 1.0D + 1.0W  60.00 mph Serviceability  26 Iterations

Gust Response Factor : 1.10  Wind Importance Factor : 1.00
Dead Load Factor : 1.00
Wind Load Factor : 1.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 138.0 | (1) 1 1/4" Hybriflex | Yes | 3.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.486 | 0.207 | 0.000 | 0.00 | 3.00 |
| 138.0 | (1) 0.39" Cable | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.486 | 0.209 | 0.000 | 0.00 | 0.00 |
| 138.0 | (2) 0.78" 8 AWG6 | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.486 | 0.209 | 0.000 | 0.00 | 0.00 |
| 138.0 | (1) 3" Conduit | Yes | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.486 | 0.209 | 0.000 | 0.00 | 0.00 |
| 138.0 | (12) 1 5/8" Coax | Yes | 0.00 | 1.200 | 5.94 | 0.00 | 0.00 | 9.486 | 0.209 | 0.000 | 0.00 | 0.00 |
| 140.0 | (1) 0.39" Cable | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.525 | 0.207 | 0.000 | 0.00 | 0.14 |
| 140.0 | (2) 0.78" 8 AWG6 | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.525 | 0.207 | 0.000 | 0.00 | 2.36 |
| 140.0 | (1) 3" Conduit | Yes | 2.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.525 | 0.207 | 0.000 | 0.00 | 15.16 |
| 140.0 | (12) 1 5/8" Coax | Yes | 2.00 | 1.200 | 5.94 | 0.99 | 1.19 | 9.525 | 0.207 | 0.000 | 12.45 | 19.67 |
| 145.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.621 | 0.212 | 0.000 | 0.00 | 0.35 |
| 145.0 | (2) 0.78" 8 AWG6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.621 | 0.212 | 0.000 | 0.00 | 5.90 |
| 145.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.621 | 0.212 | 0.000 | 0.00 | 37.90 |
| 145.0 | (12) 1 5/8" Coax | Yes | 5.00 | 1.200 | 5.94 | 2.47 | 2.97 | 9.621 | 0.212 | 0.000 | 31.43 | 49.19 |
| 150.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.715 | 0.220 | 0.000 | 0.00 | 0.35 |
| 150.0 | (2) 0.78" 8 AWG6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.715 | 0.220 | 0.000 | 0.00 | 5.90 |
| 150.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.715 | 0.220 | 0.000 | 0.00 | 37.90 |
| 150.0 | (12) 1 5/8" Coax | Yes | 5.00 | 1.200 | 5.94 | 2.47 | 2.97 | 9.715 | 0.220 | 0.000 | 31.74 | 49.19 |
| 155.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.806 | 0.228 | 0.000 | 0.00 | 0.35 |
| 155.0 | (2) 0.78" 8 AWG6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.806 | 0.228 | 0.000 | 0.00 | 5.90 |
| 155.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.806 | 0.228 | 0.000 | 0.00 | 37.90 |
| 155.0 | (12) 1 5/8" Coax | Yes | 5.00 | 1.200 | 5.94 | 2.47 | 2.97 | 9.806 | 0.228 | 0.000 | 32.04 | 49.19 |
| 160.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.896 | 0.237 | 0.000 | 0.00 | 0.35 |
| 160.0 | (2) 0.78" 8 AWG6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.896 | 0.237 | 0.000 | 0.00 | 5.90 |
| 160.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.896 | 0.237 | 0.000 | 0.00 | 37.90 |
| 160.0 | (12) 1 5/8" Coax | Yes | 5.00 | 1.200 | 5.94 | 2.47 | 2.97 | 9.896 | 0.237 | 0.000 | 32.33 | 49.19 |
| 165.0 | (1) 0.39" Cable | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.983 | 0.247 | 0.000 | 0.00 | 0.35 |
| 165.0 | (2) 0.78" 8 AWG6 | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.983 | 0.247 | 0.000 | 0.00 | 5.90 |
| 165.0 | (1) 3" Conduit | Yes | 5.00 | 0.000 | 0.00 | 0.00 | 0.00 | 9.983 | 0.247 | 0.000 | 0.00 | 37.90 |
| 165.0 | (12) 1 5/8" Coax | Yes | 5.00 | 1.200 | 5.94 | 2.47 | 2.97 | 9.983 | 0.247 | 0.000 | 32.61 | 49.19 |
| 169.0 | (1) 0.39" Cable | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 10.052 | 0.256 | 0.000 | 0.00 | 0.28 |
| 169.0 | (2) 0.78" 8 AWG6 | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 10.052 | 0.256 | 0.000 | 0.00 | 4.72 |
| 169.0 | (1) 3" Conduit | Yes | 4.00 | 0.000 | 0.00 | 0.00 | 0.00 | 10.052 | 0.256 | 0.000 | 0.00 | 30.32 |
| 169.0 | (12) 1 5/8" Coax | Yes | 4.00 | 1.200 | 5.94 | 1.98 | 2.38 | 10.052 | 0.256 | 0.000 | 26.27 | 39.36 |
| | | | | | | | | | | Totals: | 248.19 | 3,707.03 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | |
| Location : | Middletown CT 3, CT | Struct Class : II | |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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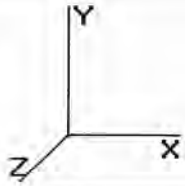




**Load Case:** 1.0D + 1.0W  60.00 mph Serviceability  26 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

## Applied Segment Forces Summary

| Seg Elev (ft) | Lateral FX (-) (lb) | Axial FY (-) (lb) | Torsion MY (lb-ft) | Moment MZ (lb-ft) |
|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 149.85 | 1,721.14 | 0.00 | 0.00 |
| 10.00 | 147.12 | 1,698.60 | 0.00 | 0.00 |
| 15.00 | 144.38 | 1,676.07 | 0.00 | 0.00 |
| 20.00 | 141.65 | 1,653.54 | 0.00 | 0.00 |
| 22.50 | 69.80 | 818.32 | 0.00 | 0.00 |
| 25.00 | 69.12 | 812.69 | 0.00 | 0.00 |
| 30.00 | 136.30 | 1,608.48 | 0.00 | 0.00 |
| 35.00 | 139.58 | 1,585.95 | 0.00 | 0.00 |
| 40.00 | 142.03 | 1,563.41 | 0.00 | 0.00 |
| 43.58 | 102.44 | 1,106.59 | 0.00 | 0.00 |
| 45.00 | 41.13 | 690.69 | 0.00 | 0.00 |
| 50.00 | 147.58 | 2,410.88 | 0.00 | 0.00 |
| 52.50 | 73.62 | 687.29 | 0.00 | 0.00 |
| 55.00 | 73.79 | 682.46 | 0.00 | 0.00 |
| 60.00 | 148.80 | 1,350.44 | 0.00 | 0.00 |
| 65.00 | 148.83 | 1,331.13 | 0.00 | 0.00 |
| 70.00 | 148.53 | 977.82 | 0.00 | 0.00 |
| 75.00 | 147.93 | 958.51 | 0.00 | 0.00 |
| 80.00 | 147.06 | 939.19 | 0.00 | 0.00 |
| 85.00 | 145.95 | 919.88 | 0.00 | 0.00 |
| 87.50 | 72.20 | 452.76 | 0.00 | 0.00 |
| 90.00 | 73.07 | 759.15 | 0.00 | 0.00 |
| 93.00 | 87.28 | 899.52 | 0.00 | 0.00 |
| 95.00 | 57.77 | 307.31 | 0.00 | 0.00 |
| 100.0 | 143.87 | 757.14 | 0.00 | 0.00 |
| 105.0 | 141.98 | 741.05 | 0.00 | 0.00 |
| 110.0 | 139.91 | 724.96 | 0.00 | 0.00 |
| 115.0 | 137.68 | 708.86 | 0.00 | 0.00 |
| 120.0 | 135.30 | 692.77 | 0.00 | 0.00 |
| 125.0 | 132.77 | 676.67 | 0.00 | 0.00 |
| 130.0 | 130.11 | 660.58 | 0.00 | 0.00 |
| 133.4 | 125.58 | 442.18 | 0.00 | 0.00 |
| 135.0 | 58.32 | 309.91 | 0.00 | 0.00 |
| 138.0 | 968.08 | 3,573.70 | 0.00 | 831.65 |
| 138.0 | 0.01 | 0.06 | 0.00 | 0.00 |
| 140.0 | 72.48 | 188.62 | 0.00 | 0.00 |
| 145.0 | 179.46 | 463.74 | 0.00 | 0.00 |
| 150.0 | 176.01 | 452.47 | 0.00 | 0.00 |
| 155.0 | 172.41 | 441.20 | 0.00 | 0.00 |
| 160.0 | 168.69 | 429.94 | 0.00 | 0.00 |
| 165.0 | 164.83 | 418.67 | 0.00 | 0.00 |
| 169.0 | 921.68 | 2,701.53 | 0.00 | 1,037.38 |
| 170.0 | 20.97 | 61.91 | 0.00 | 0.00 |
| 175.0 | 102.99 | 302.80 | 0.00 | 0.00 |
| 180.0 | 99.26 | 291.53 | 0.00 | 0.00 |
| 182.0 | 915.99 | 2,518.46 | 0.00 | 797.20 |
| 185.0 | 56.71 | 137.29 | 0.00 | 0.00 |
| Totals: | 7,920.90 | 45,307.84 | 0.00 | 2,666.23 |

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | 5/30/2014 5:25:28 PM |
| Location : | Middletown CT 3, CT | Struct Class : II | Page: 42 |
| Height : | 185.0 (ft) | Exposure Category : B | |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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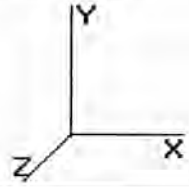


**Load Case:** 1.0D + 1.0W  60.00 mph Serviceability  26 Iterations

Gust Response Factor : 1.10  Wind Importance Factor : 1.00
Dead Load Factor : 1.00
Wind Load Factor : 1.00

## Calculated Forces

| 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 (deg) | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | -45.30 | -7.94 | 0.00 | -963.96 | 0.00 | 963.96 | 4,727.77 | 2,363.89 | 10,057.5 | 4,967.06 | 0.00 | 0.00 | 0.152 |
| 5.00 | -43.58 | -7.82 | 0.00 | -924.28 | 0.00 | 924.28 | 4,681.88 | 2,340.94 | 9,776.84 | 4,828.41 | 0.02 | -0.04 | 0.149 |
| 10.00 | -41.87 | -7.70 | 0.00 | -885.20 | 0.00 | 885.20 | 4,634.49 | 2,317.25 | 9,496.63 | 4,690.03 | 0.09 | -0.08 | 0.146 |
| 15.00 | -40.19 | -7.58 | 0.00 | -846.71 | 0.00 | 846.71 | 4,585.61 | 2,292.80 | 9,217.10 | 4,551.98 | 0.19 | -0.12 | 0.143 |
| 20.00 | -38.54 | -7.45 | 0.00 | -808.82 | 0.00 | 808.82 | 4,535.22 | 2,267.61 | 8,938.46 | 4,414.37 | 0.34 | -0.16 | 0.139 |
| 22.50 | -37.72 | -7.40 | 0.00 | -790.18 | 0.00 | 790.18 | 4,509.47 | 2,254.74 | 8,799.52 | 4,345.75 | 0.43 | -0.18 | 0.138 |
| 22.50 | -37.72 | -7.40 | 0.00 | -790.18 | 0.00 | 790.18 | 4,509.47 | 2,254.74 | 8,799.52 | 4,345.75 | 0.43 | -0.18 | 0.138 |
| 25.00 | -36.90 | -7.34 | 0.00 | -771.69 | 0.00 | 771.69 | 4,483.35 | 2,241.67 | 8,660.87 | 4,277.28 | 0.54 | -0.21 | 0.136 |
| 30.00 | -35.29 | -7.23 | 0.00 | -734.97 | 0.00 | 734.97 | 4,429.97 | 2,214.99 | 8,384.50 | 4,140.79 | 0.77 | -0.25 | 0.133 |
| 35.00 | -33.70 | -7.10 | 0.00 | -698.84 | 0.00 | 698.84 | 4,375.10 | 2,187.55 | 8,109.53 | 4,004.99 | 1.06 | -0.29 | 0.130 |
| 40.00 | -32.13 | -6.97 | 0.00 | -663.31 | 0.00 | 663.31 | 4,318.73 | 2,159.36 | 7,836.14 | 3,869.97 | 1.38 | -0.33 | 0.126 |
| 43.58 | -31.02 | -6.88 | 0.00 | -638.32 | 0.00 | 638.32 | 4,277.41 | 2,138.70 | 7,641.27 | 3,773.74 | 1.64 | -0.36 | 0.124 |
| 45.00 | -30.33 | -6.85 | 0.00 | -628.58 | 0.00 | 628.58 | 4,260.86 | 2,130.43 | 7,564.50 | 3,735.82 | 1.75 | -0.37 | 0.122 |
| 50.00 | -27.91 | -6.70 | 0.00 | -594.35 | 0.00 | 594.35 | 3,421.90 | 1,710.95 | 6,065.62 | 2,995.58 | 2.16 | -0.42 | 0.138 |
| 52.50 | -27.22 | -6.63 | 0.00 | -577.61 | 0.00 | 577.61 | 3,401.39 | 1,700.70 | 5,962.75 | 2,944.78 | 2.39 | -0.44 | 0.135 |
| 52.50 | -27.22 | -6.63 | 0.00 | -577.61 | 0.00 | 577.61 | 3,401.39 | 1,700.70 | 5,962.75 | 2,944.78 | 2.39 | -0.44 | 0.135 |
| 55.00 | -26.54 | -6.57 | 0.00 | -561.04 | 0.00 | 561.04 | 3,380.51 | 1,690.25 | 5,860.04 | 2,894.05 | 2.62 | -0.46 | 0.133 |
| 60.00 | -25.18 | -6.42 | 0.00 | -528.21 | 0.00 | 528.21 | 3,337.62 | 1,668.81 | 5,655.16 | 2,792.87 | 3.13 | -0.50 | 0.128 |
| 65.00 | -23.85 | -6.28 | 0.00 | -496.09 | 0.00 | 496.09 | 3,293.24 | 1,646.62 | 5,451.16 | 2,692.12 | 3.68 | -0.55 | 0.124 |
| 65.00 | -23.85 | -6.28 | 0.00 | -496.09 | 0.00 | 496.09 | 3,293.24 | 1,646.62 | 5,451.16 | 2,692.12 | 3.68 | -0.55 | 0.192 |
| 70.00 | -22.87 | -6.15 | 0.00 | -464.68 | 0.00 | 464.68 | 3,247.36 | 1,623.68 | 5,248.21 | 2,591.90 | 4.28 | -0.59 | 0.186 |
| 75.00 | -21.90 | -6.01 | 0.00 | -433.95 | 0.00 | 433.95 | 3,199.99 | 1,599.99 | 5,046.49 | 2,492.27 | 4.93 | -0.66 | 0.181 |
| 80.00 | -20.96 | -5.88 | 0.00 | -403.88 | 0.00 | 403.88 | 3,151.11 | 1,575.56 | 4,846.18 | 2,393.36 | 5.66 | -0.73 | 0.175 |
| 85.00 | -20.03 | -5.74 | 0.00 | -374.48 | 0.00 | 374.48 | 3,100.74 | 1,550.37 | 4,647.44 | 2,295.20 | 6.46 | -0.80 | 0.170 |
| 87.50 | -19.58 | -5.67 | 0.00 | -360.13 | 0.00 | 360.13 | 3,074.99 | 1,537.50 | 4,548.71 | 2,246.44 | 6.89 | -0.83 | 0.167 |
| 90.00 | -18.82 | -5.60 | 0.00 | -345.94 | 0.00 | 345.94 | 3,048.88 | 1,524.44 | 4,450.47 | 2,197.92 | 7.34 | -0.87 | 0.164 |
| 93.00 | -17.92 | -5.51 | 0.00 | -329.14 | 0.00 | 329.14 | 2,367.81 | 1,183.91 | 3,474.51 | 1,715.93 | 7.90 | -0.91 | 0.199 |
| 95.00 | -17.61 | -5.47 | 0.00 | -318.11 | 0.00 | 318.11 | 2,354.00 | 1,177.00 | 3,417.42 | 1,687.73 | 8.28 | -0.94 | 0.196 |
| 100.00 | -16.84 | -5.33 | 0.00 | -290.78 | 0.00 | 290.78 | 2,318.41 | 1,159.21 | 3,275.08 | 1,617.44 | 9.31 | -1.02 | 0.187 |
| 105.00 | -16.10 | -5.20 | 0.00 | -264.13 | 0.00 | 264.13 | 2,281.33 | 1,140.66 | 3,133.47 | 1,547.50 | 10.41 | -1.09 | 0.178 |
| 110.00 | -15.37 | -5.06 | 0.00 | -238.14 | 0.00 | 238.14 | 2,242.75 | 1,121.37 | 2,992.76 | 1,478.01 | 11.60 | -1.17 | 0.168 |
| 115.00 | -14.66 | -4.93 | 0.00 | -212.83 | 0.00 | 212.83 | 2,202.67 | 1,101.33 | 2,853.13 | 1,409.05 | 12.86 | -1.24 | 0.158 |
| 120.00 | -13.96 | -4.80 | 0.00 | -188.18 | 0.00 | 188.18 | 2,161.09 | 1,080.55 | 2,714.76 | 1,340.72 | 14.20 | -1.31 | 0.147 |
| 125.00 | -13.28 | -4.66 | 0.00 | -164.20 | 0.00 | 164.20 | 2,118.02 | 1,059.01 | 2,577.82 | 1,273.09 | 15.61 | -1.38 | 0.135 |
| 130.00 | -12.62 | -4.53 | 0.00 | -140.89 | 0.00 | 140.89 | 2,073.45 | 1,036.73 | 2,442.48 | 1,206.25 | 17.10 | -1.45 | 0.123 |
| 133.42 | -12.18 | -4.40 | 0.00 | -125.42 | 0.00 | 125.42 | 2,042.13 | 1,021.07 | 2,351.01 | 1,161.07 | 18.15 | -1.49 | 0.114 |
| 135.00 | -11.87 | -4.34 | 0.00 | -118.46 | 0.00 | 118.46 | 2,027.39 | 1,013.69 | 2,308.93 | 1,140.29 | 18.65 | -1.51 | 0.110 |
| 138.00 | -8.32 | -3.28 | 0.00 | -104.62 | 0.00 | 104.62 | 1,999.03 | 999.51 | 2,229.72 | 1,101.18 | 19.61 | -1.54 | 0.099 |
| 138.00 | -8.32 | -3.28 | 0.00 | -104.61 | 0.00 | 104.61 | 1,223.81 | 611.90 | 1,396.77 | 689.81 | 19.61 | -1.54 | 0.158 |
| 140.00 | -8.13 | -3.21 | 0.00 | -98.06 | 0.00 | 98.06 | 1,215.85 | 607.93 | 1,368.67 | 675.93 | 20.26 | -1.57 | 0.152 |
| 145.00 | -7.67 | -3.02 | 0.00 | -82.02 | 0.00 | 82.02 | 1,194.90 | 597.45 | 1,298.35 | 641.21 | 21.94 | -1.64 | 0.134 |
| 150.00 | -7.22 | -2.84 | 0.00 | -66.90 | 0.00 | 66.90 | 1,172.46 | 586.23 | 1,228.11 | 606.52 | 23.69 | -1.70 | 0.116 |
| 155.00 | -6.78 | -2.66 | 0.00 | -52.69 | 0.00 | 52.69 | 1,148.52 | 574.26 | 1,158.11 | 571.95 | 25.50 | -1.76 | 0.098 |
| 160.00 | -6.36 | -2.49 | 0.00 | -39.37 | 0.00 | 39.37 | 1,123.08 | 561.54 | 1,088.54 | 537.59 | 27.37 | -1.81 | 0.079 |
| 165.00 | -5.94 | -2.31 | 0.00 | -26.94 | 0.00 | 26.94 | 1,096.15 | 548.08 | 1,019.56 | 503.52 | 29.29 | -1.85 | 0.059 |
| 169.00 | -3.27 | -1.30 | 0.00 | -16.66 | 0.00 | 16.66 | 1,073.53 | 536.76 | 964.93 | 476.54 | 30.85 | -1.87 | 0.038 |
| 170.00 | -3.21 | -1.28 | 0.00 | -15.35 | 0.00 | 15.35 | 1,067.72 | 533.86 | 951.36 | 469.84 | 31.24 | -1.88 | 0.036 |
| 175.00 | -2.91 | -1.17 | 0.00 | -8.95 | 0.00 | 8.95 | 1,037.79 | 518.90 | 884.11 | 436.63 | 33.22 | -1.90 | 0.023 |
| 180.00 | -2.62 | -1.06 | 0.00 | -3.10 | 0.00 | 3.10 | 1,006.37 | 503.18 | 817.98 | 403.97 | 35.22 | -1.91 | 0.010 |
| 182.00 | -0.14 | -0.06 | 0.00 | -0.18 | 0.00 | 0.18 | 993.38 | 496.69 | 791.88 | 391.08 | 36.02 | -1.91 | 0.001 |
| 185.00 | 0.00 | -0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 973.45 | 486.72 | 753.15 | 371.95 | 37.22 | -1.91 | 0.000 |

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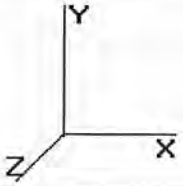




**Load Case:** 1.0D + 1.0W — 60.00 mph Serviceability — 26 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

| | | | |
|---|---|---|---|
| Pole : | 302537 | Code: ANSI/TIA-222 Rev G | |
| Location : | Middletown CT 3, CT | Struct Class : II | 5/30/2014 5:25:28 PM |
| Height : | 185.0 (ft) | Exposure Category : B | Page: 44 |
| Base Dia : | 52.00 (in) | Topographic Category : 1 | |
| Top Dia : | 19.03 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 12 Sides | | |
| Taper : | 0.188014 (in/ft) | | |

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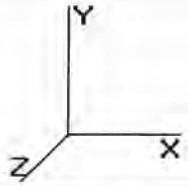


## Analysis Summary

| Load Case | Reactions Shear FX (kips) | Shear FZ (kips) | Axial FY (kips) | Moment MX (ft-kips) | Moment MY (ft-kips) | Moment MZ (ft-kips) | Max Usage Elev (ft) | Interaction Ratio |
|---|---|---|---|---|---|---|---|---|
| 1.2D + 1.6W | 34.66 | 0.00 | 53.45 | 0.00 | 0.00 | 4064.17 | 93.00 | 0.79 |
| 0.9D + 1.6W | 31.48 | 0.00 | 41.17 | 0.00 | 0.00 | 3787.54 | 93.00 | 0.75 |
| 1.2D + 1.0Di + 1.0Wi | 7.63 | 0.00 | 101.12 | 0.00 | 0.00 | 1021.60 | 93.00 | 0.24 |
| 1.0D + 1.0W | 7.94 | 0.00 | 45.30 | 0.00 | 0.00 | 963.96 | 93.00 | 0.20 |

## Additional Steel Summary

| Elev From (ft) | Elev To (ft) | Member | Intermediate Connectors VQ/I (lb/in) | Shear Applied (kips) | Shear phiVn (kips) | Upper Termination Connectors MQ/I (kips) | phiVn (kips) | Num Reqd | Num Actual | Lower Termination Connectors MQ/I (kips) | phiVn (kips) | Num Reqd | Num Actual | Max Member Pu (kip) | phiPn (kip) | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 22.5 | (4) SOL-#20 All Thre | 163.4 | 4.9 | 16.8 | 0.0 | 12.0 | 0 | 12 | 0.0 | 12.0 | 0 | 0 | 215.4 | 330.5 | 0.652 |
| 22.5 | 52.5 | (4) SOL-#20 All Thre | 193.8 | 5.8 | 16.8 | 0.0 | 12.0 | 0 | 12 | 0.0 | 12.0 | 0 | 0 | 204.1 | 330.5 | 0.618 |
| 52.5 | 65.0 | (4) SOL-#20 All Thre | 200.2 | 6.0 | 16.8 | 183.5 | 12.0 | 16 | 24 | 0.0 | 12.0 | 0 | 0 | 197.3 | 330.5 | 0.597 |

| | | | |
|---|---|---|---|
| Base/Flange Plate | Plate Type | ***Baseplate*** | |
| | Pole Diameter | 52 | in |
| | Pole Thickness | 0.4375 | in |
| | Plate Diameter | 66.34 | in |
| | Plate Thickness | 2.75 | in |
| | Plate Fy | 60 | ksi |
| | Weld Length | 0.3125 | in |
| | $\phi_s$ Resistance | 1042.40 | k-in |
| | Applied | 382.64 | k-in |
| Stiffeners | # | ***0*** | |

| | | | |
|---|---|---|---|
| Bolts | # | ***16*** | |
| | Bolt Circle | 60.34 | in |
| | (R)adial / (S)quare | R | |
| | Diameter | 2.25 | in |
| | Hole Diameter | 2.625 | in |
| | Type | A615-75 | |
| | Fy | 75 | ksi |
| | Fu | 100 | ksi |
| | $\phi_s$ Resistance | 259.82 | k |
| | Applied | 150.35 | k |
| Reinforcement ● | # | ***4*** | |
| | DYW. Circle | 60 | in |
| | Offset Angle | -11 | ° |
| | Type | #20 | |
| | Diameter | 2.5 | in |
| | Fu | 100 | ksi |
| Extra Bolts O | # | ***0*** | |

| | | | |
|---|---|---|---|
| Code Rev. | ***G*** | **Date** | 5/30/2014 |
| | | **Engineer** | ZSP |
| | | **Site #** | 302537 |
| Moment | 4064.2 k-ft | **Carrier** | Sprint Nextel |
| Axial | 53.5 k | | |

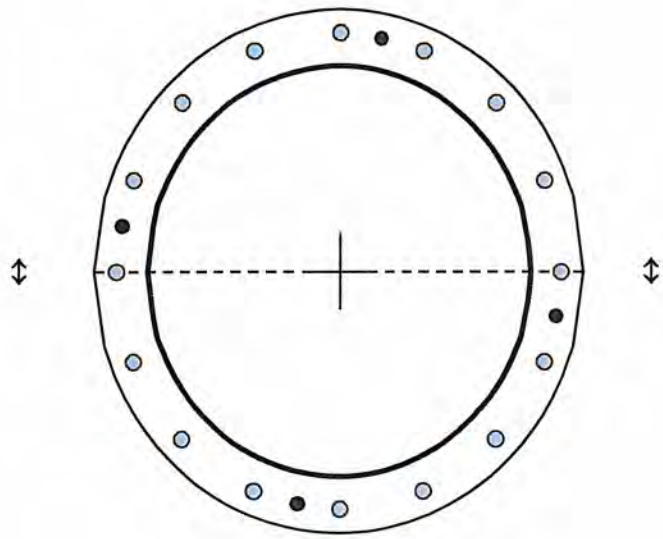

Plate Stress Ratio:
0.37 (Pass)

Bolt Stress Ratio:
0.58 (Pass)

C Squared Systems, LLC
65 Dartmouth Drive, Unit A3
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

# Calculated Radio Frequency Emissions

CT5121

(Cromwell East)

37 Inwood Road, Rocky Hill, CT 06067

(a.k.a. 47 Inwood Road)

July 11, 2012

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## 1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the monopole tower located at 37 Inwood Road, Rocky Hill, CT. The coordinates of the tower are 41-38-18.85 N, 72-40-45.4 W.

AT&T is proposing the following modifications:

1) Install three 700 MHz LTE antennas (one per sector).

## 2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter ($mW/cm^2$). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

## 3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left( \frac{1.6^2 \times EIRP}{4\pi \times R^2} \right) \text{x Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

## 3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left( \frac{1.6^2 \times EIRP}{4\pi \times R^2} \right) \text{x Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

## 4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

| Carrier | Antenna Height (Feet) | Operating Frequency (MHz) | Number of Trans. | ERP Per Transmitter (Watts) | Power Density ($mw/cm^2$) | Limit | %MPE |
|---|---|---|---|---|---|---|---|
| *AT&T UMTS* | *168* | *880* | *1* | *500* | *0.0064* | *0.5867* | *1.09%* |
| *AT&T GSM* | *168* | *1900* | *2* | *427* | *0.0109* | *1.0000* | *1.09%* |
| *AT&T GSM* | *168* | *880* | *4* | *296* | *0.0151* | *0.5867* | *2.57%* |
| Nextel - iDEN | 180 | 851 | 12 | 100 | 0.0133 | 0.5673 | 2.35% |
| Nextel - CDMA | 180 | 1962 | 11 | 411 | 0.0502 | 1.0000 | 5.02% |
| Sprint | 140 | | | | | | |
| AT&T UMTS | 167 | 880 | 2 | 565 | 0.0015 | 0.5867 | 0.25% |
| AT&T UMTS | 167 | 1900 | 2 | 875 | 0.0023 | 1.0000 | 0.23% |
| AT&T LTE | 167 | 734 | 1 | 1313 | 0.0017 | 0.4893 | 0.35% |
| AT&T GSM | 167 | 880 | 1 | 283 | 0.0004 | 0.5867 | 0.06% |
| AT&T GSM | 167 | 1900 | 4 | 525 | 0.0027 | 1.0000 | 0.27% |
| | | | | | | **Total** | **8.52%** |

**Table 1: Carrier Information**[1 2 3]

[1] The existing CSC filing for AT&T should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 3/29/2012. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

[2] In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

[3] Antenna height listed for AT&T is in reference to the American Tower Corp. Structural Analysis dated May 30, 2012.

## 5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **8.52% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

## 6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

Daniel L. Goulet
C Squared Systems, LLC

July 11, 2012
Date

## 5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **8.52% of the FCC limit.**

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

## 6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

Daniel L. Goulet
C Squared Systems, LLC

July 11, 2012
Date

## Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

## Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

### (A) Limits for Occupational/Controlled Exposure[4]

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (E) (A/m) | Power Density (S) ($mW/cm^2$) | Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes) |
|---|---|---|---|---|
| 0.3-3.0 | 614 | 1.63 | (100)* | 6 |
| 3.0-30 | 1842/f | 4.89/f | ($900/f^2$)* | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | - | - | f/300 | 6 |
| 1500-100,000 | - | - | 5 | 6 |

### (B) Limits for General Population/Uncontrolled Exposure[5]

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (E) (A/m) | Power Density (S) ($mW/cm^2$) | Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes) |
|---|---|---|---|---|
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | ($180/f^2$)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | - | - | f/1500 | 30 |
| 1500-100,000 | - | - | 1.0 | 30 |

f = frequency in MHz * Plane-wave equivalent power density

**Table 2: FCC Limits for Maximum Permissible Exposure (MPE)**

[4] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

[5] General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

## Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

### (A) Limits for Occupational/Controlled Exposure[4]

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (E) (A/m) | Power Density (S) ($mW/cm^2$) | Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes) |
|---|---|---|---|---|
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| 3.0-30 | 1842/f | 4.89/f | ($900/f^2$)* | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | - | - | f/300 | 6 |
| 1500-100,000 | - | - | 5 | 6 |

### (B) Limits for General Population/Uncontrolled Exposure[5]

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (E) (A/m) | Power Density (S) ($mW/cm^2$) | Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes) |
|---|---|---|---|---|
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | ($180/f^2$)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | - | - | f/1500 | 30 |
| 1500-100,000 | - | - | 1.0 | 30 |

f = frequency in MHz * Plane-wave equivalent power density

**Table 2: FCC Limits for Maximum Permissible Exposure (MPE)**

[4] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

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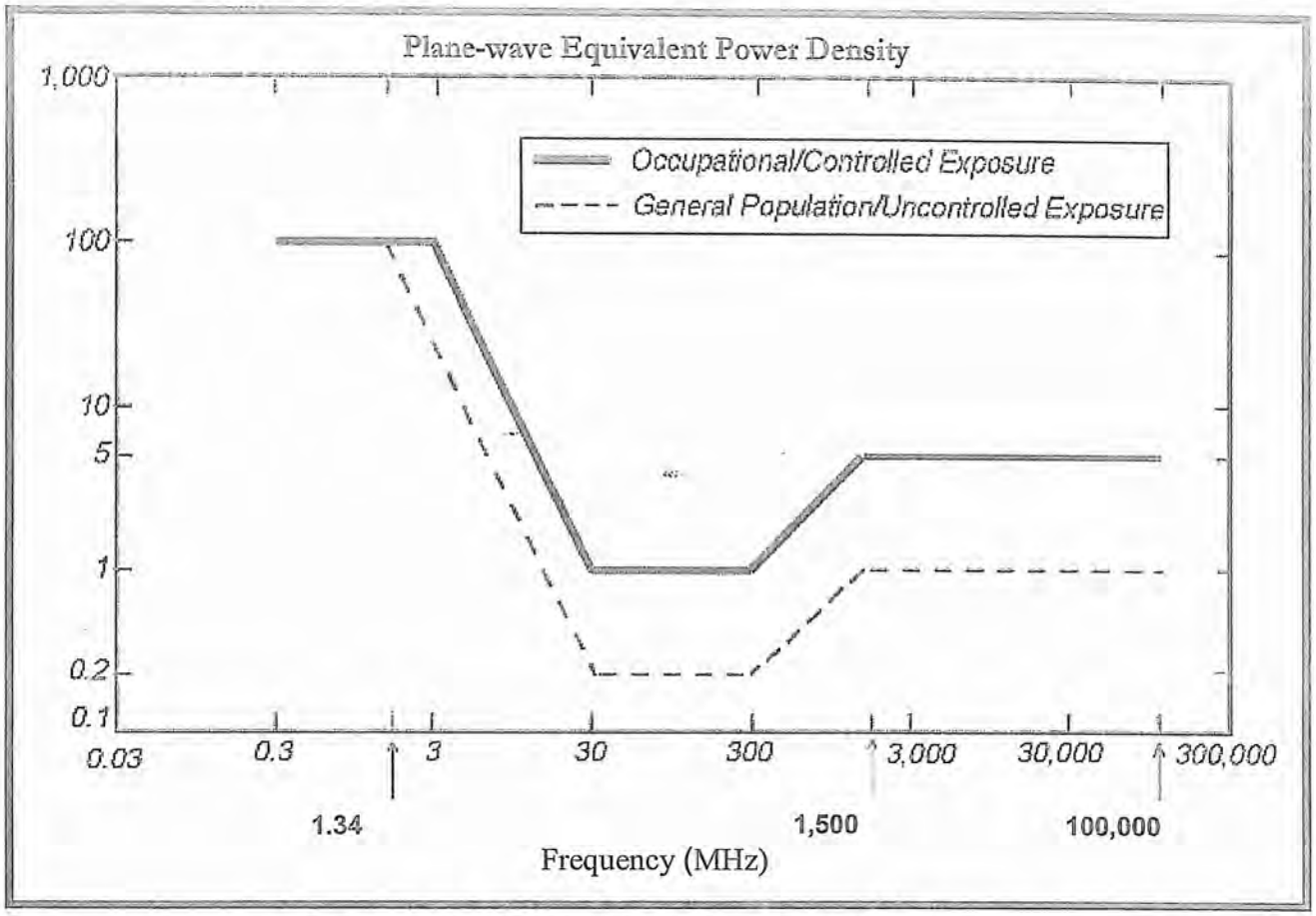
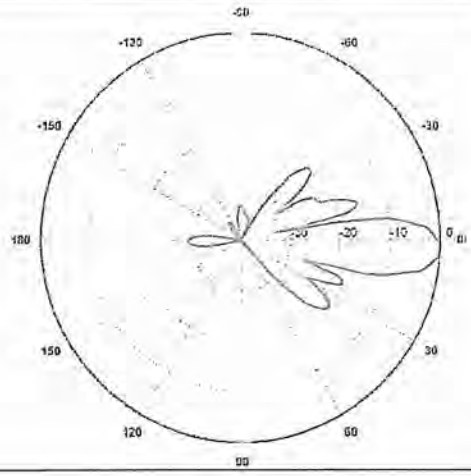



**Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)**

## Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

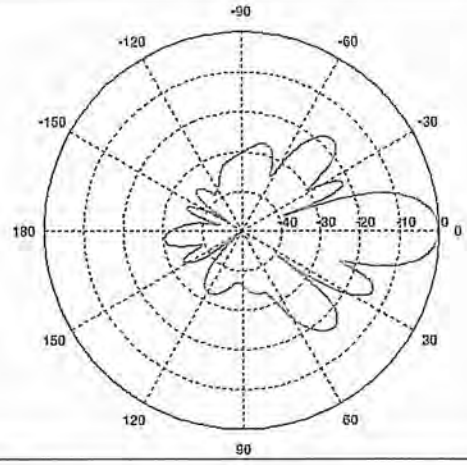
### 700 MHz

| | |
|---|---|
| Manufacturer: | KMW |
| Model #: | AM-X-CD-16-65-00T |
| Frequency Band: | 698-894 MHz |
| Gain: | 13.4 dBd |
| Vertical Beamwidth: | 12.3° |
| Horizontal Beamwidth: | 65° |
| Polarization: | Dual Slant ± 45° |
| Size L x W x D: | 72.0" x 11.8" x 5.9" |



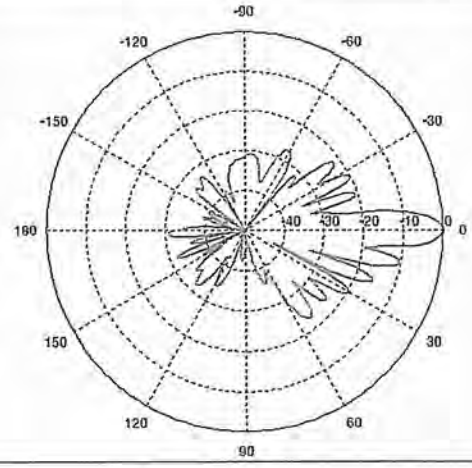

### 850 MHz

| | |
|---|---|
| Manufacturer: | Powerwave |
| Model #: | 7770 |
| Frequency Band: | 824-896 MHz |
| Gain: | 11.4 dBd |
| Vertical Beamwidth: | 15° |
| Horizontal Beamwidth: | 85° |
| Polarization: | Dual Linear ±45° |
| Size L x W x D: | 55.4" x 11.0" x 5.0" |




### 1900 MHz

| | |
|---|---|
| Manufacturer: | Powerwave |
| Model #: | 7770 |
| Frequency Band: | 1850-1990 MHz |
| Gain: | 13.4 dBd |
| Vertical Beamwidth: | 7° |
| Horizontal Beamwidth: | 90° |
| Polarization: | Dual Linear ±45° |
| Size L x W x D: | 55.4" x 12.0" x 5.0" |



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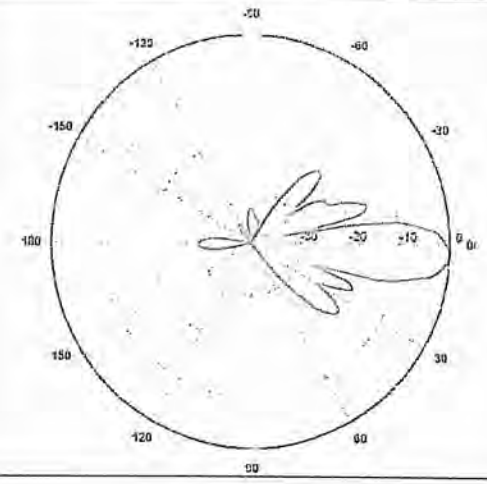


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| | |
|---|---|
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| Model #: | 7770 |
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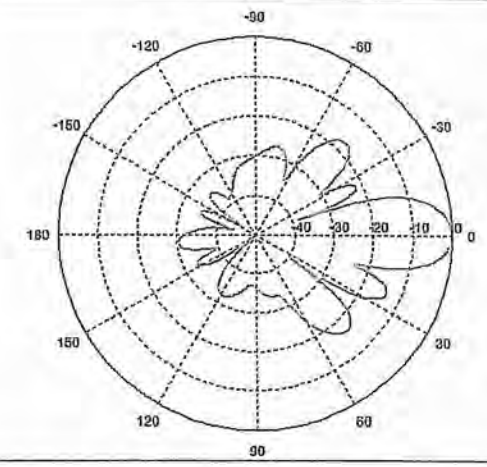
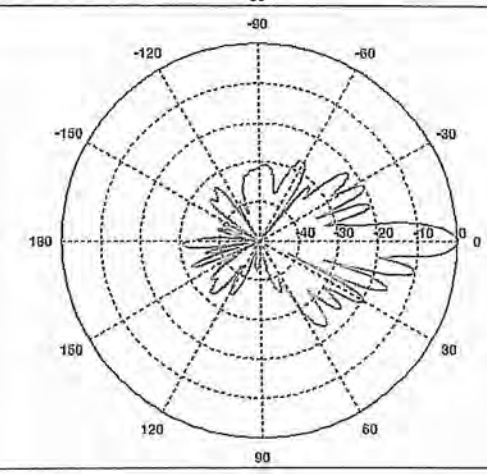



### 1900 MHz

| | |
|---|---|
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