

November 1, 2017

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

Re: **Notice of Exempt Modification – Facility Modification
421 Al Harvey Road, Stonington, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains six (6) antennas inside the existing 180-foot flagpole tower at 421 Al Harvey Road in Stonington, Connecticut (the “Property”). Three (3) antennas are located at the 177-foot level; and three (3) antennas are located at the 167-foot level. The Property is owned by The Groton Sportsmen’s Club, Inc. The tower is owned by SBA Towers, Inc. (“SBA”). Cellco’s use of this tower was approved by the Council in 2013. Cellco now intends to modify its facility by replacing its existing antennas with three (3) model SBNHH-1D65A, 850/2100 MHz antennas at the 177-foot level and three (3) model SBNHH-1D65A, 700 MHz antennas at the 167-foot level. Included in Attachment 1 are specifications for Cellco’s replacement antennas.

Please accept this letter 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 Robert Ruhl Simmons, First Selectman for the Town of Stonington; Jason Vincent, Stonington’s Director of Planning; The Groton Sportsmen’s Club Inc., the owner of the Property; and SBA, the tower owner.

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

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco’s replacement antennas will be installed at the 177-foot and 167-foot levels inside the 180-foot tower.

Melanie A. Bachman, Esq.

November 1, 2017

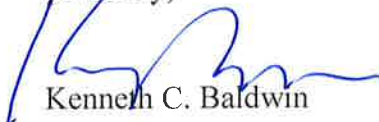
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2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A General Power Density table for Cellco's modified facility is included in Attachment 2.
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 Cellco's proposed modifications. (*See* Structural Analysis Report included in Attachment 3).

A copy of the parcel map and owner information for the Property is included in Attachment 4. A Certificate of Mailing verifying that this filing was sent to municipal officials and the owner of the Property is included in Attachment 5.

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

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Robert Ruhl Simmons, Stonington First Selectman
Jason Vincent, Stonington Director of Planning
The Groton Sportsmen's Club, Inc.
SBA
Tim Parks

ATTACHMENT 1



SBNHH-1D65A

Multiband Antenna, 698–896 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	13.4	13.5	16.5	16.7	17.2	17.5
Beamwidth, Horizontal, degrees	66	61	70	65	62	61
Beamwidth, Vertical, degrees	17.6	15.9	7.1	6.6	6.2	5.5
Beam Tilt, degrees	0–18	0–18	0–10	0–10	0–10	0–10
USLS (First Lobe), dB	16	13	13	13	12	12
Front-to-Back Ratio at 180°, dB	25	27	28	28	27	29
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR Return Loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	13.1	13.1	16.1	16.5	16.7	17.2
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.5	±0.5	±0.3	±0.5	±0.4
	0° 13.4	0° 13.4	0° 16.0	0° 16.3	0° 16.5	0° 17.0
Gain by Beam Tilt, average, dBi	9° 13.1	9° 13.1	5° 16.2	5° 16.5	5° 16.8	5° 17.3
	18° 12.7	18° 12.7	10° 16.1	10° 16.5	10° 16.6	10° 16.9
Beamwidth, Horizontal Tolerance, degrees	±3.1	±5.4	±2.8	±4	±6.6	±4.6
Beamwidth, Vertical Tolerance, degrees	±1.8	±1.4	±0.3	±0.4	±0.5	±0.3
USLS, beampeak to 20° above beampeak, dB	15	14	15	15	15	14
Front-to-Back Total Power at 180° ± 30°, dB	22	21	26	26	24	25
CPR at Boresight, dB	22	16	22	25	21	22
CPR at Sector, dB	10	6	12	8	5	4

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, [download the whitepaper Time to Raise the Bar on BSAs.](#)

General Specifications

Antenna Type	Sector with internal RET
Band	Multiband
Brand	DualPol®
Operating Frequency Band	1695 – 2360 MHz 698 – 896 MHz
Performance Note	Outdoor usage

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground

SBNHH-1D65A

Radiator Material	Aluminum Low loss circuit board
Radome Material	Fiberglass, UV resistant
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	6
Wind Loading, frontal	445.0 N @ 150 km/h 100.0 lbf @ 150 km/h
Wind Loading, lateral	145.0 N @ 150 km/h 32.6 lbf @ 150 km/h
Wind Loading, rear	523.0 N @ 150 km/h 117.6 lbf @ 150 km/h
Wind Speed, maximum	241 km/h 150 mph

Dimensions

Depth	180.0 mm 7.1 in
Length	1413.0 mm 55.6 in
Width	301.0 mm 11.9 in
Net Weight, without mounting kit	15.2 kg 33.5 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal RET	High band (1) Low band (1)
Power Consumption, idle state, maximum	2.0 W
Power Consumption, normal conditions, maximum	13.0 W
Protocol	3GPP/AISG 2.0 (Multi-RET)
RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	1 female 1 male

Packed Dimensions

Depth	296.0 mm 11.7 in
Length	1589.0 mm 62.6 in
Width	390.0 mm 15.4 in
Shipping Weight	26.1 kg 57.5 lb

Regulatory Compliance/Certifications

Agency

RoHS 2011/65/EU
China RoHS SJ/T 11364-2006
ISO 9001:2008

Classification

Compliant by Exemption
Above Maximum Concentration Value (MCV)
Designed, manufactured and/or distributed under this quality management system



Included Products

SBNHH-1D65A

BSAMNT-1 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* **Footnotes**

Performance Note Severe environmental conditions may degrade optimum performance

ATTACHMENT 2

Site Name: Stonington NE CT
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure* (mW/cm ²)	Fraction of MPE (%)
VZW PCS	1970	1	0	0	167	0.0000	1.0	0.00%
VZW 850 LTE	869	1	2184	2184	177	0.0251	0.5793333333	4.33%
VZW AWS	2145	1	5760	5760	177	0.0661	1.0	6.61%
VZW 700	746	1	1600	1600	167	0.0206	0.4973333333	4.15%

Total Percentage of Maximum Permissible Exposure

15.09%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used, including the following assumptions:

1. closest accessible point is distance from antenna to base of pole;
2. continuous transmission from all available channels at full power for indefinite time period; and,
3. all RF energy is assumed to be directed solely to the base of the pole.

ATTACHMENT 3



Tower Engineering Solutions

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

Structural Analysis Report

Existing 120 ft Monopole with 60' Canister (Total Height = 180 ft)

Customer Name: SBA Communications Corp

Customer Site Number: CT04709-S

Customer Site Name: Stonington 3, CT

Carrier Name: Verizon

Carrier Site ID / Name: 262570 / Stonington NE CT

Site Location: 421 Al Harvey Road

Stonington, Connecticut

New London County

Latitude: 41.405608

Longitude: -71.927030

Analysis Result:

Max Structural Usage: 58.1% [Pass]

Max Foundation Usage: 53.0% [Pass]

Report Prepared By : Uma S Atluri



Introduction

The purpose of this report is to summarize the analysis results on the 120 ft Monopole with 60' Canister (Total height = 180 ft) to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Fred A Nudd, Dwg # 01-8303-1, dated 4/5/2001
Foundation Drawing	Fred A Nudd, Dwg # 01-8303-1, dated 4/5/2001
Geotechnical Report	JGI, Project # 00671G, dated 3/16/2001
Modification Drawings	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 150.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 108.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_s = 0.161$, $S_1 = 0.058$

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	180.0 To 120.0	-	-	Canister	-	-
1	177.0	3	Antel BXA-171063-12BF-Panel	Canister (Antennas and lines inside Canister)	(6) 1 5/8"	Verizon
3	167.0	3	Antel bxa-70063-6BF- Panel		(6) 1 5/8"	

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	177.0	3	Commscope SBNHH-1D65A - Panel	Canister (Antennas and lines inside Canister)	(6) 1 5/8"	Verizon
2		6	Andrew CBC71921-DF			
3	167.0	3	Commscope SBNHH-1D65A - Panel		(6) 1 5/8"	
4		6	Andrew CBC71921-DF			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
*Max. Usage:	58.1%	67.4%	65.1%
Pass/Fail	Pass	Pass	Pass

* Usage is for the bottom 120' Pole shaft. The structural pole inside the canisters is assumed to be adequate since there is no additional wind load on the canister.

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	3200.0	31.0
Analysis Reactions	3530.2	37.2
Factored Reactions*	4320.0	41.9
% of Design Reactions	81.7%	88.9%

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

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.3554 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Antenna Mount Note:

The existing mount contributed no additional stress to the tower since it was already existing.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 58.06% at 12.5ft

Structure: CT04709-S-SBA
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)

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

3/20/2017



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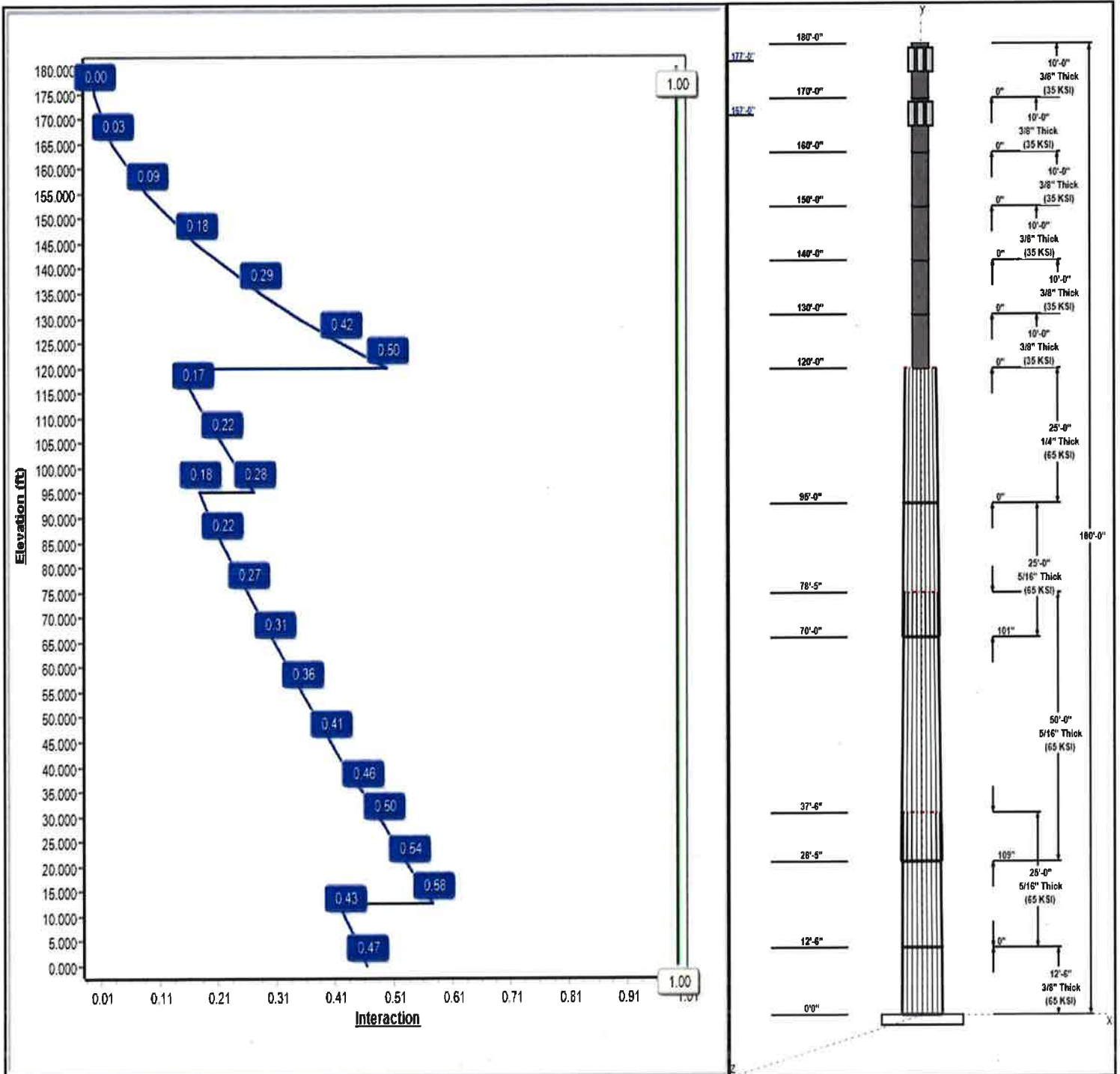
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 108 mph Wind



Iterations: 21

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Type: Custom
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.14375

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Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	12.50	74.20	76.00	0.375		0.14375	65
2	25.00	70.61	74.20	0.313	Butt	0.14375	65
3	50.00	65.35	72.54	0.313	Slip	0.14375	65
4	25.00	63.59	67.19	0.313	Slip	0.14375	65
5	25.00	60.00	63.59	0.250	Butt	0.14375	65
6	10.00	30.00	30.00	0.375	Butt	0.00000	35
7	10.00	30.00	30.00	0.375	Butt	0.00000	35
8	10.00	30.00	30.00	0.375	Butt	0.00000	35
9	10.00	30.00	30.00	0.375	Butt	0.00000	35
10	10.00	30.00	30.00	0.375	Butt	0.00000	35
11	10.00	30.00	30.00	0.375	Butt	0.00000	35

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
177.00	177.00	6	Andrew CBC71921-DF	Verizon
177.00	177.00	3	Commscope	Verizon
175.00	175.00	1	10' Canister	
167.00	167.00	6	Andrew CBC71921-DF	Verizon
167.00	167.00	3	Commscope	Verizon
165.00	165.00	1	10' Canister	
155.00	155.00	1	10' Canister	
145.00	145.00	1	10' Canister	
135.00	135.00	1	10' Canister	
125.00	125.00	1	10' Canister	

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	177.00	Inside	1 5/8" Coax	Verizon
0.00	167.00	Inside	1 5/8" Coax	Verizon

Anchor Bolts

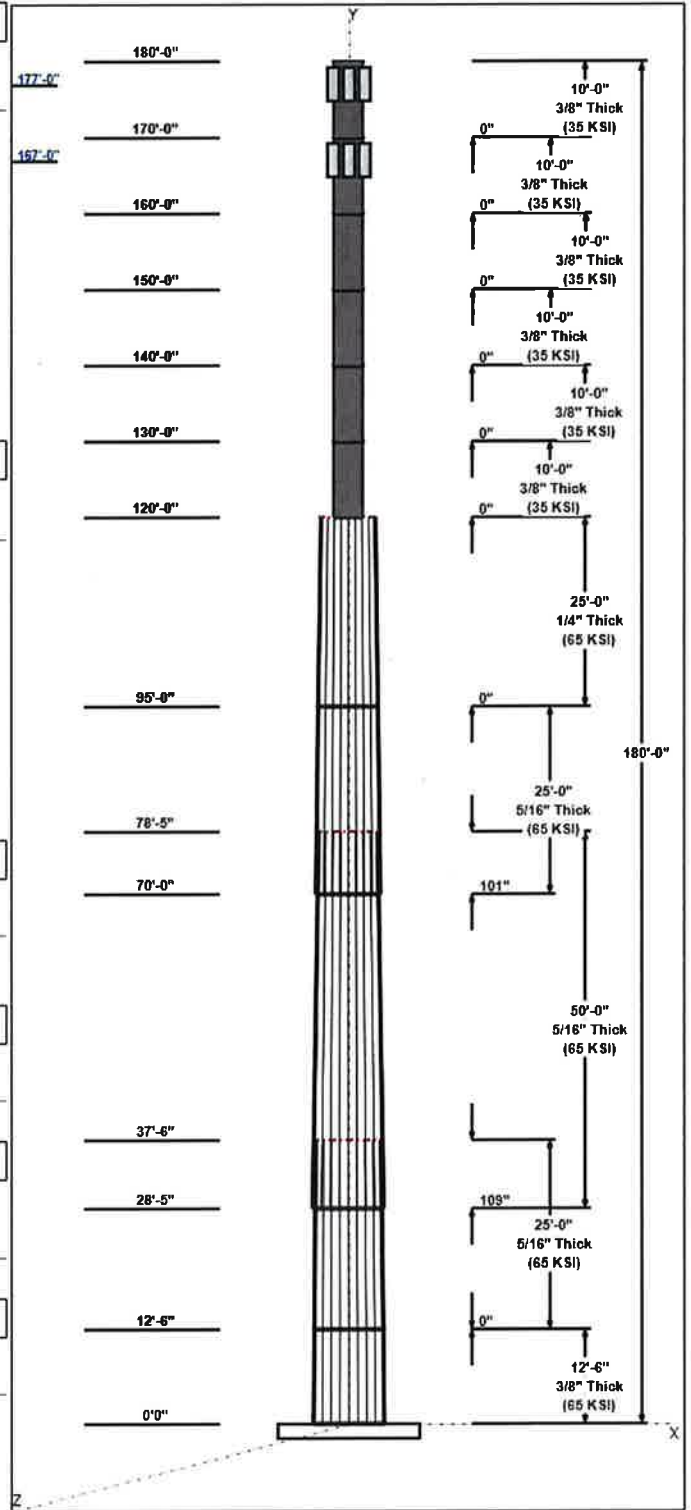
Qty	Specifications	Grade (ksi)	Arrangement
15	2.00" A687	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	76.0	60.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 108 mph Wind	3530.2	37.2	50.2
0.9D + 1.6W 108 mph Wind	3517.6	37.2	37.6
1.2D + 1.0Di + 1.0Wi 50 mph Wind	930.5	9.6	73.1
1.2D + 1.0E	140.2	1.2	50.2
0.9D + 1.0E	139.6	1.2	37.7
1.0D + 1.0W 60 mph Wind	679.4	7.2	41.9



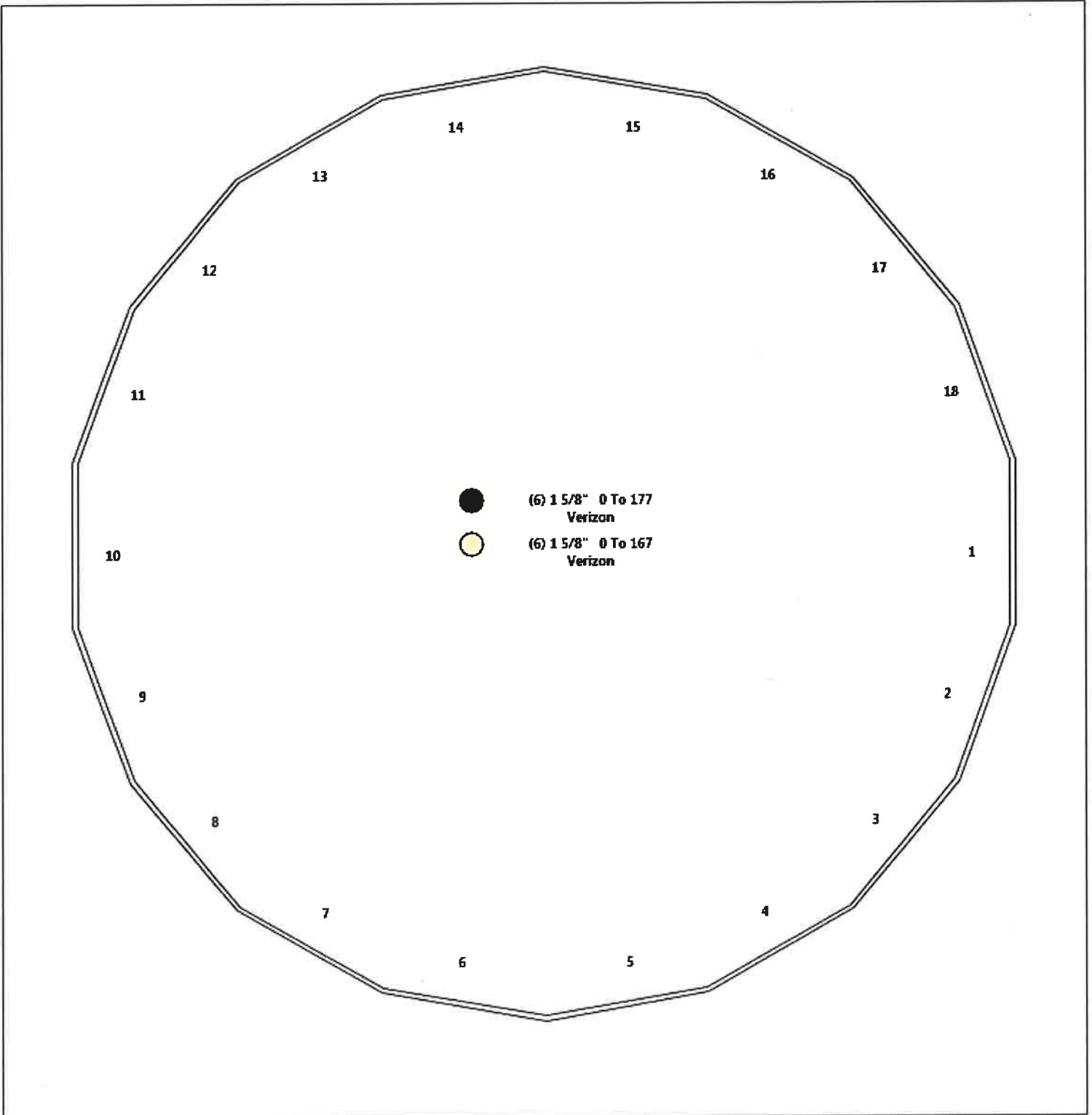
Structure: CT04709-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Stonington 3, CT
Height: 180.00 (ft)

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Shaft Properties

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	12.500	0.3750	65		0.00	3,783
2	18	25.000	0.3125	65	Flange	0.00	6,083
3	18	50.000	0.3125	65	Slip	109.00	11,582
4	18	25.000	0.3125	65	Slip	101.00	5,491
5	18	25.000	0.2500	65	Flange	0.00	4,154
6	R	10.000	0.3750	35	Flange	0.00	1,188
7	R	10.000	0.3750	35	Flange	0.00	1,188
8	R	10.000	0.3750	35	Flange	0.00	1,188
9	R	10.000	0.3750	35	Flange	0.00	1,188
10	R	10.000	0.3750	35	Flange	0.00	1,188
11	R	10.000	0.3750	35	Flange	0.00	1,188
Total Shaft Weight:							38,219

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	76.00	0.00	90.01	65038.69	34.32	202.67	74.20	12.50	87.87	60511.9	33.48	197.8	0.143750
2	74.20	12.50	73.29	50554.80	40.46	237.45	70.61	37.50	69.72	43531.3	38.43	225.9	0.143750
3	72.54	28.42	71.64	47217.61	39.52	232.13	65.35	78.42	64.51	34477.6	35.46	209.1	0.143750
4	67.19	70.00	66.33	37478.81	36.50	215.00	63.59	95.00	62.76	31755.5	34.47	203.5	0.143750
5	63.59	95.00	50.26	25479.78	43.44	254.38	60.00	120.00	47.41	21384.4	40.91	240.0	0.143750
6	30.00	120.0	34.90	3831.77	0.00	80.00	30.00	130.00	34.90	3831.77	0.00	80.00	0.000000
7	30.00	130.0	34.90	3831.77	0.00	80.00	30.00	140.00	34.90	3831.77	0.00	80.00	0.000000
8	30.00	140.0	34.90	3831.77	0.00	80.00	30.00	150.00	34.90	3831.77	0.00	80.00	0.000000
9	30.00	150.0	34.90	3831.77	0.00	80.00	30.00	160.00	34.90	3831.77	0.00	80.00	0.000000
10	30.00	160.0	34.90	3831.77	0.00	80.00	30.00	170.00	34.90	3831.77	0.00	80.00	0.000000
11	30.00	170.0	34.90	3831.77	0.00	80.00	30.00	180.00	34.90	3831.77	0.00	80.00	0.000000

Load Summary

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 5
	Struct Class: II	



Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	177.00	Andrew CBC71921-DF	6	7.70	0.00	1.00	20.88	0.000	1.00	0.00	0.00
2	177.00	Commscope SBNHH-1D65A	3	33.50	0.00	1.00	195.04	6.980	1.00	0.00	0.00
3	175.00	10' Canister	1	200.00	15.00	1.00	270.89	17.127	1.00	0.00	0.00
4	167.00	Andrew CBC71921-DF	6	7.70	0.00	1.00	20.80	0.000	1.00	0.00	0.00
5	167.00	Commscope SBNHH-1D65A	3	33.50	0.00	1.00	193.92	6.973	1.00	0.00	0.00
6	165.00	10' Canister	1	200.00	15.00	1.00	270.48	17.114	1.00	0.00	0.00
7	155.00	10' Canister	1	200.00	15.00	1.00	270.04	17.101	1.00	0.00	0.00
8	145.00	10' Canister	1	200.00	15.00	1.00	269.57	17.087	1.00	0.00	0.00
9	135.00	10' Canister	1	200.00	15.00	1.00	269.08	17.072	1.00	0.00	0.00
10	125.00	10' Canister	1	200.00	15.00	1.00	268.55	17.056	1.00	0.00	0.00
Totals:			24	1,493.40			3,035.54				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	177.00	(6) 1 5/8" Coax	0.00	Inside
0.00	167.00	(6) 1 5/8" Coax	0.00	Inside

Shaft Section Properties

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1.	Struct Class: II



Page: 6

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.3750	76.000	90.009	65038.7	34.32	202.67	61.0	1685.	0.0
5.00		0.3750	75.281	89.154	63201.9	33.99	200.75	61.4	1653.	1524.1
10.00		0.3750	74.563	88.298	61399.9	33.65	198.83	61.8	1621.	1509.6
12.50	Top - Section 1	0.3750	74.203	87.871	60512.0	33.48	197.88	62.0	1606.	749.3
12.50	Bot - Section 2	0.3125	74.203	73.288	50554.8	40.18	237.45	53.8	1341.	
15.00		0.3125	73.844	72.931	49820.7	40.26	236.30	54.1	1328.	621.9
20.00		0.3125	73.125	72.218	48374.0	39.85	234.00	54.5	1303.	1234.8
25.00		0.3125	72.406	71.505	46955.6	39.44	231.70	55.0	1277.	1222.6
28.42	Bot - Section 3	0.3125	71.915	71.018	46002.4	39.17	230.13	55.3	1259.	828.5
30.00		0.3125	71.688	70.793	45565.1	39.04	229.40	55.5	1251.	767.4
35.00		0.3125	70.969	70.080	44202.4	38.63	227.10	56.0	1226.	2407.3
37.50	Top - Section 2	0.3125	71.234	70.343	44702.8	38.78	227.95	0.0	0.0	1194.6
40.00		0.3125	70.875	69.987	44026.7	38.58	226.80	56.0	1223.	596.9
45.00		0.3125	70.156	69.274	42695.0	38.17	224.50	56.5	1198.	1184.7
50.00		0.3125	69.438	68.561	41390.4	37.77	222.20	57.0	1174.	1172.6
55.00		0.3125	68.719	67.848	40112.7	37.36	219.90	57.5	1149.	1160.4
60.00		0.3125	68.000	67.135	38861.5	36.96	217.60	57.9	1125.	1148.3
65.00		0.3125	67.281	66.422	37636.7	36.55	215.30	58.4	1101.	1136.2
70.00	Bot - Section 4	0.3125	66.563	65.709	36437.8	36.15	213.00	58.9	1078.	1124.0
75.00		0.3125	65.844	64.996	35264.7	35.74	210.70	59.4	1054.	2234.4
78.42	Top - Section 3	0.3125	65.978	65.129	35481.2	35.82	211.13	0.0	0.0	1512.9
80.00		0.3125	65.750	64.903	35113.5	35.69	210.40	59.4	1051.	350.3
85.00		0.3125	65.031	64.191	33969.2	35.28	208.10	59.9	1028.	1098.2
90.00		0.3125	64.313	63.478	32849.9	34.88	205.80	60.4	1006.	1086.1
95.00	Top - Section 4	0.3125	63.594	62.765	31755.5	34.47	203.50	60.9	983.5	1073.9
95.00	Bot - Section 5	0.2500	63.594	50.261	25479.8	43.09	254.38	50.3	789.2	
100.00		0.2500	62.875	49.691	24622.2	42.94	251.50	50.9	771.3	850.3
105.00		0.2500	62.156	49.121	23784.2	42.43	248.63	51.5	753.7	840.6
110.00		0.2500	61.438	48.551	22965.3	41.92	245.75	52.1	736.2	830.9
115.00		0.2500	60.719	47.980	22165.5	41.41	242.88	52.7	719.0	821.2
120.00	Top - Section 5	0.2500	60.000	47.410	21384.5	40.91	240.00	53.3	702.0	811.5
120.00	Bot - Section 6	0.3750	30.000	34.901	3831.8	27.27	160.00	35.0	255.5	
125.00		0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	593.8
130.00	Top - Section 6	0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	593.8
130.00	Bot - Section 7	0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	
135.00		0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	593.8
140.00	Top - Section 7	0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	593.8
140.00	Bot - Section 8	0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	
145.00		0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	593.8
150.00	Top - Section 8	0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	593.8
150.00	Bot - Section 9	0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	
155.00		0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	593.8
160.00	Top - Section 9	0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	593.8
160.00	Bot - Section 10	0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	
165.00		0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	593.8
167.00		0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	237.5
170.00	Top - Section 10	0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	356.3
170.00	Bot - Section 11	0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	
175.00		0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	593.8
177.00		0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	237.5

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
180.00		0.3750	30.000	34.901	3831.8	0.00	80.00	35.0	255.5	356.3
										<u>38219.0</u>

Wind Loading - Shaft

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



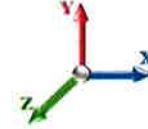
Page: 8

Load Case: 1.2D + 1.6W 108 mph Wind

Iterations 21

Dead Load Factor 1.20

Wind Load Factor 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	24.112	26.52	640.35	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	24.112	26.52	634.29	0.650	0.000	5.00	32.003	20.80	882.8	0.0	1829.0
10.00		1.00	0.85	24.112	26.52	628.23	0.650	0.000	5.00	31.699	20.60	874.4	0.0	1811.5
12.50	Top - Section 1	1.00	0.85	24.112	26.52	625.21	0.650	0.000	2.50	15.735	10.23	434.0	0.0	899.2
15.00		1.00	0.85	24.112	26.52	622.18	0.650	0.000	2.50	15.659	10.18	431.9	0.0	746.3
20.00		1.00	0.90	25.584	28.14	634.65	0.650	0.000	5.00	31.091	20.21	910.0	0.0	1481.7
25.00		1.00	0.95	26.814	29.50	643.34	0.650	0.000	5.00	30.787	20.01	944.4	0.0	1467.2
28.42	Bot - Section 3	1.00	0.97	27.547	30.30	647.66	0.650	0.000	3.42	20.863	13.56	657.5	0.0	994.2
30.00		1.00	0.98	27.863	30.65	649.30	0.650	0.000	1.58	9.704	6.31	309.3	0.0	920.9
35.00		1.00	1.01	28.782	31.66	653.31	0.650	0.000	5.00	30.443	19.79	1002.4	0.0	2888.8
37.50	Top - Section 2	1.00	1.03	29.204	32.12	654.74	0.650	0.000	2.50	15.107	9.82	504.7	0.0	1433.5
40.00		1.00	1.04	29.603	32.56	661.68	0.650	0.000	2.50	15.031	9.77	509.1	0.0	716.3
45.00		1.00	1.07	30.346	33.38	663.14	0.650	0.000	5.00	29.835	19.39	1035.7	0.0	1421.6
50.00		1.00	1.09	31.027	34.13	663.67	0.650	0.000	5.00	29.531	19.19	1048.2	0.0	1407.1
55.00		1.00	1.12	31.656	34.82	663.42	0.650	0.000	5.00	29.227	19.00	1058.4	0.0	1392.5
60.00		1.00	1.14	32.241	35.47	662.52	0.650	0.000	5.00	28.922	18.80	1066.8	0.0	1378.0
65.00		1.00	1.16	32.789	36.07	661.06	0.650	0.000	5.00	28.618	18.60	1073.5	0.0	1363.4
70.00	Bot - Section 4	1.00	1.17	33.305	36.63	659.12	0.650	0.000	5.00	28.314	18.40	1078.8	0.0	1348.8
75.00		1.00	1.19	33.792	37.17	656.76	0.650	0.000	5.00	28.275	18.38	1093.0	0.0	2681.2
78.42	Top - Section 3	1.00	1.20	34.110	37.52	654.92	0.650	0.000	3.42	19.146	12.44	747.1	0.0	1815.4
80.00		1.00	1.21	34.254	37.68	660.29	0.650	0.000	1.58	8.824	5.74	345.8	0.0	420.3
85.00		1.00	1.22	34.694	38.16	657.26	0.650	0.000	5.00	27.666	17.98	1098.1	0.0	1317.8
90.00		1.00	1.24	35.114	38.63	653.92	0.650	0.000	5.00	27.362	17.79	1099.2	0.0	1303.3
95.00	Top - Section 4	1.00	1.25	35.516	39.07	650.30	0.650	0.000	5.00	27.058	17.59	1099.4	0.0	1288.7
100.00		1.00	1.27	35.902	39.49	646.43	0.650	0.000	5.00	26.754	17.39	1098.8	0.0	1020.3
105.00		1.00	1.28	36.272	39.90	642.33	0.650	0.000	5.00	26.450	17.19	1097.6	0.0	1008.7
110.00		1.00	1.29	36.629	40.29	638.02	0.650	0.000	5.00	26.146	16.99	1095.6	0.0	997.1
115.00		1.00	1.30	36.974	40.67	633.51	0.650	0.000	5.00	25.842	16.80	1093.1	0.0	985.4
120.00	Top - Section 5	1.00	1.32	37.306	41.04	628.82	0.650	0.000	5.00	25.538	16.60	1089.9	0.0	973.8
125.00	Appurtenance(s)	1.00	1.33	37.628	41.39	310.97	0.600	0.000	5.00	12.500	7.50	496.7	0.0	712.6
130.00	Top - Section 6	1.00	1.34	37.940	41.73	312.25	0.600	0.000	5.00	12.500	7.50	500.8	0.0	712.6
135.00	Appurtenance(s)	1.00	1.35	38.243	42.07	313.50	0.600	0.000	5.00	12.500	7.50	504.8	0.0	712.6
140.00	Top - Section 7	1.00	1.36	38.537	42.39	314.70	0.600	0.000	5.00	12.500	7.50	508.7	0.0	712.6
145.00	Appurtenance(s)	1.00	1.37	38.823	42.71	315.86	0.600	0.000	5.00	12.500	7.50	512.5	0.0	712.6
150.00	Top - Section 8	1.00	1.38	39.101	43.01	316.99	0.600	0.000	5.00	12.500	7.50	516.1	0.0	712.6
155.00	Appurtenance(s)	1.00	1.39	39.372	43.31	318.09	0.600	0.000	5.00	12.500	7.50	519.7	0.0	712.6
160.00	Top - Section 9	1.00	1.40	39.636	43.60	319.15	0.600	0.000	5.00	12.500	7.50	523.2	0.0	712.6
165.00	Appurtenance(s)	1.00	1.41	39.893	43.88	320.19	0.600	0.000	5.00	12.500	7.50	526.6	0.0	712.6
167.00	Appurtenance(s)	1.00	1.41	39.995	43.99	320.60	0.600	0.000	2.00	5.000	3.00	211.2	0.0	285.0
170.00	Top - Section 10	1.00	1.42	40.145	44.16	321.20	0.600	0.000	3.00	7.500	4.50	317.9	0.0	427.5
175.00	Appurtenance(s)	1.00	1.42	40.391	44.43	322.18	0.600	0.000	5.00	12.500	7.50	533.2	0.0	712.6
177.00	Appurtenance(s)	1.00	1.43	40.487	44.54	322.57	0.600	0.000	2.00	5.000	3.00	213.8	0.0	285.0
180.00		1.00	1.43	40.631	44.69	323.14	0.600	0.000	3.00	7.500	4.50	321.8	0.0	427.5
Totals:									180.00			30,986.3		45,862.8

Discrete Appurtenance Forces

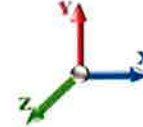
Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 9
	Struct Class: II	



Load Case: 1.2D + 1.6W 108 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 21

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	177.00	Andrew CBC71921-DF	6	40.487	44.536	1.00	1.00	0.00	55.44	0.000	0.000	0.00	0.00	0.00
2	177.00	Commscope	3	40.487	44.536	1.00	1.00	0.00	120.60	0.000	0.000	0.00	0.00	0.00
3	175.00	10' Canister	1	40.391	44.430	1.00	1.00	15.00	240.00	0.000	0.000	1066.31	0.00	0.00
4	167.00	Andrew CBC71921-DF	6	39.995	43.994	1.00	1.00	0.00	55.44	0.000	0.000	0.00	0.00	0.00
5	167.00	Commscope	3	39.995	43.994	1.00	1.00	0.00	120.60	0.000	0.000	0.00	0.00	0.00
6	165.00	10' Canister	1	39.893	43.883	1.00	1.00	15.00	240.00	0.000	0.000	1053.18	0.00	0.00
7	155.00	10' Canister	1	39.372	43.309	1.00	1.00	15.00	240.00	0.000	0.000	1039.41	0.00	0.00
8	145.00	10' Canister	1	38.823	42.705	1.00	1.00	15.00	240.00	0.000	0.000	1024.92	0.00	0.00
9	135.00	10' Canister	1	38.243	42.067	1.00	1.00	15.00	240.00	0.000	0.000	1009.62	0.00	0.00
10	125.00	10' Canister	1	37.628	41.391	1.00	1.00	15.00	240.00	0.000	0.000	993.39	0.00	0.00
Totals:									1,792.08			6,186.83		

Total Applied Force Summary

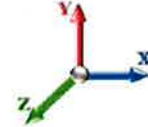
Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 10
	Struct Class: II	



Load Case: 1.2D + 1.6W 108 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 21

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		882.77	1903.84	0.00	0.00
10.00		874.38	1886.37	0.00	0.00
12.50		434.05	936.64	0.00	0.00
15.00		431.95	783.77	0.00	0.00
20.00		909.96	1556.61	0.00	0.00
25.00		944.40	1542.06	0.00	0.00
28.42		657.47	1045.37	0.00	0.00
30.00		309.31	944.57	0.00	0.00
35.00		1002.40	2963.68	0.00	0.00
37.50		504.72	1470.92	0.00	0.00
40.00		509.05	753.71	0.00	0.00
45.00		1035.75	1496.50	0.00	0.00
50.00		1048.19	1481.94	0.00	0.00
55.00		1058.42	1467.39	0.00	0.00
60.00		1066.77	1452.83	0.00	0.00
65.00		1073.49	1438.28	0.00	0.00
70.00		1078.78	1423.72	0.00	0.00
75.00		1093.03	2756.11	0.00	0.00
78.42		747.12	1866.60	0.00	0.00
80.00		345.80	444.06	0.00	0.00
85.00		1098.08	1392.72	0.00	0.00
90.00		1099.16	1378.16	0.00	0.00
95.00		1099.38	1363.61	0.00	0.00
100.00		1098.83	1095.23	0.00	0.00
105.00		1097.56	1083.59	0.00	0.00
110.00		1095.62	1071.94	0.00	0.00
115.00		1093.05	1060.30	0.00	0.00
120.00		1089.91	1048.65	0.00	0.00
125.00	(1) attachments	1490.09	1027.44	0.00	0.00
130.00		500.81	787.44	0.00	0.00
135.00	(1) attachments	1514.43	1027.44	0.00	0.00
140.00		508.69	787.44	0.00	0.00
145.00	(1) attachments	1537.38	1027.44	0.00	0.00
150.00		516.13	787.44	0.00	0.00
155.00	(1) attachments	1559.12	1027.44	0.00	0.00
160.00		523.19	787.44	0.00	0.00
165.00	(1) attachments	1579.78	1027.44	0.00	0.00
167.00	(9) attachments	211.17	491.02	0.00	0.00
170.00		317.95	450.00	0.00	0.00
175.00	(1) attachments	1599.47	990.00	0.00	0.00
177.00	(9) attachments	213.77	476.04	0.00	0.00
180.00		321.80	427.54	0.00	0.00
	Totals:	37,173.16	50,230.77	0.00	0.00

Calculated Forces

Structure: CT04709-S-SBA
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

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

3/20/2017

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Load Case: 1.2D + 1.6W 108 mph Wind

Iterations 21

Dead Load Factor 1.20
Wind Load Factor 1.60



Table with 15 columns: Seg Elev (ft), Pu FY (-) (kips), Vu FX (-) (kips), Tu MY (-) (ft-kips), Mu MZ (ft-kips), Mu MX (ft-kips), Resultant Moment (ft-kips), phi Pn (kips), phi Vn (kips), phi Tn (ft-kips), phi Mn (ft-kips), Total Deflect (in), Rotation Sway (deg), Rotation Twist (deg), Stress Ratio. Rows range from 0.00 to 170.00 ft elevation.

Calculated Forces

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 12
Struct Class: II		



175.00	-0.89	-0.56	0.00	-2.13	0.00	2.13	1099.39	549.69	1339.29	814.32	39.38	-1.849	0.000	0.003
177.00	-0.42	-0.34	0.00	-1.01	0.00	1.01	1099.39	549.69	1339.29	814.32	40.16	-1.849	0.000	0.002
180.00	0.00	-0.32	0.00	0.00	0.00	0.00	1099.39	549.69	1339.29	814.32	41.32	-1.849	0.000	0.000

Wind Loading - Shaft

Structure: CT04709-S-SBA
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

3/20/2017

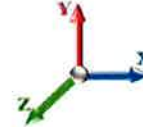
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Load Case: 0.9D + 1.6W 108 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 21

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	24.112	26.52	640.35	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	24.112	26.52	634.29	0.650	0.000	5.00	32.003	20.80	882.8	0.0	1371.7
10.00		1.00	0.85	24.112	26.52	628.23	0.650	0.000	5.00	31.699	20.60	874.4	0.0	1358.6
12.50	Top - Section 1	1.00	0.85	24.112	26.52	625.21	0.650	0.000	2.50	15.735	10.23	434.0	0.0	674.4
15.00		1.00	0.85	24.112	26.52	622.18	0.650	0.000	2.50	15.659	10.18	431.9	0.0	559.7
20.00		1.00	0.90	25.584	28.14	634.65	0.650	0.000	5.00	31.091	20.21	910.0	0.0	1111.3
25.00		1.00	0.95	26.814	29.50	643.34	0.650	0.000	5.00	30.787	20.01	944.4	0.0	1100.4
28.42	Bot - Section 3	1.00	0.97	27.547	30.30	647.66	0.650	0.000	3.42	20.863	13.56	657.5	0.0	745.7
30.00		1.00	0.98	27.863	30.65	649.30	0.650	0.000	1.58	9.704	6.31	309.3	0.0	690.6
35.00		1.00	1.01	28.782	31.66	653.31	0.650	0.000	5.00	30.443	19.79	1002.4	0.0	2166.6
37.50	Top - Section 2	1.00	1.03	29.204	32.12	654.74	0.650	0.000	2.50	15.107	9.82	504.7	0.0	1075.1
40.00		1.00	1.04	29.603	32.56	661.68	0.650	0.000	2.50	15.031	9.77	509.1	0.0	537.2
45.00		1.00	1.07	30.346	33.38	663.14	0.650	0.000	5.00	29.835	19.39	1035.7	0.0	1066.2
50.00		1.00	1.09	31.027	34.13	663.67	0.650	0.000	5.00	29.531	19.19	1048.2	0.0	1055.3
55.00		1.00	1.12	31.656	34.82	663.42	0.650	0.000	5.00	29.227	19.00	1058.4	0.0	1044.4
60.00		1.00	1.14	32.241	35.47	662.52	0.650	0.000	5.00	28.922	18.80	1066.8	0.0	1033.5
65.00		1.00	1.16	32.789	36.07	661.06	0.650	0.000	5.00	28.618	18.60	1073.5	0.0	1022.5
70.00	Bot - Section 4	1.00	1.17	33.305	36.63	659.12	0.650	0.000	5.00	28.314	18.40	1078.8	0.0	1011.6
75.00		1.00	1.19	33.792	37.17	656.76	0.650	0.000	5.00	28.275	18.38	1093.0	0.0	2010.9
78.42	Top - Section 3	1.00	1.20	34.110	37.52	654.92	0.650	0.000	3.42	19.146	12.44	747.1	0.0	1361.6
80.00		1.00	1.21	34.254	37.68	660.29	0.650	0.000	1.58	8.824	5.74	345.8	0.0	315.3
85.00		1.00	1.22	34.694	38.16	657.26	0.650	0.000	5.00	27.666	17.98	1098.1	0.0	988.4
90.00		1.00	1.24	35.114	38.63	653.92	0.650	0.000	5.00	27.362	17.79	1099.2	0.0	977.5
95.00	Top - Section 4	1.00	1.25	35.516	39.07	650.30	0.650	0.000	5.00	27.058	17.59	1099.4	0.0	966.5
100.00		1.00	1.27	35.902	39.49	646.43	0.650	0.000	5.00	26.754	17.39	1098.8	0.0	765.3
105.00		1.00	1.28	36.272	39.90	642.33	0.650	0.000	5.00	26.450	17.19	1097.6	0.0	756.5
110.00		1.00	1.29	36.629	40.29	638.02	0.650	0.000	5.00	26.146	16.99	1095.6	0.0	747.8
115.00		1.00	1.30	36.974	40.67	633.51	0.650	0.000	5.00	25.842	16.80	1093.1	0.0	739.1
120.00	Top - Section 5	1.00	1.32	37.306	41.04	628.82	0.650	0.000	5.00	25.538	16.60	1089.9	0.0	730.3
125.00	Appurtenance(s)	1.00	1.33	37.628	41.39	310.97	0.600	0.000	5.00	12.500	7.50	496.7	0.0	534.4
130.00	Top - Section 6	1.00	1.34	37.940	41.73	312.25	0.600	0.000	5.00	12.500	7.50	500.8	0.0	534.4
135.00	Appurtenance(s)	1.00	1.35	38.243	42.07	313.50	0.600	0.000	5.00	12.500	7.50	504.8	0.0	534.4
140.00	Top - Section 7	1.00	1.36	38.537	42.39	314.70	0.600	0.000	5.00	12.500	7.50	508.7	0.0	534.4
145.00	Appurtenance(s)	1.00	1.37	38.823	42.71	315.86	0.600	0.000	5.00	12.500	7.50	512.5	0.0	534.4
150.00	Top - Section 8	1.00	1.38	39.101	43.01	316.99	0.600	0.000	5.00	12.500	7.50	516.1	0.0	534.4
155.00	Appurtenance(s)	1.00	1.39	39.372	43.31	318.09	0.600	0.000	5.00	12.500	7.50	519.7	0.0	534.4
160.00	Top - Section 9	1.00	1.40	39.636	43.60	319.15	0.600	0.000	5.00	12.500	7.50	523.2	0.0	534.4
165.00	Appurtenance(s)	1.00	1.41	39.893	43.88	320.19	0.600	0.000	5.00	12.500	7.50	526.6	0.0	534.4
167.00	Appurtenance(s)	1.00	1.41	39.995	43.99	320.60	0.600	0.000	2.00	5.000	3.00	211.2	0.0	213.8
170.00	Top - Section 10	1.00	1.42	40.145	44.16	321.20	0.600	0.000	3.00	7.500	4.50	317.9	0.0	320.7
175.00	Appurtenance(s)	1.00	1.42	40.391	44.43	322.18	0.600	0.000	5.00	12.500	7.50	533.2	0.0	534.4
177.00	Appurtenance(s)	1.00	1.43	40.487	44.54	322.57	0.600	0.000	2.00	5.000	3.00	213.8	0.0	213.8
180.00		1.00	1.43	40.631	44.69	323.14	0.600	0.000	3.00	7.500	4.50	321.8	0.0	320.7
Totals:									180.00			30,986.3		34,397.1

Discrete Appurtenance Forces

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 108 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 21

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	177.00	Andrew CBC71921-DF	6	40.487	44.536	1.00	1.00	0.00	41.58	0.000	0.000	0.00	0.00	0.00
2	177.00	Commscope	3	40.487	44.536	1.00	1.00	0.00	90.45	0.000	0.000	0.00	0.00	0.00
3	175.00	10' Canister	1	40.391	44.430	1.00	1.00	15.00	180.00	0.000	0.000	1066.31	0.00	0.00
4	167.00	Andrew CBC71921-DF	6	39.995	43.994	1.00	1.00	0.00	41.58	0.000	0.000	0.00	0.00	0.00
5	167.00	Commscope	3	39.995	43.994	1.00	1.00	0.00	90.45	0.000	0.000	0.00	0.00	0.00
6	165.00	10' Canister	1	39.893	43.883	1.00	1.00	15.00	180.00	0.000	0.000	1053.18	0.00	0.00
7	155.00	10' Canister	1	39.372	43.309	1.00	1.00	15.00	180.00	0.000	0.000	1039.41	0.00	0.00
8	145.00	10' Canister	1	38.823	42.705	1.00	1.00	15.00	180.00	0.000	0.000	1024.92	0.00	0.00
9	135.00	10' Canister	1	38.243	42.067	1.00	1.00	15.00	180.00	0.000	0.000	1009.62	0.00	0.00
10	125.00	10' Canister	1	37.628	41.391	1.00	1.00	15.00	180.00	0.000	0.000	993.39	0.00	0.00
Totals:									1,344.06			6,186.83		

Total Applied Force Summary

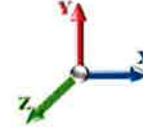
Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 108 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 21

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		882.77	1427.88	0.00	0.00
10.00		874.38	1414.78	0.00	0.00
12.50		434.05	702.48	0.00	0.00
15.00		431.95	587.82	0.00	0.00
20.00		909.96	1167.46	0.00	0.00
25.00		944.40	1156.54	0.00	0.00
28.42		657.47	784.03	0.00	0.00
30.00		309.31	708.42	0.00	0.00
35.00		1002.40	2222.76	0.00	0.00
37.50		504.72	1103.19	0.00	0.00
40.00		509.05	565.28	0.00	0.00
45.00		1035.75	1122.37	0.00	0.00
50.00		1048.19	1111.46	0.00	0.00
55.00		1058.42	1100.54	0.00	0.00
60.00		1066.77	1089.62	0.00	0.00
65.00		1073.49	1078.71	0.00	0.00
70.00		1078.78	1067.79	0.00	0.00
75.00		1093.03	2067.09	0.00	0.00
78.42		747.12	1399.95	0.00	0.00
80.00		345.80	333.05	0.00	0.00
85.00		1098.08	1044.54	0.00	0.00
90.00		1099.16	1033.62	0.00	0.00
95.00		1099.38	1022.70	0.00	0.00
100.00		1098.83	821.42	0.00	0.00
105.00		1097.56	812.69	0.00	0.00
110.00		1095.62	803.96	0.00	0.00
115.00		1093.05	795.22	0.00	0.00
120.00		1089.91	786.49	0.00	0.00
125.00	(1) attachments	1490.09	770.58	0.00	0.00
130.00		500.81	590.58	0.00	0.00
135.00	(1) attachments	1514.43	770.58	0.00	0.00
140.00		508.69	590.58	0.00	0.00
145.00	(1) attachments	1537.38	770.58	0.00	0.00
150.00		516.13	590.58	0.00	0.00
155.00	(1) attachments	1559.12	770.58	0.00	0.00
160.00		523.19	590.58	0.00	0.00
165.00	(1) attachments	1579.78	770.58	0.00	0.00
167.00	(9) attachments	211.17	368.26	0.00	0.00
170.00		317.95	337.50	0.00	0.00
175.00	(1) attachments	1599.47	742.50	0.00	0.00
177.00	(9) attachments	213.77	357.03	0.00	0.00
180.00		321.80	320.65	0.00	0.00
	Totals:	37,173.16	37,673.08	0.00	0.00

Calculated Forces

Structure: CT04709-S-SBA
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

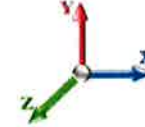
Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

3/20/2017
 Page: 16



Load Case: 0.9D + 1.6W 108 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 21

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-37.65	-37.20	0.00	-3517.6	0.00	3517.60	4943.85	2471.92	15407.0	7714.99	0.00	0.000	0.000	0.464
5.00	-36.17	-36.36	0.00	-3331.6	0.00	3331.62	4928.75	2464.38	15213.3	7617.98	0.04	-0.075	0.000	0.445
10.00	-34.73	-35.52	0.00	-3149.8	0.00	3149.81	4913.05	2456.52	15018.6	7520.48	0.16	-0.148	0.000	0.426
12.50	-34.00	-35.10	0.00	-3061.0	0.00	3061.02	4904.97	2452.48	14920.9	7471.55	0.25	-0.184	0.000	0.417
12.50	-34.00	-35.10	0.00	-3061.0	0.00	3061.02	3549.59	1774.79	10816.1	5416.11	0.25	-0.184	0.000	0.575
15.00	-33.38	-34.70	0.00	-2973.2	0.00	2973.27	3547.98	1773.99	10758.4	5387.22	0.35	-0.219	0.000	0.562
20.00	-32.17	-33.83	0.00	-2799.7	0.00	2799.76	3544.30	1772.15	10641.7	5328.80	0.63	-0.302	0.000	0.535
25.00	-30.98	-32.92	0.00	-2630.6	0.00	2630.60	3540.01	1770.00	10523.5	5269.59	0.99	-0.382	0.000	0.508
28.42	-30.18	-32.27	0.00	-2518.1	0.00	2518.13	3536.73	1768.36	10441.8	5228.68	1.28	-0.435	0.000	0.490
30.00	-29.45	-31.99	0.00	-2467.0	0.00	2467.03	3535.11	1767.55	10403.7	5209.60	1.43	-0.459	0.000	0.482
35.00	-27.20	-30.99	0.00	-2307.1	0.00	2307.10	3529.59	1764.80	10282.4	5148.87	1.95	-0.534	0.000	0.456
37.50	-26.09	-30.49	0.00	-2229.6	0.00	2229.63	3531.70	1765.85	10327.4	5171.40	2.24	-0.570	0.000	0.439
40.00	-25.50	-30.00	0.00	-2153.4	0.00	2153.40	3528.83	1764.41	10266.5	5140.90	2.55	-0.606	0.000	0.426
45.00	-24.35	-28.98	0.00	-2003.4	0.00	2003.41	3522.62	1761.31	10143.6	5079.35	3.22	-0.673	0.000	0.402
50.00	-23.23	-27.94	0.00	-1858.5	0.00	1858.52	3515.80	1757.90	10019.3	5017.12	3.97	-0.738	0.000	0.377
55.00	-22.11	-26.89	0.00	-1718.8	0.00	1718.80	3508.37	1754.19	9893.74	4954.22	4.77	-0.799	0.000	0.353
60.00	-21.01	-25.83	0.00	-1584.3	0.00	1584.34	3500.33	1750.17	9766.87	4890.69	5.64	-0.858	0.000	0.330
65.00	-19.93	-24.76	0.00	-1455.1	0.00	1455.19	3491.68	1745.84	9638.79	4826.56	6.57	-0.913	0.000	0.307
70.00	-18.85	-23.68	0.00	-1331.3	0.00	1331.39	3482.41	1741.21	9509.56	4761.85	7.56	-0.966	0.000	0.285
75.00	-16.79	-22.56	0.00	-1212.9	0.00	1212.99	3472.53	1736.27	9379.22	4696.58	8.60	-1.016	0.000	0.263
78.42	-15.40	-21.80	0.00	-1135.8	0.00	1135.89	3474.42	1737.21	9403.58	4708.78	9.34	-1.048	0.000	0.246
80.00	-15.06	-21.45	0.00	-1101.3	0.00	1101.38	3471.20	1735.60	9362.14	4688.03	9.69	-1.063	0.000	0.239
85.00	-14.02	-20.35	0.00	-994.11	0.00	994.11	3460.63	1730.31	9230.63	4622.18	10.82	-1.105	0.000	0.219
90.00	-13.00	-19.24	0.00	-892.38	0.00	892.38	3449.45	1724.72	9098.13	4555.83	12.00	-1.144	0.000	0.200
95.00	-11.98	-18.12	0.00	-796.21	0.00	796.21	3437.65	1718.83	8964.70	4489.01	13.22	-1.181	0.000	0.181
95.00	-11.98	-18.12	0.00	-796.21	0.00	796.21	2275.57	1137.78	5945.95	2977.39	13.22	-1.181	0.000	0.273
100.00	-11.18	-17.01	0.00	-705.59	0.00	705.59	2276.41	1138.21	5880.40	2944.57	14.48	-1.215	0.000	0.245
105.00	-10.38	-15.91	0.00	-620.52	0.00	620.52	2276.65	1138.32	5813.24	2910.94	15.77	-1.253	0.000	0.218
110.00	-9.59	-14.80	0.00	-541.00	0.00	541.00	2276.27	1138.13	5744.51	2876.53	17.10	-1.288	0.000	0.192
115.00	-8.81	-13.69	0.00	-467.01	0.00	467.01	2275.27	1137.64	5674.29	2841.36	18.47	-1.319	0.000	0.168
120.00	-8.04	-12.59	0.00	-398.55	0.00	398.55	2273.67	1136.84	5602.61	2805.47	19.87	-1.347	0.000	0.146
120.00	-8.04	-12.59	0.00	-398.55	0.00	398.55	1099.39	549.69	1339.29	814.32	19.87	-1.347	0.000	0.497
125.00	-7.30	-11.09	0.00	-335.61	0.00	335.61	1099.39	549.69	1339.29	814.32	21.29	-1.371	0.000	0.419
130.00	-6.70	-10.59	0.00	-280.16	0.00	280.16	1099.39	549.69	1339.29	814.32	22.79	-1.485	0.000	0.351
130.00	-6.70	-10.59	0.00	-280.16	0.00	280.16	1099.39	549.69	1339.29	814.32	22.79	-1.485	0.000	0.351
135.00	-5.96	-9.06	0.00	-227.24	0.00	227.24	1099.39	549.69	1339.29	814.32	24.40	-1.580	0.000	0.285
140.00	-5.37	-8.54	0.00	-181.94	0.00	181.94	1099.39	549.69	1339.29	814.32	26.09	-1.656	0.000	0.229
140.00	-5.37	-8.54	0.00	-181.94	0.00	181.94	1099.39	549.69	1339.29	814.32	26.09	-1.656	0.000	0.229
145.00	-4.64	-6.99	0.00	-139.23	0.00	139.23	1099.39	549.69	1339.29	814.32	27.86	-1.715	0.000	0.175
150.00	-4.06	-6.45	0.00	-104.30	0.00	104.30	1099.39	549.69	1339.29	814.32	29.68	-1.760	0.000	0.132
150.00	-4.06	-6.45	0.00	-104.30	0.00	104.30	1099.39	549.69	1339.29	814.32	29.68	-1.760	0.000	0.132
155.00	-3.34	-4.87	0.00	-72.03	0.00	72.03	1099.39	549.69	1339.29	814.32	31.54	-1.793	0.000	0.092
160.00	-2.76	-4.33	0.00	-47.66	0.00	47.66	1099.39	549.69	1339.29	814.32	33.43	-1.815	0.000	0.061
160.00	-2.76	-4.33	0.00	-47.66	0.00	47.66	1099.39	549.69	1339.29	814.32	33.43	-1.815	0.000	0.061
165.00	-2.04	-2.73	0.00	-25.99	0.00	25.99	1099.39	549.69	1339.29	814.32	35.34	-1.829	0.000	0.034
167.00	-1.68	-2.51	0.00	-20.53	0.00	20.53	1099.39	549.69	1339.29	814.32	36.11	-1.832	0.000	0.027
170.00	-1.35	-2.18	0.00	-13.01	0.00	13.01	1099.39	549.69	1339.29	814.32	37.26	-1.836	0.000	0.017
170.00	-1.35	-2.18	0.00	-13.01	0.00	13.01	1099.39	549.69	1339.29	814.32	37.26	-1.836	0.000	0.017

Calculated Forces

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 17
Struct Class: II		



175.00	-0.66	-0.56	0.00	-2.11	0.00	2.11	1099.39	549.69	1339.29	814.32	39.19	-1.839	0.000	0.003
177.00	-0.31	-0.33	0.00	-1.00	0.00	1.00	1099.39	549.69	1339.29	814.32	39.96	-1.839	0.000	0.002
180.00	0.00	-0.32	0.00	0.00	0.00	0.00	1099.39	549.69	1339.29	814.32	41.11	-1.839	0.000	0.000

Wind Loading - Shaft

Structure: CT04709-S-SBA
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: EIA/TIA-222-G 3/20/2017
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

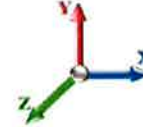
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00

Iterations 20



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	33.038	39.65	225.4	589.4	2418.4
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	32.808	39.37	223.8	626.5	2438.0
12.50	Top - Section 1	1.00	0.85	5.168	5.68	0.00	1.200	1.361	2.50	16.303	19.56	111.2	318.9	1218.1
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	2.50	16.237	19.48	110.8	323.4	1069.7
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	32.280	38.74	233.6	659.6	2141.3
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	32.003	38.40	242.8	668.2	2135.4
28.42	Bot - Section 3	1.00	0.97	5.904	6.49	0.00	1.200	1.478	3.42	21.704	26.05	169.2	459.6	1453.8
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	1.58	10.096	12.11	79.6	215.3	1136.2
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	31.700	38.04	258.1	684.0	3572.8
37.50	Top - Section 2	1.00	1.03	6.259	6.89	0.00	1.200	1.519	2.50	15.740	18.89	130.1	342.7	1776.2
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	2.50	15.669	18.80	131.2	343.3	1059.5
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	31.124	37.35	267.2	687.9	2109.6
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	5.00	30.834	37.00	270.7	688.4	2095.5
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	5.00	30.542	36.65	273.5	688.1	2080.6
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	30.249	36.30	275.9	687.2	2065.1
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	29.956	35.95	277.9	685.7	2049.1
70.00	Bot - Section 4	1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	29.662	35.59	279.5	683.7	2032.5
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	29.632	35.56	283.3	687.6	3368.8
78.42	Top - Section 3	1.00	1.20	7.311	8.04	0.00	1.200	1.636	3.42	20.077	24.09	193.8	468.6	2284.0
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	1.58	9.257	11.11	89.7	216.9	637.2
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	29.040	34.85	285.1	681.7	1999.6
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	28.744	34.49	285.6	678.3	1981.6
95.00	Top - Section 4	1.00	1.25	7.612	8.37	0.00	1.200	1.667	5.00	28.448	34.14	285.8	674.7	1963.4
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	5.00	28.151	33.78	285.9	670.8	1691.1
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	27.853	33.42	285.8	666.6	1675.3
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	5.00	27.556	33.07	285.6	662.3	1659.3
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	27.258	32.71	285.1	657.7	1643.1
120.00	Top - Section 5	1.00	1.32	7.996	8.80	0.00	1.200	1.707	5.00	26.960	32.35	284.6	653.0	1626.8
125.00	Appurtenance(s)	1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	13.928	16.71	148.3	332.0	1044.6
130.00	Top - Section 6	1.00	1.34	8.132	8.95	0.00	1.200	1.720	5.00	13.934	16.72	149.6	333.4	1045.9
135.00	Appurtenance(s)	1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	13.939	16.73	150.8	334.7	1047.3
140.00	Top - Section 7	1.00	1.36	8.260	9.09	0.00	1.200	1.733	5.00	13.944	16.73	152.0	336.0	1048.5
145.00	Appurtenance(s)	1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	13.949	16.74	153.2	337.2	1049.8
150.00	Top - Section 8	1.00	1.38	8.381	9.22	0.00	1.200	1.745	5.00	13.954	16.75	154.4	338.4	1051.0
155.00	Appurtenance(s)	1.00	1.39	8.439	9.28	0.00	1.200	1.751	5.00	13.959	16.75	155.5	339.6	1052.2
160.00	Top - Section 9	1.00	1.40	8.495	9.34	0.00	1.200	1.757	5.00	13.964	16.76	156.6	340.7	1053.3
165.00	Appurtenance(s)	1.00	1.41	8.551	9.41	0.00	1.200	1.762	5.00	13.968	16.76	157.7	341.9	1054.4
167.00	Appurtenance(s)	1.00	1.41	8.572	9.43	0.00	1.200	1.764	2.00	5.588	6.71	63.2	136.9	421.9
170.00	Top - Section 10	1.00	1.42	8.604	9.46	0.00	1.200	1.767	3.00	8.384	10.06	95.2	205.8	633.3
175.00	Appurtenance(s)	1.00	1.42	8.657	9.52	0.00	1.200	1.772	5.00	13.977	16.77	159.7	344.0	1056.5
177.00	Appurtenance(s)	1.00	1.43	8.678	9.55	0.00	1.200	1.774	2.00	5.591	6.71	64.0	137.8	422.8
180.00		1.00	1.43	8.709	9.58	0.00	1.200	1.777	3.00	8.389	10.07	96.4	207.0	634.5
Totals:									180.00			8,267.4	65,998.0	

Discrete Appurtenance Forces

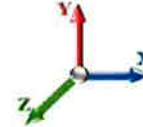
Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 19
	Struct Class: II	



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 20

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	177.00	Andrew CBC71921-DF	6	8.678	9.546	1.00	1.00	0.00	112.30	0.000	0.000	0.00	0.00	0.00
2	177.00	Commscope	3	8.678	9.546	1.00	1.00	20.94	605.23	0.000	0.000	199.88	0.00	0.00
3	175.00	10' Canister	1	8.657	9.523	1.00	1.00	17.13	510.89	0.000	0.000	163.10	0.00	0.00
4	167.00	Andrew CBC71921-DF	6	8.572	9.429	1.00	1.00	0.00	111.84	0.000	0.000	0.00	0.00	0.00
5	167.00	Commscope	3	8.572	9.429	1.00	1.00	20.92	601.85	0.000	0.000	197.25	0.00	0.00
6	165.00	10' Canister	1	8.551	9.406	1.00	1.00	17.11	510.48	0.000	0.000	160.97	0.00	0.00
7	155.00	10' Canister	1	8.439	9.283	1.00	1.00	17.10	510.04	0.000	0.000	158.74	0.00	0.00
8	145.00	10' Canister	1	8.321	9.153	1.00	1.00	17.09	509.57	0.000	0.000	156.40	0.00	0.00
9	135.00	10' Canister	1	8.197	9.016	1.00	1.00	17.07	509.08	0.000	0.000	153.93	0.00	0.00
10	125.00	10' Canister	1	8.065	8.872	1.00	1.00	17.06	508.55	0.000	0.000	151.32	0.00	0.00
Totals:									4,489.82			1,341.59		

Total Applied Force Summary

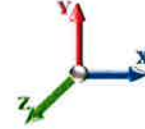
Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 20

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 20

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		225.38	2493.25	0.00	0.00
10.00		223.81	2512.88	0.00	0.00
12.50		111.21	1255.57	0.00	0.00
15.00		110.77	1107.12	0.00	0.00
20.00		233.65	2216.20	0.00	0.00
25.00		242.78	2210.31	0.00	0.00
28.42		169.16	1504.93	0.00	0.00
30.00		79.59	1159.87	0.00	0.00
35.00		258.14	3647.65	0.00	0.00
37.50		130.05	1813.63	0.00	0.00
40.00		131.23	1096.97	0.00	0.00
45.00		267.22	2184.44	0.00	0.00
50.00		270.66	2170.36	0.00	0.00
55.00		273.54	2155.50	0.00	0.00
60.00		275.93	2140.00	0.00	0.00
65.00		277.89	2123.93	0.00	0.00
70.00		279.49	2107.39	0.00	0.00
75.00		283.29	3443.67	0.00	0.00
78.42		193.76	2335.18	0.00	0.00
80.00		89.71	660.92	0.00	0.00
85.00		285.05	2074.44	0.00	0.00
90.00		285.56	2056.50	0.00	0.00
95.00		285.85	2038.28	0.00	0.00
100.00		285.94	1765.99	0.00	0.00
105.00		285.84	1750.20	0.00	0.00
110.00		285.57	1734.20	0.00	0.00
115.00		285.14	1718.01	0.00	0.00
120.00		284.56	1701.64	0.00	0.00
125.00	(1) attachments	299.59	1627.98	0.00	0.00
130.00		149.57	1120.81	0.00	0.00
135.00	(1) attachments	304.75	1631.21	0.00	0.00
140.00		152.03	1123.42	0.00	0.00
145.00	(1) attachments	309.62	1634.24	0.00	0.00
150.00		154.37	1125.88	0.00	0.00
155.00	(1) attachments	314.23	1637.09	0.00	0.00
160.00		156.59	1128.19	0.00	0.00
165.00	(1) attachments	318.63	1639.78	0.00	0.00
167.00	(9) attachments	260.48	1165.58	0.00	0.00
170.00		95.22	655.76	0.00	0.00
175.00	(1) attachments	322.81	1604.88	0.00	0.00
177.00	(9) attachments	263.93	1155.29	0.00	0.00
180.00		96.43	634.54	0.00	0.00
	Totals:	9,609.01	73,063.66	0.00	0.00

Calculated Forces

Structure: CT04709-S-SBA
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

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

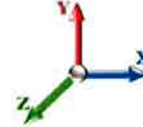
3/20/2017
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 20

Dead Load Factor 1.20
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-73.06	-9.62	0.00	-930.51	0.00	930.51	4943.85	2471.92	15407.0	7714.99	0.00	0.000	0.000	0.135
5.00	-70.57	-9.42	0.00	-882.41	0.00	882.41	4928.75	2464.38	15213.3	7617.98	0.01	-0.020	0.000	0.130
10.00	-68.05	-9.21	0.00	-835.31	0.00	835.31	4913.05	2456.52	15018.6	7520.48	0.04	-0.039	0.000	0.125
12.50	-66.79	-9.11	0.00	-812.29	0.00	812.29	4904.97	2452.48	14920.9	7471.55	0.07	-0.049	0.000	0.122
12.50	-66.79	-9.11	0.00	-812.29	0.00	812.29	3549.59	1774.79	10816.1	5416.11	0.07	-0.049	0.000	0.169
15.00	-65.68	-9.02	0.00	-789.51	0.00	789.51	3547.98	1773.99	10758.4	5387.22	0.09	-0.058	0.000	0.165
20.00	-63.46	-8.80	0.00	-744.43	0.00	744.43	3544.30	1772.15	10641.7	5328.80	0.17	-0.080	0.000	0.158
25.00	-61.25	-8.58	0.00	-700.41	0.00	700.41	3540.01	1770.00	10523.5	5269.59	0.26	-0.101	0.000	0.150
28.42	-59.75	-8.42	0.00	-671.11	0.00	671.11	3536.73	1768.36	10441.8	5228.68	0.34	-0.115	0.000	0.145
30.00	-58.58	-8.35	0.00	-657.78	0.00	657.78	3535.11	1767.55	10403.7	5209.60	0.38	-0.122	0.000	0.143
35.00	-54.94	-8.09	0.00	-616.05	0.00	616.05	3529.59	1764.80	10282.4	5148.87	0.52	-0.142	0.000	0.135
37.50	-53.12	-7.97	0.00	-595.81	0.00	595.81	3531.70	1765.85	10327.4	5171.40	0.60	-0.152	0.000	0.130
40.00	-52.02	-7.85	0.00	-575.89	0.00	575.89	3528.83	1764.41	10266.5	5140.90	0.68	-0.161	0.000	0.127
45.00	-49.84	-7.59	0.00	-536.65	0.00	536.65	3522.62	1761.31	10143.6	5079.35	0.86	-0.179	0.000	0.120
50.00	-47.66	-7.33	0.00	-498.71	0.00	498.71	3515.80	1757.90	10019.3	5017.12	1.05	-0.196	0.000	0.113
55.00	-45.51	-7.06	0.00	-462.09	0.00	462.09	3508.37	1754.19	9893.74	4954.22	1.27	-0.213	0.000	0.106
60.00	-43.37	-6.78	0.00	-426.80	0.00	426.80	3500.33	1750.17	9766.87	4890.69	1.50	-0.229	0.000	0.100
65.00	-41.24	-6.51	0.00	-392.88	0.00	392.88	3491.68	1745.84	9638.79	4826.56	1.75	-0.244	0.000	0.093
70.00	-39.14	-6.23	0.00	-360.35	0.00	360.35	3482.41	1741.21	9509.56	4761.85	2.01	-0.258	0.000	0.087
75.00	-35.69	-5.94	0.00	-329.20	0.00	329.20	3472.53	1736.27	9379.22	4696.58	2.29	-0.271	0.000	0.080
78.42	-33.36	-5.74	0.00	-308.92	0.00	308.92	3474.42	1737.21	9403.58	4708.78	2.49	-0.280	0.000	0.075
80.00	-32.70	-5.65	0.00	-299.84	0.00	299.84	3471.20	1735.60	9362.14	4688.03	2.58	-0.284	0.000	0.073
85.00	-30.62	-5.36	0.00	-271.61	0.00	271.61	3460.63	1730.31	9230.63	4622.18	2.88	-0.296	0.000	0.068
90.00	-28.57	-5.07	0.00	-244.82	0.00	244.82	3449.45	1724.72	9098.13	4555.83	3.20	-0.307	0.000	0.062
95.00	-26.53	-4.77	0.00	-219.49	0.00	219.49	3437.65	1718.83	8964.70	4489.01	3.53	-0.317	0.000	0.057
95.00	-26.53	-4.77	0.00	-219.49	0.00	219.49	2275.57	1137.78	5945.95	2977.39	3.53	-0.317	0.000	0.085
100.00	-24.76	-4.48	0.00	-195.63	0.00	195.63	2276.41	1138.21	5880.40	2944.57	3.86	-0.326	0.000	0.077
105.00	-23.01	-4.19	0.00	-173.22	0.00	173.22	2276.65	1138.32	5813.24	2910.94	4.21	-0.337	0.000	0.070
110.00	-21.28	-3.90	0.00	-152.27	0.00	152.27	2276.27	1138.13	5744.51	2876.53	4.57	-0.346	0.000	0.062
115.00	-19.56	-3.60	0.00	-132.78	0.00	132.78	2275.27	1137.64	5674.29	2841.36	4.94	-0.355	0.000	0.055
120.00	-17.86	-3.31	0.00	-114.76	0.00	114.76	2273.67	1136.84	5602.61	2805.47	5.31	-0.363	0.000	0.049
120.00	-17.86	-3.31	0.00	-114.76	0.00	114.76	1099.39	549.69	1339.29	814.32	5.31	-0.363	0.000	0.157
125.00	-16.24	-3.01	0.00	-98.20	0.00	98.20	1099.39	549.69	1339.29	814.32	5.70	-0.370	0.000	0.135
130.00	-15.12	-2.86	0.00	-83.16	0.00	83.16	1099.39	549.69	1339.29	814.32	6.10	-0.404	0.000	0.116
130.00	-15.12	-2.86	0.00	-83.16	0.00	83.16	1099.39	549.69	1339.29	814.32	6.10	-0.404	0.000	0.116
135.00	-13.49	-2.55	0.00	-68.86	0.00	68.86	1099.39	549.69	1339.29	814.32	6.54	-0.432	0.000	0.097
140.00	-12.36	-2.39	0.00	-56.12	0.00	56.12	1099.39	549.69	1339.29	814.32	7.01	-0.455	0.000	0.080
140.00	-12.36	-2.39	0.00	-56.12	0.00	56.12	1099.39	549.69	1339.29	814.32	7.01	-0.455	0.000	0.080
145.00	-10.73	-2.07	0.00	-44.16	0.00	44.16	1099.39	549.69	1339.29	814.32	7.49	-0.474	0.000	0.064
150.00	-9.60	-1.91	0.00	-33.80	0.00	33.80	1099.39	549.69	1339.29	814.32	8.00	-0.488	0.000	0.050
150.00	-9.60	-1.91	0.00	-33.80	0.00	33.80	1099.39	549.69	1339.29	814.32	8.00	-0.488	0.000	0.050
155.00	-7.97	-1.58	0.00	-24.25	0.00	24.25	1099.39	549.69	1339.29	814.32	8.52	-0.499	0.000	0.037
160.00	-6.84	-1.42	0.00	-16.33	0.00	16.33	1099.39	549.69	1339.29	814.32	9.04	-0.507	0.000	0.026
160.00	-6.84	-1.42	0.00	-16.33	0.00	16.33	1099.39	549.69	1339.29	814.32	9.04	-0.507	0.000	0.026
165.00	-5.21	-1.09	0.00	-9.24	0.00	9.24	1099.39	549.69	1339.29	814.32	9.58	-0.511	0.000	0.016
167.00	-4.04	-0.81	0.00	-7.07	0.00	7.07	1099.39	549.69	1339.29	814.32	9.79	-0.513	0.000	0.012
170.00	-3.39	-0.71	0.00	-4.63	0.00	4.63	1099.39	549.69	1339.29	814.32	10.11	-0.514	0.000	0.009
170.00	-3.39	-0.71	0.00	-4.63	0.00	4.63	1099.39	549.69	1339.29	814.32	10.11	-0.514	0.000	0.009

Calculated Forces

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 22
	Struct Class: II	



175.00	-1.79	-0.38	0.00	-1.06	0.00	1.06	1099.39	549.69	1339.29	814.32	10.65	-0.515	0.000	0.003
177.00	-0.63	-0.10	0.00	-0.31	0.00	0.31	1099.39	549.69	1339.29	814.32	10.87	-0.515	0.000	0.001
180.00	0.00	-0.10	0.00	0.00	0.00	0.00	1099.39	549.69	1339.29	814.32	11.19	-0.515	0.000	0.000

Seismic Segment Forces (Factored)

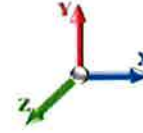
Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E

Gust Response Factor	1.10	Sds	0.17	Iterations	19
Dead Load Factor	1.20	Seismic Load Factor	1.00	Ss	0.16
Wind Load Factor	0.00	Structure Frequency	0.52	S1	0.06
		SA	0.05	Seismic Importance Factor	1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1524.1	0.00	0.03	0.02	15.95	
10.00		1509.5	0.01	0.05	0.03	25.02	
12.50	Top - Section 1	749.33	0.01	0.05	0.03	13.96	
15.00		621.94	0.01	0.06	0.03	12.57	
20.00		1234.7	0.02	0.07	0.04	27.68	
25.00		1222.6	0.04	0.07	0.04	29.10	
28.42	Bot - Section 3	828.50	0.05	0.07	0.04	20.28	
30.00		767.38	0.05	0.07	0.04	18.99	
35.00		2407.3	0.07	0.07	0.04	61.40	
37.50	Top - Section 2	1194.5	0.08	0.07	0.04	30.89	
40.00		596.89	0.09	0.07	0.04	15.64	
45.00		1184.6	0.12	0.07	0.03	31.82	
50.00		1172.5	0.15	0.07	0.03	32.21	
55.00		1160.4	0.18	0.07	0.03	32.39	
60.00		1148.2	0.21	0.06	0.02	32.22	
65.00		1136.1	0.25	0.06	0.02	31.48	
70.00	Bot - Section 4	1124.0	0.29	0.05	0.01	29.97	
75.00		2234.3	0.33	0.04	0.01	55.23	
78.42	Top - Section 3	1512.8	0.36	0.03	0.01	34.46	
80.00		350.29	0.37	0.03	0.01	7.60	
85.00		1098.2	0.42	0.01	0.01	19.27	
90.00		1086.0	0.47	-0.01	0.01	13.40	
95.00	Top - Section 4	1073.9	0.53	-0.03	0.01	6.79	
100.00		850.29	0.58	-0.05	0.01	0.00	
105.00		840.59	0.64	-0.07	0.02	-5.05	
110.00		830.88	0.71	-0.09	0.03	-9.11	
115.00		821.18	0.77	-0.11	0.05	-11.66	
120.00	Top - Section 5	811.48	0.84	-0.12	0.07	-12.28	
125.00	Appurtenance(s)	793.80	0.91	-0.12	0.09	-10.60	
130.00	Top - Section 6	593.80	0.99	-0.11	0.12	-5.10	
135.00	Appurtenance(s)	793.80	1.06	-0.09	0.17	-0.55	
140.00	Top - Section 7	593.80	1.14	-0.04	0.21	6.21	
145.00	Appurtenance(s)	793.80	1.23	0.03	0.27	19.76	
150.00	Top - Section 8	593.80	1.31	0.14	0.35	25.33	
155.00	Appurtenance(s)	793.80	1.40	0.29	0.43	50.62	
160.00	Top - Section 9	593.80	1.49	0.48	0.53	52.42	
165.00	Appurtenance(s)	793.80	1.59	0.74	0.65	92.24	
167.00	Appurtenance(s)	384.22	1.63	0.86	0.71	49.31	
170.00	Top - Section 10	356.28	1.69	1.07	0.79	52.58	
175.00	Appurtenance(s)	793.80	1.79	1.48	0.95	144.86	
177.00	Appurtenance(s)	384.22	1.83	1.67	1.03	75.86	
180.00		356.28	1.89	1.98	1.14	78.72	
Totals:		39,712.4				1,191.9	Total Wind: 37,173.2

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

Calculated Forces

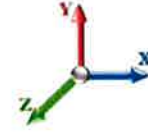
Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E

Gust Response Factor 1.10	Sds 0.17	Iterations 19
Dead Load Factor 1.20	Seismic Load Factor 1.00	Ss 0.16
Wind Load Factor 0.00	Structure Frequency 0.52	Sd1 0.09
	SA 0.05	Seismic Importance Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-50.23	-1.25	0.00	-140.18	0.00	140.18	4943.85	2471.92	15407.0	7714.99	0.00	0.00	0.00	0.028
5.00	-48.33	-1.23	0.00	-133.94	0.00	133.94	4928.75	2464.38	15213.3	7617.98	0.00	0.00	0.00	0.027
10.00	-46.44	-1.21	0.00	-127.77	0.00	127.77	4913.05	2456.52	15018.6	7520.48	0.01	-0.01	-0.01	0.026
12.50	-45.50	-1.20	0.00	-124.75	0.00	124.75	4904.97	2452.48	14920.9	7471.55	0.01	-0.01	-0.01	0.026
12.50	-45.50	-1.20	0.00	-124.75	0.00	124.75	3549.59	1774.79	10816.1	5416.11	0.01	-0.01	-0.01	0.036
15.00	-44.72	-1.19	0.00	-121.76	0.00	121.76	3547.98	1773.99	10758.4	5387.22	0.01	-0.01	-0.01	0.035
20.00	-43.16	-1.16	0.00	-115.82	0.00	115.82	3544.30	1772.15	10641.7	5328.80	0.03	-0.01	-0.01	0.034
25.00	-41.62	-1.13	0.00	-110.02	0.00	110.02	3540.01	1770.00	10523.5	5269.59	0.04	-0.02	-0.02	0.033
28.42	-40.58	-1.11	0.00	-106.15	0.00	106.15	3536.73	1768.36	10441.8	5228.68	0.05	-0.02	-0.02	0.032
30.00	-39.63	-1.10	0.00	-104.38	0.00	104.38	3535.11	1767.55	10403.7	5209.60	0.06	-0.02	-0.02	0.031
35.00	-36.67	-1.04	0.00	-98.90	0.00	98.90	3529.59	1764.80	10282.4	5148.87	0.08	-0.02	-0.02	0.030
37.50	-35.20	-1.00	0.00	-96.31	0.00	96.31	3531.70	1765.85	10327.4	5171.40	0.09	-0.02	-0.02	0.029
40.00	-34.44	-0.99	0.00	-93.80	0.00	93.80	3528.83	1764.41	10266.5	5140.90	0.10	-0.03	-0.03	0.028
45.00	-32.95	-0.96	0.00	-88.85	0.00	88.85	3522.62	1761.31	10143.6	5079.35	0.13	-0.03	-0.03	0.027
50.00	-31.46	-0.93	0.00	-84.05	0.00	84.05	3515.80	1757.90	10019.3	5017.12	0.16	-0.03	-0.03	0.026
55.00	-30.00	-0.90	0.00	-79.42	0.00	79.42	3508.37	1754.19	9893.74	4954.22	0.20	-0.03	-0.03	0.025
60.00	-28.54	-0.86	0.00	-74.93	0.00	74.93	3500.33	1750.17	9766.87	4890.69	0.23	-0.04	-0.04	0.023
65.00	-27.11	-0.83	0.00	-70.61	0.00	70.61	3491.68	1745.84	9638.79	4826.56	0.27	-0.04	-0.04	0.022
70.00	-25.68	-0.80	0.00	-66.45	0.00	66.45	3482.41	1741.21	9509.56	4761.85	0.32	-0.04	-0.04	0.021
75.00	-22.93	-0.75	0.00	-62.43	0.00	62.43	3472.53	1736.27	9379.22	4696.58	0.36	-0.04	-0.04	0.020
78.42	-21.06	-0.71	0.00	-59.88	0.00	59.88	3474.42	1737.21	9403.58	4708.78	0.39	-0.05	-0.05	0.019
80.00	-20.62	-0.70	0.00	-58.75	0.00	58.75	3471.20	1735.60	9362.14	4688.03	0.41	-0.05	-0.05	0.018
85.00	-19.22	-0.68	0.00	-55.23	0.00	55.23	3460.63	1730.31	9230.63	4622.18	0.46	-0.05	-0.05	0.018
90.00	-17.84	-0.67	0.00	-51.81	0.00	51.81	3449.45	1724.72	9098.13	4555.83	0.51	-0.05	-0.05	0.017
95.00	-16.48	-0.66	0.00	-48.46	0.00	48.46	3437.65	1718.83	8964.70	4489.01	0.57	-0.05	-0.05	0.016
95.00	-16.48	-0.66	0.00	-48.46	0.00	48.46	2275.57	1137.78	5945.95	2977.39	0.57	-0.05	-0.05	0.024
100.00	-15.39	-0.66	0.00	-45.14	0.00	45.14	2276.41	1138.21	5880.40	2944.57	0.62	-0.06	-0.06	0.022
105.00	-14.30	-0.66	0.00	-41.83	0.00	41.83	2276.65	1138.32	5813.24	2910.94	0.68	-0.06	-0.06	0.021
110.00	-13.23	-0.66	0.00	-38.52	0.00	38.52	2276.27	1138.13	5744.51	2876.53	0.75	-0.06	-0.06	0.019
115.00	-12.17	-0.66	0.00	-35.21	0.00	35.21	2275.27	1137.64	5674.29	2841.36	0.81	-0.06	-0.06	0.018
120.00	-11.12	-0.66	0.00	-31.91	0.00	31.91	2273.67	1136.84	5602.61	2805.47	0.88	-0.06	-0.06	0.016
120.00	-11.12	-0.66	0.00	-31.91	0.00	31.91	1099.39	549.69	1339.29	814.32	0.88	-0.06	-0.06	0.049
125.00	-10.09	-0.66	0.00	-28.60	0.00	28.60	1099.39	549.69	1339.29	814.32	0.95	-0.07	-0.07	0.044
130.00	-9.31	-0.66	0.00	-25.30	0.00	25.30	1099.39	549.69	1339.29	814.32	1.02	-0.08	-0.08	0.040
130.00	-9.31	-0.66	0.00	-25.30	0.00	25.30	1099.39	549.69	1339.29	814.32	1.02	-0.08	-0.08	0.040
135.00	-8.28	-0.66	0.00	-22.00	0.00	22.00	1099.39	549.69	1339.29	814.32	1.11	-0.09	-0.09	0.035
140.00	-7.49	-0.65	0.00	-18.70	0.00	18.70	1099.39	549.69	1339.29	814.32	1.20	-0.09	-0.09	0.030
140.00	-7.49	-0.65	0.00	-18.70	0.00	18.70	1099.39	549.69	1339.29	814.32	1.20	-0.09	-0.09	0.030
145.00	-6.46	-0.63	0.00	-15.43	0.00	15.43	1099.39	549.69	1339.29	814.32	1.30	-0.10	-0.10	0.025
150.00	-5.68	-0.61	0.00	-12.26	0.00	12.26	1099.39	549.69	1339.29	814.32	1.41	-0.10	-0.10	0.020
150.00	-5.68	-0.61	0.00	-12.26	0.00	12.26	1099.39	549.69	1339.29	814.32	1.41	-0.10	-0.10	0.020
155.00	-4.65	-0.55	0.00	-9.23	0.00	9.23	1099.39	549.69	1339.29	814.32	1.52	-0.11	-0.11	0.016
160.00	-3.86	-0.50	0.00	-6.45	0.00	6.45	1099.39	549.69	1339.29	814.32	1.64	-0.11	-0.11	0.011
160.00	-3.86	-0.50	0.00	-6.45	0.00	6.45	1099.39	549.69	1339.29	814.32	1.64	-0.11	-0.11	0.011
165.00	-2.83	-0.41	0.00	-3.95	0.00	3.95	1099.39	549.69	1339.29	814.32	1.75	-0.11	-0.11	0.007
167.00	-2.34	-0.36	0.00	-3.14	0.00	3.14	1099.39	549.69	1339.29	814.32	1.80	-0.11	-0.11	0.006
170.00	-1.89	-0.30	0.00	-2.07	0.00	2.07	1099.39	549.69	1339.29	814.32	1.87	-0.11	-0.11	0.004

Calculated Forces

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 25



170.00	-1.89	-0.30	0.00	-2.07	0.00	2.07	1099.39	549.69	1339.29	814.32	1.87	-0.11	0.004
175.00	-0.90	-0.16	0.00	-0.55	0.00	0.55	1099.39	549.69	1339.29	814.32	1.99	-0.12	0.001
177.00	-0.43	-0.08	0.00	-0.24	0.00	0.24	1099.39	549.69	1339.29	814.32	2.04	-0.12	0.001
180.00	0.00	-0.08	0.00	0.00	0.00	0.00	1099.39	549.69	1339.29	814.32	2.12	-0.12	0.000

Seismic Segment Forces (Factored)

Structure: CT04709-S-SBA
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

3/20/2017

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Load Case: 0.9D + 1.0E

Gust Response Factor 1.10

Dead Load Factor 0.90

Wind Load Factor 0.00

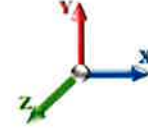
Seismic Load Factor 1.00

Structure Frequency 0.52

Sds 0.17

Sd1 0.09

SA 0.05



Iterations 19

Ss 0.16

S1 0.06

Seismic Importance Factor 1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1524.1	0.00	0.03	0.02	15.95	
10.00		1509.5	0.01	0.05	0.03	25.02	
12.50	Top - Section 1	749.33	0.01	0.05	0.03	13.96	
15.00		621.94	0.01	0.06	0.03	12.57	
20.00		1234.7	0.02	0.07	0.04	27.68	
25.00		1222.6	0.04	0.07	0.04	29.10	
28.42	Bot - Section 3	828.50	0.05	0.07	0.04	20.28	
30.00		767.38	0.05	0.07	0.04	18.99	
35.00		2407.3	0.07	0.07	0.04	61.40	
37.50	Top - Section 2	1194.5	0.08	0.07	0.04	30.89	
40.00		596.89	0.09	0.07	0.04	15.64	
45.00		1184.6	0.12	0.07	0.03	31.82	
50.00		1172.5	0.15	0.07	0.03	32.21	
55.00		1160.4	0.18	0.07	0.03	32.39	
60.00		1148.2	0.21	0.06	0.02	32.22	
65.00		1136.1	0.25	0.06	0.02	31.48	
70.00	Bot - Section 4	1124.0	0.29	0.05	0.01	29.97	
75.00		2234.3	0.33	0.04	0.01	55.23	
78.42	Top - Section 3	1512.8	0.36	0.03	0.01	34.46	
80.00		350.29	0.37	0.03	0.01	7.60	
85.00		1098.2	0.42	0.01	0.01	19.27	
90.00		1086.0	0.47	-0.01	0.01	13.40	
95.00	Top - Section 4	1073.9	0.53	-0.03	0.01	6.79	
100.00		850.29	0.58	-0.05	0.01	0.00	
105.00		840.59	0.64	-0.07	0.02	-5.05	
110.00		830.88	0.71	-0.09	0.03	-9.11	
115.00		821.18	0.77	-0.11	0.05	-11.66	
120.00	Top - Section 5	811.48	0.84	-0.12	0.07	-12.28	
125.00	Appurtenance(s)	793.80	0.91	-0.12	0.09	-10.60	
130.00	Top - Section 6	593.80	0.99	-0.11	0.12	-5.10	
135.00	Appurtenance(s)	793.80	1.06	-0.09	0.17	-0.55	
140.00	Top - Section 7	593.80	1.14	-0.04	0.21	6.21	
145.00	Appurtenance(s)	793.80	1.23	0.03	0.27	19.76	
150.00	Top - Section 8	593.80	1.31	0.14	0.35	25.33	
155.00	Appurtenance(s)	793.80	1.40	0.29	0.43	50.62	
160.00	Top - Section 9	593.80	1.49	0.48	0.53	52.42	
165.00	Appurtenance(s)	793.80	1.59	0.74	0.65	92.24	
167.00	Appurtenance(s)	384.22	1.63	0.86	0.71	49.31	
170.00	Top - Section 10	356.28	1.69	1.07	0.79	52.58	
175.00	Appurtenance(s)	793.80	1.79	1.48	0.95	144.86	
177.00	Appurtenance(s)	384.22	1.83	1.67	1.03	75.86	
180.00		356.28	1.89	1.98	1.14	78.72	
Totals:		39,712.4				1,191.9	Total Wind: 37,173.2

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

Calculated Forces

Structure: CT04709-S-SBA
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

3/20/2017

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Load Case: 0.9D + 1.0E

Iterations 19

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 0.90

Seismic Load Factor 1.00

Sd1 0.09

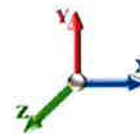
S1 0.06

Wind Load Factor 0.00

Structure Frequency 0.52

SA 0.05

Seismic Importance Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-37.67	-1.25	0.00	-139.60	0.00	139.60	4943.85	2471.92	15407.0	7714.99	0.00	0.00	0.00	0.026
5.00	-36.25	-1.23	0.00	-133.37	0.00	133.37	4928.75	2464.38	15213.3	7617.98	0.00	0.00	0.00	0.025
10.00	-34.83	-1.21	0.00	-127.21	0.00	127.21	4913.05	2456.52	15018.6	7520.48	0.01	-0.01	0.00	0.024
12.50	-34.13	-1.20	0.00	-124.19	0.00	124.19	4904.97	2452.48	14920.9	7471.55	0.01	-0.01	0.00	0.024
12.50	-34.13	-1.20	0.00	-124.19	0.00	124.19	3549.59	1774.79	10816.1	5416.11	0.01	-0.01	0.00	0.033
15.00	-33.54	-1.18	0.00	-121.20	0.00	121.20	3547.98	1773.99	10758.4	5387.22	0.01	-0.01	0.00	0.032
20.00	-32.37	-1.16	0.00	-115.28	0.00	115.28	3544.30	1772.15	10641.7	5328.80	0.03	-0.01	0.00	0.031
25.00	-31.22	-1.13	0.00	-109.49	0.00	109.49	3540.01	1770.00	10523.5	5269.59	0.04	-0.02	0.00	0.030
28.42	-30.43	-1.11	0.00	-105.62	0.00	105.62	3536.73	1768.36	10441.8	5228.68	0.05	-0.02	0.00	0.029
30.00	-29.72	-1.09	0.00	-103.86	0.00	103.86	3535.11	1767.55	10403.7	5209.60	0.06	-0.02	0.00	0.028
35.00	-27.50	-1.03	0.00	-98.40	0.00	98.40	3529.59	1764.80	10282.4	5148.87	0.08	-0.02	0.00	0.027
37.50	-26.40	-1.00	0.00	-95.82	0.00	95.82	3531.70	1765.85	10327.4	5171.40	0.09	-0.02	0.00	0.026
40.00	-25.83	-0.99	0.00	-93.32	0.00	93.32	3528.83	1764.41	10266.5	5140.90	0.10	-0.03	0.00	0.025
45.00	-24.71	-0.96	0.00	-88.39	0.00	88.39	3522.62	1761.31	10143.6	5079.35	0.13	-0.03	0.00	0.024
50.00	-23.60	-0.92	0.00	-83.61	0.00	83.61	3515.80	1757.90	10019.3	5017.12	0.16	-0.03	0.00	0.023
55.00	-22.50	-0.89	0.00	-79.00	0.00	79.00	3508.37	1754.19	9893.74	4954.22	0.20	-0.03	0.00	0.022
60.00	-21.41	-0.86	0.00	-74.54	0.00	74.54	3500.33	1750.17	9766.87	4890.69	0.23	-0.04	0.00	0.021
65.00	-20.33	-0.83	0.00	-70.24	0.00	70.24	3491.68	1745.84	9638.79	4826.56	0.27	-0.04	0.00	0.020
70.00	-19.26	-0.80	0.00	-66.10	0.00	66.10	3482.41	1741.21	9509.56	4761.85	0.31	-0.04	0.00	0.019
75.00	-17.19	-0.74	0.00	-62.11	0.00	62.11	3472.53	1736.27	9379.22	4696.58	0.36	-0.04	0.00	0.018
78.42	-15.79	-0.71	0.00	-59.57	0.00	59.57	3474.42	1737.21	9403.58	4708.78	0.39	-0.05	0.00	0.017
80.00	-15.46	-0.70	0.00	-58.45	0.00	58.45	3471.20	1735.60	9362.14	4688.03	0.41	-0.05	0.00	0.017
85.00	-14.42	-0.68	0.00	-54.95	0.00	54.95	3460.63	1730.31	9230.63	4622.18	0.46	-0.05	0.00	0.016
90.00	-13.38	-0.67	0.00	-51.55	0.00	51.55	3449.45	1724.72	9098.13	4555.83	0.51	-0.05	0.00	0.015
95.00	-12.36	-0.66	0.00	-48.22	0.00	48.22	3437.65	1718.83	8964.70	4489.01	0.56	-0.05	0.00	0.014
95.00	-12.36	-0.66	0.00	-48.22	0.00	48.22	2275.57	1137.78	5945.95	2977.39	0.56	-0.05	0.00	0.022
100.00	-11.54	-0.66	0.00	-44.93	0.00	44.93	2276.41	1138.21	5880.40	2944.57	0.62	-0.06	0.00	0.020
105.00	-10.73	-0.66	0.00	-41.63	0.00	41.63	2276.65	1138.32	5813.24	2910.94	0.68	-0.06	0.00	0.019
110.00	-9.92	-0.66	0.00	-38.34	0.00	38.34	2276.27	1138.13	5744.51	2876.53	0.74	-0.06	0.00	0.018
115.00	-9.13	-0.66	0.00	-35.05	0.00	35.05	2275.27	1137.64	5674.29	2841.36	0.81	-0.06	0.00	0.016
120.00	-8.34	-0.66	0.00	-31.76	0.00	31.76	2273.67	1136.84	5602.61	2805.47	0.87	-0.06	0.00	0.015
120.00	-8.34	-0.66	0.00	-31.76	0.00	31.76	1099.39	549.69	1339.29	814.32	0.87	-0.06	0.00	0.047
125.00	-7.57	-0.66	0.00	-28.48	0.00	28.48	1099.39	549.69	1339.29	814.32	0.94	-0.07	0.00	0.042
130.00	-6.98	-0.66	0.00	-25.19	0.00	25.19	1099.39	549.69	1339.29	814.32	1.02	-0.08	0.00	0.037
130.00	-6.98	-0.66	0.00	-25.19	0.00	25.19	1099.39	549.69	1339.29	814.32	1.02	-0.08	0.00	0.037
135.00	-6.21	-0.66	0.00	-21.91	0.00	21.91	1099.39	549.69	1339.29	814.32	1.10	-0.09	0.00	0.033
140.00	-5.62	-0.65	0.00	-18.62	0.00	18.62	1099.39	549.69	1339.29	814.32	1.20	-0.09	0.00	0.028
140.00	-5.62	-0.65	0.00	-18.62	0.00	18.62	1099.39	549.69	1339.29	814.32	1.20	-0.09	0.00	0.028
145.00	-4.85	-0.63	0.00	-15.37	0.00	15.37	1099.39	549.69	1339.29	814.32	1.30	-0.10	0.00	0.023
150.00	-4.26	-0.60	0.00	-12.22	0.00	12.22	1099.39	549.69	1339.29	814.32	1.40	-0.10	0.00	0.019
150.00	-4.26	-0.60	0.00	-12.22	0.00	12.22	1099.39	549.69	1339.29	814.32	1.40	-0.10	0.00	0.019
155.00	-3.49	-0.55	0.00	-9.19	0.00	9.19	1099.39	549.69	1339.29	814.32	1.51	-0.11	0.00	0.014
160.00	-2.90	-0.50	0.00	-6.43	0.00	6.43	1099.39	549.69	1339.29	814.32	1.63	-0.11	0.00	0.011
160.00	-2.90	-0.50	0.00	-6.43	0.00	6.43	1099.39	549.69	1339.29	814.32	1.63	-0.11	0.00	0.011
165.00	-2.13	-0.41	0.00	-3.94	0.00	3.94	1099.39	549.69	1339.29	814.32	1.75	-0.11	0.00	0.007
167.00	-1.76	-0.36	0.00	-3.13	0.00	3.13	1099.39	549.69	1339.29	814.32	1.79	-0.11	0.00	0.005
170.00	-1.42	-0.30	0.00	-2.06	0.00	2.06	1099.39	549.69	1339.29	814.32	1.87	-0.11	0.00	0.004

Calculated Forces

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 28
	Struct Class: II	



170.00	-1.42	-0.30	0.00	-2.06	0.00	2.06	1099.39	549.69	1339.29	814.32	1.87	-0.11	0.004
175.00	-0.68	-0.16	0.00	-0.55	0.00	0.55	1099.39	549.69	1339.29	814.32	1.99	-0.11	0.001
177.00	-0.32	-0.08	0.00	-0.24	0.00	0.24	1099.39	549.69	1339.29	814.32	2.03	-0.11	0.001
180.00	0.00	-0.08	0.00	0.00	0.00	0.00	1099.39	549.69	1339.29	814.32	2.11	-0.11	0.000

Wind Loading - Shaft

Structure: CT04709-S-SBA
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

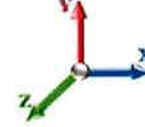
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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 20

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	355.75	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	352.38	0.650	0.000	5.00	32.003	20.80	170.3	0.0	1524.1
10.00		1.00	0.85	7.442	8.19	349.02	0.650	0.000	5.00	31.699	20.60	168.7	0.0	1509.6
12.50	Top - Section 1	1.00	0.85	7.442	8.19	347.34	0.650	0.000	2.50	15.735	10.23	83.7	0.0	749.3
15.00		1.00	0.85	7.442	8.19	345.65	0.650	0.000	2.50	15.659	10.18	83.3	0.0	621.9
20.00		1.00	0.90	7.896	8.69	352.58	0.650	0.000	5.00	31.091	20.21	175.5	0.0	1234.8
25.00		1.00	0.95	8.276	9.10	357.41	0.650	0.000	5.00	30.787	20.01	182.2	0.0	1222.6
28.42	Bot - Section 3	1.00	0.97	8.502	9.35	359.81	0.650	0.000	3.42	20.863	13.56	126.8	0.0	828.5
30.00		1.00	0.98	8.600	9.46	360.72	0.650	0.000	1.58	9.704	6.31	59.7	0.0	767.4
35.00		1.00	1.01	8.883	9.77	362.95	0.650	0.000	5.00	30.443	19.79	193.4	0.0	2407.3
37.50	Top - Section 2	1.00	1.03	9.013	9.91	363.74	0.650	0.000	2.50	15.107	9.82	97.4	0.0	1194.6
40.00		1.00	1.04	9.137	10.05	367.60	0.650	0.000	2.50	15.031	9.77	98.2	0.0	596.9
45.00		1.00	1.07	9.366	10.30	368.41	0.650	0.000	5.00	29.835	19.39	199.8	0.0	1184.7
50.00		1.00	1.09	9.576	10.53	368.70	0.650	0.000	5.00	29.531	19.19	202.2	0.0	1172.6
55.00		1.00	1.12	9.770	10.75	368.57	0.650	0.000	5.00	29.227	19.00	204.2	0.0	1160.4
60.00		1.00	1.14	9.951	10.95	368.07	0.650	0.000	5.00	28.922	18.80	205.8	0.0	1148.3
65.00		1.00	1.16	10.120	11.13	367.26	0.650	0.000	5.00	28.618	18.60	207.1	0.0	1136.2
70.00	Bot - Section 4	1.00	1.17	10.279	11.31	366.18	0.650	0.000	5.00	28.314	18.40	208.1	0.0	1124.0
75.00		1.00	1.19	10.430	11.47	364.87	0.650	0.000	5.00	28.275	18.38	210.8	0.0	2234.4
78.42	Top - Section 3	1.00	1.20	10.528	11.58	363.85	0.650	0.000	3.42	19.146	12.44	144.1	0.0	1512.9
80.00		1.00	1.21	10.572	11.63	366.83	0.650	0.000	1.58	8.824	5.74	66.7	0.0	350.3
85.00		1.00	1.22	10.708	11.78	365.14	0.650	0.000	5.00	27.666	17.98	211.8	0.0	1098.2
90.00		1.00	1.24	10.838	11.92	363.29	0.650	0.000	5.00	27.362	17.79	212.0	0.0	1086.1
95.00	Top - Section 4	1.00	1.25	10.962	12.06	361.28	0.650	0.000	5.00	27.058	17.59	212.1	0.0	1073.9
100.00		1.00	1.27	11.081	12.19	359.13	0.650	0.000	5.00	26.754	17.39	212.0	0.0	850.3
105.00		1.00	1.28	11.195	12.31	356.85	0.650	0.000	5.00	26.450	17.19	211.7	0.0	840.6
110.00		1.00	1.29	11.305	12.44	354.45	0.650	0.000	5.00	26.146	16.99	211.3	0.0	830.9
115.00		1.00	1.30	11.412	12.55	351.95	0.650	0.000	5.00	25.842	16.80	210.9	0.0	821.2
120.00	Top - Section 5	1.00	1.32	11.514	12.67	349.35	0.650	0.000	5.00	25.538	16.60	210.2	0.0	811.5
125.00	Appurtenance(s)	1.00	1.33	11.614	12.78	172.76	0.600	0.000	5.00	12.500	7.50	95.8	0.0	593.8
130.00	Top - Section 6	1.00	1.34	11.710	12.88	173.47	0.600	0.000	5.00	12.500	7.50	96.6	0.0	593.8
135.00	Appurtenance(s)	1.00	1.35	11.803	12.98	174.17	0.600	0.000	5.00	12.500	7.50	97.4	0.0	593.8
140.00	Top - Section 7	1.00	1.36	11.894	13.08	174.83	0.600	0.000	5.00	12.500	7.50	98.1	0.0	593.8
145.00	Appurtenance(s)	1.00	1.37	11.982	13.18	175.48	0.600	0.000	5.00	12.500	7.50	98.9	0.0	593.8
150.00	Top - Section 8	1.00	1.38	12.068	13.27	176.11	0.600	0.000	5.00	12.500	7.50	99.6	0.0	593.8
155.00	Appurtenance(s)	1.00	1.39	12.152	13.37	176.72	0.600	0.000	5.00	12.500	7.50	100.3	0.0	593.8
160.00	Top - Section 9	1.00	1.40	12.233	13.46	177.31	0.600	0.000	5.00	12.500	7.50	100.9	0.0	593.8
165.00	Appurtenance(s)	1.00	1.41	12.313	13.54	177.88	0.600	0.000	5.00	12.500	7.50	101.6	0.0	593.8
167.00	Appurtenance(s)	1.00	1.41	12.344	13.58	178.11	0.600	0.000	2.00	5.000	3.00	40.7	0.0	237.5
170.00	Top - Section 10	1.00	1.42	12.390	13.63	178.44	0.600	0.000	3.00	7.500	4.50	61.3	0.0	356.3
175.00	Appurtenance(s)	1.00	1.42	12.466	13.71	178.99	0.600	0.000	5.00	12.500	7.50	102.8	0.0	593.8
177.00	Appurtenance(s)	1.00	1.43	12.496	13.75	179.20	0.600	0.000	2.00	5.000	3.00	41.2	0.0	237.5
180.00		1.00	1.43	12.540	13.79	179.52	0.600	0.000	3.00	7.500	4.50	62.1	0.0	356.3
Totals:									180.00			5,977.3	38,219.0	

Discrete Appurtenance Forces

Structure: CT04709-S-SBA
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

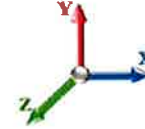
3/20/2017

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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 20

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	177.00	Andrew CBC71921-DF	6	12.496	13.746	1.00	1.00	0.00	46.20	0.000	0.000	0.00	0.00	0.00
2	177.00	Commscope	3	12.496	13.746	1.00	1.00	0.00	100.50	0.000	0.000	0.00	0.00	0.00
3	175.00	10' Canister	1	12.466	13.713	1.00	1.00	15.00	200.00	0.000	0.000	205.69	0.00	0.00
4	167.00	Andrew CBC71921-DF	6	12.344	13.578	1.00	1.00	0.00	46.20	0.000	0.000	0.00	0.00	0.00
5	167.00	Commscope	3	12.344	13.578	1.00	1.00	0.00	100.50	0.000	0.000	0.00	0.00	0.00
6	165.00	10' Canister	1	12.313	13.544	1.00	1.00	15.00	200.00	0.000	0.000	203.16	0.00	0.00
7	155.00	10' Canister	1	12.152	13.367	1.00	1.00	15.00	200.00	0.000	0.000	200.50	0.00	0.00
8	145.00	10' Canister	1	11.982	13.181	1.00	1.00	15.00	200.00	0.000	0.000	197.71	0.00	0.00
9	135.00	10' Canister	1	11.803	12.984	1.00	1.00	15.00	200.00	0.000	0.000	194.76	0.00	0.00
10	125.00	10' Canister	1	11.614	12.775	1.00	1.00	15.00	200.00	0.000	0.000	191.63	0.00	0.00
Totals:									1,493.40			1,193.45		

Total Applied Force Summary

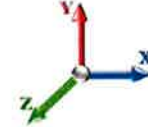
Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 20

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		170.29	1586.53	0.00	0.00
10.00		168.67	1571.98	0.00	0.00
12.50		83.73	780.53	0.00	0.00
15.00		83.32	653.14	0.00	0.00
20.00		175.53	1297.18	0.00	0.00
25.00		182.18	1285.05	0.00	0.00
28.42		126.83	871.14	0.00	0.00
30.00		59.67	787.14	0.00	0.00
35.00		193.36	2469.73	0.00	0.00
37.50		97.36	1225.77	0.00	0.00
40.00		98.20	628.09	0.00	0.00
45.00		199.80	1247.08	0.00	0.00
50.00		202.20	1234.95	0.00	0.00
55.00		204.17	1222.82	0.00	0.00
60.00		205.78	1210.69	0.00	0.00
65.00		207.08	1198.57	0.00	0.00
70.00		208.10	1186.44	0.00	0.00
75.00		210.85	2296.76	0.00	0.00
78.42		144.12	1555.50	0.00	0.00
80.00		66.71	370.05	0.00	0.00
85.00		211.82	1160.60	0.00	0.00
90.00		212.03	1148.47	0.00	0.00
95.00		212.07	1136.34	0.00	0.00
100.00		211.97	912.69	0.00	0.00
105.00		211.72	902.99	0.00	0.00
110.00		211.35	893.28	0.00	0.00
115.00		210.85	883.58	0.00	0.00
120.00		210.25	873.88	0.00	0.00
125.00	(1) attachments	287.44	856.20	0.00	0.00
130.00		96.61	656.20	0.00	0.00
135.00	(1) attachments	292.13	856.20	0.00	0.00
140.00		98.13	656.20	0.00	0.00
145.00	(1) attachments	296.56	856.20	0.00	0.00
150.00		99.56	656.20	0.00	0.00
155.00	(1) attachments	300.76	856.20	0.00	0.00
160.00		100.92	656.20	0.00	0.00
165.00	(1) attachments	304.74	856.20	0.00	0.00
167.00	(9) attachments	40.74	409.18	0.00	0.00
170.00		61.33	375.00	0.00	0.00
175.00	(1) attachments	308.54	825.00	0.00	0.00
177.00	(9) attachments	41.24	396.70	0.00	0.00
180.00		62.07	356.28	0.00	0.00
	Totals:	7,170.75	41,858.97	0.00	0.00

Calculated Forces

Structure: CT04709-S-SBA
Site Name: Stonington 3, CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

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

3/20/2017



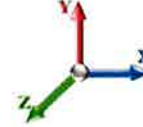
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 20

Dead Load Factor 1.00

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-41.86	-7.18	0.00	-679.37	0.00	679.37	4943.85	2471.92	15407.0	7714.99	0.00	0.000	0.000	0.097
5.00	-40.27	-7.02	0.00	-643.49	0.00	643.49	4928.75	2464.38	15213.3	7617.98	0.01	-0.014	0.000	0.093
10.00	-38.70	-6.85	0.00	-608.41	0.00	608.41	4913.05	2456.52	15018.6	7520.48	0.03	-0.029	0.000	0.089
12.50	-37.92	-6.77	0.00	-591.28	0.00	591.28	4904.97	2452.48	14920.9	7471.55	0.05	-0.036	0.000	0.087
12.50	-37.92	-6.77	0.00	-591.28	0.00	591.28	3549.59	1774.79	10816.1	5416.11	0.05	-0.036	0.000	0.120
15.00	-37.26	-6.70	0.00	-574.35	0.00	574.35	3547.98	1773.99	10758.4	5387.22	0.07	-0.042	0.000	0.117
20.00	-35.96	-6.53	0.00	-540.86	0.00	540.86	3544.30	1772.15	10641.7	5328.80	0.12	-0.058	0.000	0.112
25.00	-34.68	-6.35	0.00	-508.21	0.00	508.21	3540.01	1770.00	10523.5	5269.59	0.19	-0.074	0.000	0.106
28.42	-33.80	-6.23	0.00	-486.50	0.00	486.50	3536.73	1768.36	10441.8	5228.68	0.25	-0.084	0.000	0.103
30.00	-33.02	-6.18	0.00	-476.64	0.00	476.64	3535.11	1767.55	10403.7	5209.60	0.28	-0.089	0.000	0.101
35.00	-30.55	-5.98	0.00	-445.76	0.00	445.76	3529.59	1764.80	10282.4	5148.87	0.38	-0.103	0.000	0.095
37.50	-29.32	-5.89	0.00	-430.80	0.00	430.80	3531.70	1765.85	10327.4	5171.40	0.43	-0.110	0.000	0.092
40.00	-28.69	-5.79	0.00	-416.08	0.00	416.08	3528.83	1764.41	10266.5	5140.90	0.49	-0.117	0.000	0.089
45.00	-27.44	-5.60	0.00	-387.12	0.00	387.12	3522.62	1761.31	10143.6	5079.35	0.62	-0.130	0.000	0.084
50.00	-26.21	-5.40	0.00	-359.14	0.00	359.14	3515.80	1757.90	10019.3	5017.12	0.77	-0.142	0.000	0.079
55.00	-24.98	-5.19	0.00	-332.15	0.00	332.15	3508.37	1754.19	9893.74	4954.22	0.92	-0.154	0.000	0.074
60.00	-23.77	-4.99	0.00	-306.18	0.00	306.18	3500.33	1750.17	9766.87	4890.69	1.09	-0.166	0.000	0.069
65.00	-22.57	-4.78	0.00	-281.23	0.00	281.23	3491.68	1745.84	9638.79	4826.56	1.27	-0.176	0.000	0.065
70.00	-21.39	-4.58	0.00	-257.31	0.00	257.31	3482.41	1741.21	9509.56	4761.85	1.46	-0.187	0.000	0.060
75.00	-19.09	-4.36	0.00	-234.43	0.00	234.43	3472.53	1736.27	9379.22	4696.58	1.66	-0.196	0.000	0.055
78.42	-17.53	-4.21	0.00	-219.54	0.00	219.54	3474.42	1737.21	9403.58	4708.78	1.80	-0.202	0.000	0.052
80.00	-17.16	-4.15	0.00	-212.87	0.00	212.87	3471.20	1735.60	9362.14	4688.03	1.87	-0.205	0.000	0.050
85.00	-16.00	-3.93	0.00	-192.14	0.00	192.14	3460.63	1730.31	9230.63	4622.18	2.09	-0.213	0.000	0.046
90.00	-14.86	-3.72	0.00	-172.49	0.00	172.49	3449.45	1724.72	9098.13	4555.83	2.32	-0.221	0.000	0.042
95.00	-13.72	-3.50	0.00	-153.91	0.00	153.91	3437.65	1718.83	8964.70	4489.01	2.55	-0.228	0.000	0.038
95.00	-13.72	-3.50	0.00	-153.91	0.00	153.91	2275.57	1137.78	5945.95	2977.39	2.55	-0.228	0.000	0.058
100.00	-12.81	-3.29	0.00	-136.40	0.00	136.40	2276.41	1138.21	5880.40	2944.57	2.80	-0.235	0.000	0.052
105.00	-11.91	-3.07	0.00	-119.96	0.00	119.96	2276.65	1138.32	5813.24	2910.94	3.05	-0.242	0.000	0.046
110.00	-11.01	-2.86	0.00	-104.59	0.00	104.59	2276.27	1138.13	5744.51	2876.53	3.30	-0.249	0.000	0.041
115.00	-10.13	-2.65	0.00	-90.29	0.00	90.29	2275.27	1137.64	5674.29	2841.36	3.57	-0.255	0.000	0.036
120.00	-9.26	-2.43	0.00	-77.06	0.00	77.06	2273.67	1136.84	5602.61	2805.47	3.84	-0.260	0.000	0.032
120.00	-9.26	-2.43	0.00	-77.06	0.00	77.06	1099.39	549.69	1339.29	814.32	3.84	-0.260	0.000	0.103
125.00	-8.40	-2.14	0.00	-64.90	0.00	64.90	1099.39	549.69	1339.29	814.32	4.11	-0.265	0.000	0.087
130.00	-7.75	-2.05	0.00	-54.18	0.00	54.18	1099.39	549.69	1339.29	814.32	4.40	-0.287	0.000	0.074
130.00	-7.75	-2.05	0.00	-54.18	0.00	54.18	1099.39	549.69	1339.29	814.32	4.40	-0.287	0.000	0.074
135.00	-6.89	-1.75	0.00	-43.95	0.00	43.95	1099.39	549.69	1339.29	814.32	4.71	-0.305	0.000	0.060
140.00	-6.23	-1.65	0.00	-35.19	0.00	35.19	1099.39	549.69	1339.29	814.32	5.04	-0.320	0.000	0.049
140.00	-6.23	-1.65	0.00	-35.19	0.00	35.19	1099.39	549.69	1339.29	814.32	5.04	-0.320	0.000	0.049
145.00	-5.38	-1.35	0.00	-26.93	0.00	26.93	1099.39	549.69	1339.29	814.32	5.38	-0.331	0.000	0.038
150.00	-4.72	-1.25	0.00	-20.17	0.00	20.17	1099.39	549.69	1339.29	814.32	5.74	-0.340	0.000	0.029
150.00	-4.72	-1.25	0.00	-20.17	0.00	20.17	1099.39	549.69	1339.29	814.32	5.74	-0.340	0.000	0.029
155.00	-3.87	-0.94	0.00	-13.93	0.00	13.93	1099.39	549.69	1339.29	814.32	6.10	-0.347	0.000	0.021
160.00	-3.21	-0.84	0.00	-9.22	0.00	9.22	1099.39	549.69	1339.29	814.32	6.46	-0.351	0.000	0.014
160.00	-3.21	-0.84	0.00	-9.22	0.00	9.22	1099.39	549.69	1339.29	814.32	6.46	-0.351	0.000	0.014
165.00	-2.36	-0.53	0.00	-5.03	0.00	5.03	1099.39	549.69	1339.29	814.32	6.83	-0.354	0.000	0.008
167.00	-1.95	-0.49	0.00	-3.97	0.00	3.97	1099.39	549.69	1339.29	814.32	6.98	-0.354	0.000	0.007
170.00	-1.58	-0.42	0.00	-2.52	0.00	2.52	1099.39	549.69	1339.29	814.32	7.20	-0.355	0.000	0.005
170.00	-1.58	-0.42	0.00	-2.52	0.00	2.52	1099.39	549.69	1339.29	814.32	7.20	-0.355	0.000	0.005

Calculated Forces

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 33
	Struct Class: II	



175.00	-0.75	-0.11	0.00	-0.41	0.00	0.41	1099.39	549.69	1339.29	814.32	7.57	-0.355	0.000	0.001
177.00	-0.36	-0.06	0.00	-0.19	0.00	0.19	1099.39	549.69	1339.29	814.32	7.72	-0.355	0.000	0.001
180.00	0.00	-0.06	0.00	0.00	0.00	0.00	1099.39	549.69	1339.29	814.32	7.95	-0.356	0.000	0.000

Final Analysis Summary

Structure: CT04709-S-SBA	Code: EIA/TIA-222-G	3/20/2017
Site Name: Stonington 3, CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 34
	Struct Class: II	



Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 108 mph Wind	37.2	0.00	50.21	0.00	0.00	3530.15
0.9D + 1.6W 108 mph Wind	37.2	0.00	37.65	0.00	0.00	3517.60
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.6	0.00	73.06	0.00	0.00	930.51
1.2D + 1.0E	1.2	0.00	50.23	0.00	0.00	140.18
0.9D + 1.0E	1.2	0.00	37.67	0.00	0.00	139.60
1.0D + 1.0W 60 mph Wind	7.2	0.00	41.86	0.00	0.00	679.37

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 108 mph Wind	-45.38	-35.14	0.00	-3073.3	0.00	-3073.3	4904.97	2452.4	14920.9	7471.55	12.50	0.581
0.9D + 1.6W 108 mph Wind	-34.00	-35.10	0.00	-3061.0	0.00	-3061.0	4904.97	2452.4	14920.9	7471.55	12.50	0.575
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-66.79	-9.11	0.00	-812.29	0.00	-812.29	4904.97	2452.4	14920.9	7471.55	12.50	0.169
1.2D + 1.0E	-11.12	-0.66	0.00	-31.91	0.00	-31.91	2273.67	1136.8	5602.61	2805.47	120.00	0.049
0.9D + 1.0E	-8.34	-0.66	0.00	-31.76	0.00	-31.76	2273.67	1136.8	5602.61	2805.47	120.00	0.047
1.0D + 1.0W 60 mph Wind	-37.92	-6.77	0.00	-591.28	0.00	-591.28	4904.97	2452.4	14920.9	7471.55	12.50	0.120



Monopole Mat Foundation Design

Date
3/20/2017

Customer Name:	Verizon	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	180
Site Number:	CT04709-S-SBA	Engineer Name:	U. Atluri
Engr. Number:	31812	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Factored):

Axial Load (Kips):	73.1	Shear Force (Kips):	37.2
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3530.2

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	8.0
Pier Height A. G. (ft.):	0.25	Thickness of Pad (ft):	4.00
Length of Pad (ft.):	27	Width of Pad (ft.):	27
Final Length of pad (ft)	27.0	Final width of pad (ft):	27.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0

Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	46	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28	

Soil Design Parameters:

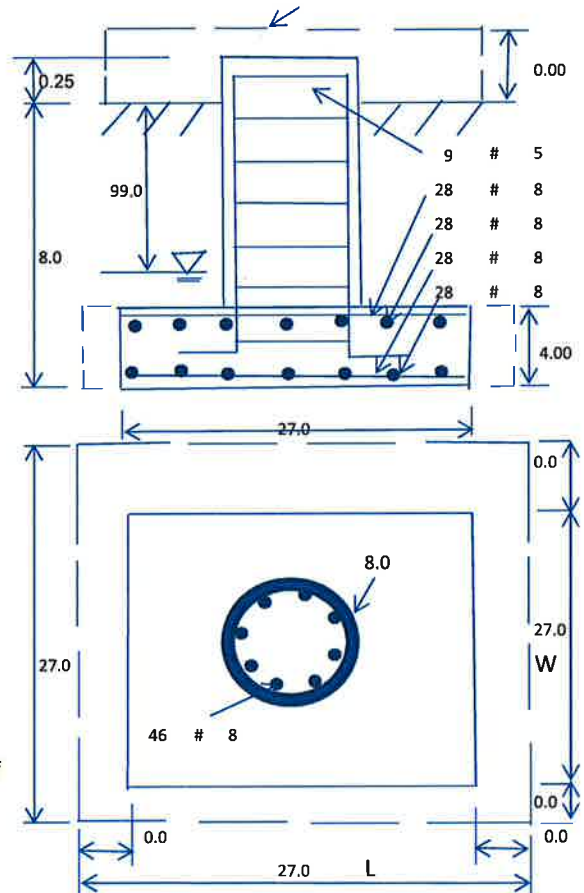
Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf	
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:
Ultimate Bearing Pressure (psf):	16000	Ultimate Skin Friction:	200	Psf	Angle from Bottm of Pad:
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00		

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	2714.94	Total Dry Soil Weight (Kips):	339.37
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	339.37	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3129.63	Total Dry Concrete Weight (Kips):	469.44
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	469.44	Total Vertical Load on Base (Kips):	881.91

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	2205	<	Allowable Factored Soil Bearing (psf):	12000	0.18	OKI
Allowable Foundation Overturning Resistance (kips-ft.):	10813.9	>	Design Factored Momont (kips-ft):	3837	0.35	OKI
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.82					OKI



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	0.79	Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	7020.5	> Design Factored Moment (Mu, Kips-Ft)	3688.3	0.53	OK!
Calculated Shear Capacity (Kips):	832.8	> Design Factored Shear (Kips):	37.2	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	1962.4	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9549.7	> Design Factored Axial Load (Pu Kips):	73.1	0.01	OK!
Moment & Axial Strength Combination:	0.53	OK! Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			

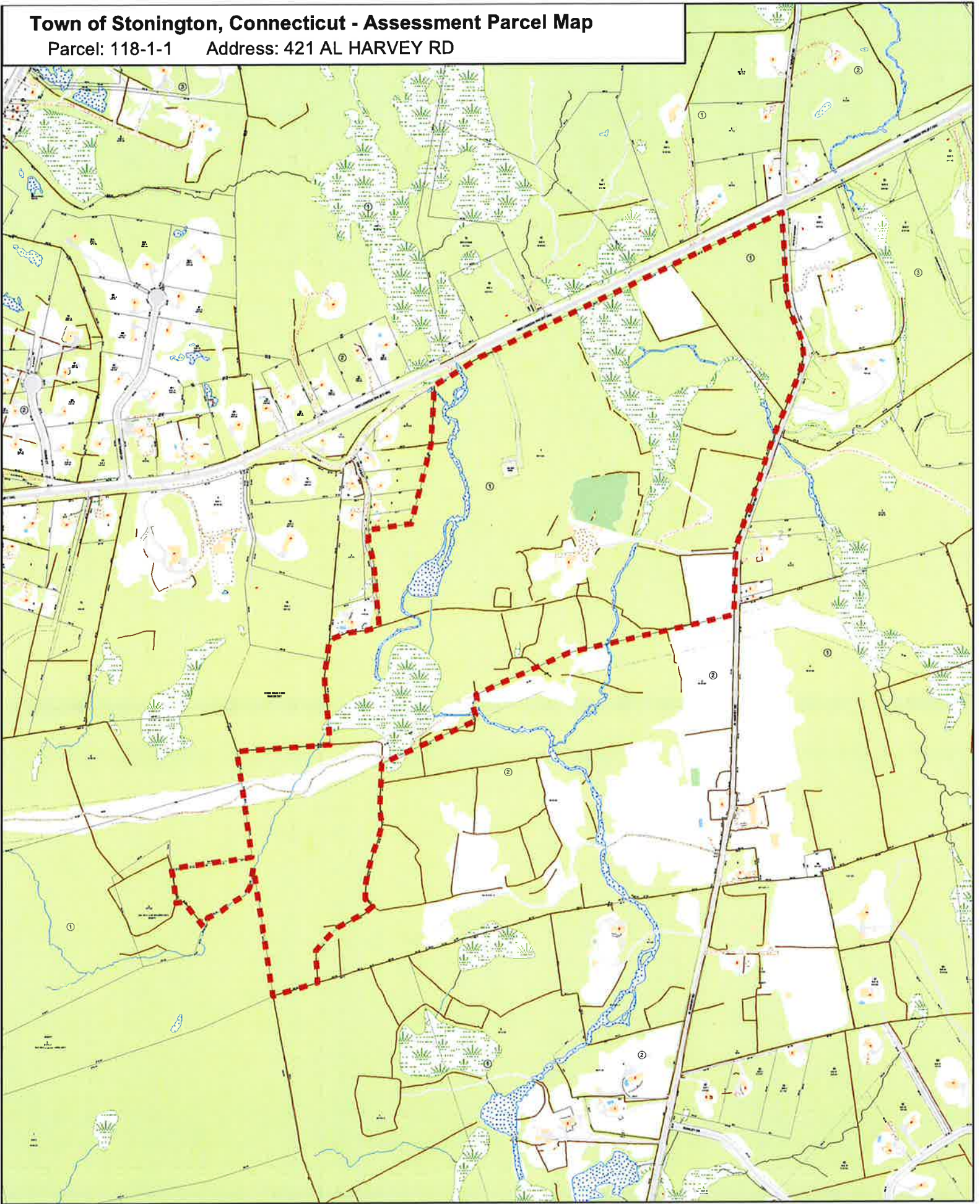
(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1184.6	> One-Way Factored Shear (L-D. Kips):	222.4	0.19	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1184.6	> One-Way Factored Shear (W-D., Kips):	222.4	0.19	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	1324.2	> One-Way Factored Shear (C-C, Kips):	205.3	0.16	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0015	OK! Lower Steel Pad Reinf. Ratio (W-Direct	0.0015		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	4349.6	> Moment at Bottom (L-Direct. K-Ft):	644.1	0.15	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	4349.6	> Moment at Bottom (W-Direct. K-Ft):	644.1	0.15	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	6121.3	> Moment at Bottom (C-C Dir. K-Ft):	910.9	0.15	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0015	OK! Upper Steel Reinf. Ratio (W-Direct.):	0.0015		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	4349.6	> Moment at the top (L-Dir Kips-Ft):	246.3	0.06	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	4349.6	> Moment at the top (W-Dir Kips-Ft):	246.3	0.06	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	6121.3	> Moment at the top (C-C Direc. K-Ft):	447.2	0.07	OK!

ATTACHMENT 4

Town of Stonington, Connecticut - Assessment Parcel Map

Parcel: 118-1-1 Address: 421 AL HARVEY RD



Approximate Scale:

1 inch = 750 feet



Revised To: October 2016

Map Produced: May 2017

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



Property Information

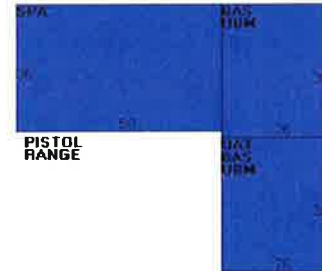
Property Location	421 AL HARVEY RD
Owner	GROTON SPORTSMENS CLUB INC (THE)
Co-Owner	
Mailing Address	421 AL HARVEY RD STONINGTON CT 06378
Land Use	3850 FISH&GAME
Land Class	C
Survey Map #	4058
School District	

Fire District	Old Mystic
Census Tract	7054
Neighborhood	0060
Zoning Code	GB-130
Acreage	153
Utilities	Well,Septic
Lot Setting/Desc	Rural Level
Trash Day	TH
Polling Place (District)	Deans Mill School 3

Photo



Sketch



Primary Construction Details

Year Built	1950
Stories	2
Building Style	Clubs/Lodges
Building Use	Commercial
Building Condition	Average
Floors	Minimum/Plywd
Total Rooms	0

Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Bath Style	NA
Kitchen Style	NA
Roof Style	Gable/Hip
Roof Cover	Asph/F Gls/Cmp

Exterior Walls	Concr/Cinder
Interior Walls	Plywood Panel
Heating Type	Forced Air-Duc
Heating Fuel	Oil
AC Type	None
Gross Bldg Area	6740
Total Living Area	3776



Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	175000	122500
Extras	0	0
Outbuildings	204200	143200
Land	1334000	171400
Total	1713200	437100

Outbuilding and Extra Items

Type	Description
SHED FRAME	320.00 S.F.
SHED FRAME	140.00 S.F.
SHED FRAME	60.00 S.F.
SHED FRAME	64.00 S.F.
W/LOFT-AVG	1440.00 S.F.
SHED FRAME	720.00 S.F.
CELL TOWER	
W/PLUMBING ETC	432.00 S.F.
MISC PORCH	240.00 S.F.
MISC PORCH	102.00 S.F.

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	1976	1976
Attic, Unfinished	988	0
Service Production Area	1800	1800
Basement, Unfinished	1976	0
Total Area	6740	3776

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
GROTON SPORTSMENS CLUB INC (THE)	685/ 362	5/13/2011	
SMITH GERALD M JR	685/ 337	5/13/2011	
GROTON SPORTSMENS CLUB INC	513/ 489	3/18/2003	
GROTON SPORTSMENS CLUB INC	465/ 990	6/1/2001	
GROTON SPORTSMENS CLUB INC (THE)	246/ 416	1/20/1984	
GROTON SPORTSMENS CLUB INC	227/ 289	7/24/1980	
GROTON SPORTSMENS CLUB INC	93/ 451	7/30/1951	

ATTACHMENT 5



Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here Postmark with Date of Receipt.	Parcel Airlift
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3		
USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)			Postage
1.	Robert Ruhl Simmons, First Selectman Town of Stonington 152 Elm Street Stonington, CT 06378			Fee
2.	Jason Vincent, Director of Planning Town of Stonington 152 Elm Street Stonington, CT 06378			Special Handling
3.	The Groton Sportsmen's Club 421 Al Harvey Road Stonington, CT 06378			Special Handling
4.				Special Handling
5.				Special Handling
6.				Special Handling