



Mike Gentile, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767
Mobile: (508) 844-9813
mgentile@clinellc.com

April 9, 2018

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

**RE: Notice of Exempt Modification // Site Number: CT2079
45 Fargo Road, Waterford, CT 06385 (Site Name: WATERFORD FARGO)
N 41.38933056 // W -72.17138333**

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC (“AT&T”) currently maintains nine (9) antennas at the 143-foot level of the existing 183-foot monopole tower at 45 Fargo Road, Waterford, CT 06385. The tower is owned by SBA Communications, LLC. The is owned by Angioletta, LLC. AT&T now intends to replace six (6) of the existing panels with six (6) new antennas for its LTE upgrade. These antennas would be installed at the 143-foot level of the tower. AT&T also intends to install three (3) remote radio units at the 143-foot level of the tower.

The current proposal involves an antenna swap only (three for three); no antennas will be added.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Daniel M. Steward, First Selectman for the Town of Waterford. Please note that copies of this filings are also being sent to SBA Communications, LLC, the tower owner, and Angioletta, LLC, the property owner. A copy has also been sent to the building/zoning department for the town of Waterford, CT.

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

Attached to accommodate this filing are construction drawings dated March 16, 2018 by Hudson Design Engineering, a structural analysis dated March 13, 2018 by Tower Engineering Solutions and an Emissions Analysis Report dated March 23, 2018 by Centerline Communications, LLC.

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading as shown in the attached structural analysis by Tower Engineering Solutions, dated March 13, 2018

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

Sincerely,

Mike Gentile, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767
Mobile: (508) 844-9813
mgentile@centerlincommunications.com

Attachments

cc: Daniel M. Steward, First Selectman, Town of Waterford - as elected official
Building / Planning and Development, Town of Waterford – as permitting jurisdiction
Carla Shorter, SBA Communications - as tower owner
Angioletta, LLC - as property owner

45 FARGO ROAD

Location 45 FARGO ROAD

Mblu 71/ / 2307/ /

Acct# 00201800

Owner ANGIOLETTA LLC

Assessment \$62,740

Appraisal \$640,830

PID 2307

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$3,600	\$637,230	\$640,830

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$2,520	\$60,220	\$62,740

Parcel Addresses

Additional Addresses		
Address	City, State Zip	Type
45 FARGO ROAD		Primary

Owner of Record

Owner ANGIOLETTA LLC

Sale Price \$0

Co-Owner

Certificate

Book & Page 1323/ 97

Sale Date 08/09/2013

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
ANGIOLETTA LLC	\$0		1323/ 97	08/09/2013
ANGIOLETTA LLC	\$0		1323/ 95	08/09/2013
CHIEKA RUDOLPH ETALS	\$0		413/ 333	12/29/1992

Building Information

Building 1 : Section 1

Year Built:

Living Area: 0

Replacement Cost: \$0

Building Percent

Good:

Building Attributes	
Field	Description
Style	Conventional
Model	
Grade:	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Percent	
Total Bedrooms:	
Full Bthrms:	
Half Baths:	
Extra Fixtures	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Fireplace(s)	
Extra Opening(s)	
Gas Fireplace(s)	
% Attic Fin	
LF Dormer	
Foundation	
Bsmt Gar(s)	
Bsmt %	
SF FBM	
Fin Bsmt Qual	
Bsmt Access	

Building Photo



(<http://images.vgsi.com/photos/WaterfordCTPhotos/00\01\69/>):

Building Layout

Building Layout

(<http://images.vgsi.com/photos/WaterfordCTPhotos/Sketches/2/>):

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features		<u>Legend</u>
No Data for Extra Features		

Land

Land Use		Land Line Valuation	
Use Code	109	Size (Acres)	74.03
Description	Vacant W/ OB	Frontage	1112
Zone	RU120	Depth	0
Neighborhood	300	Assessed Value	\$60,220
Alt Land Appr Category	No	Appraised Value	\$637,230

Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD1	Shed	MS	Masonry	400 S.F.	\$3,600	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$3,600	\$646,250	\$649,850
2013	\$3,600	\$646,250	\$649,850
2010	\$0	\$0	\$189,471

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$2,520	\$61,070	\$63,590
2013	\$2,520	\$61,070	\$63,590
2010	\$0	\$0	\$132,630

(c) 2016 Vision Government Solutions, Inc. All rights reserved.

View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialogue box that appears. Note: If your browser does not support this function, select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. GETTING YOUR SHIPMENT TO UPS

Customers with a scheduled Pickup

- o Your driver will pickup your shipment(s) as usual.

Customers without a scheduled Pickup

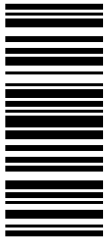
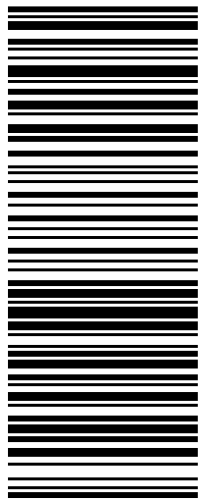

- o Schedule a Pickup on ups.com to have a UPS driver pickup all of your packages.
- o Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. To find the location nearest you, please visit the 'Locations' Quick link at ups.com.

UPS Access Point™
 138 EXPRESS 286
 286 BROADWAY
 TAUNTON MA 02780-1533

UPS Access Point™
 MARYN-LOCKR-STOP & SHOP
 36 NEW STATE HWY
 RAYNHAM MA 02767-5423

UPS Access Point™
 TAILORS R US
 566 WASHINGTON ST
 SOUTH EASTON MA 02375-1946

FOLD HERE

<p>BRENDA BLASK-LEWIS 315-867-3236 CENTERLINE COMMUNICATIONS, LLC 763 EATONVILLE ROAD HERKIMER NY 13350</p> <p>SHIP TO: ATTN: MELANIE BACHMAN CONNECTICUT SITING COUNCIL 10 FRANKLIN SQUARE NEW BRITAIN CT 06051</p>	<p>1 LBS</p> <p>DWT: 12,12,1</p> <p>1 OF 1</p>	<p>CT 067 9-06</p> 	<p>UPS GROUND</p> <p>TRACKING #: 1Z 9Y4 503 03 0733 5229</p> 	<p>BILLING: P/P</p>  <p>XOL18.03.09 NV45 97.0A.01/2018</p>
--	--	---	--	--

View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialogue box that appears. Note: If your browser does not support this function, select Print from the File menu to print the label.
2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.
3. **GETTING YOUR SHIPMENT TO UPS**

Customers with a scheduled Pickup

 - o Your driver will pickup your shipment(s) as usual.

Customers without a scheduled Pickup

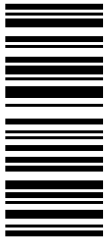
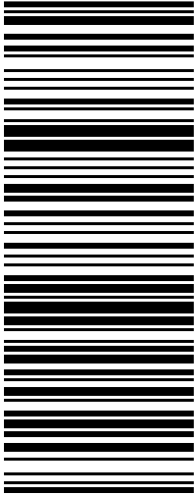

 - o Schedule a Pickup on ups.com to have a UPS driver pickup all of your packages.
 - o Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. To find the location nearest you, please visit the 'Locations' Quick link at ups.com.

UPS Access Point™
138 EXPRESS 286
286 BROADWAY
TAUNTON MA 02780-1533

UPS Access Point™
MARYN-LOCKR-STOP & SHOP
36 NEW STATE HWY
RAYNHAM MA 02767-5423

UPS Access Point™
TAILORS R US
566 WASHINGTON ST
SOUTH EASTON MA 02375-1946

FOLD HERE

BRENDALASK-LEWIS 315-867-3236 CENTERLINE COMMUNICATIONS, LLC 763 EATONVILLE ROAD HERKIMER NY 13350 SHIP TO: ATTN: DANIEL STEWARD, FIRST SELECT. TOWN OF WATERFORD CT 15 ROPE FERRY ROAD WATERFORD CT 06385	1 LBS DWT: 12,12,1 1 OF 1	CT 063 5-02 	UPS GROUND TRACKING #: 1Z 9Y4 503 03 2182 9811 	BILLING: P/P 
---	---	---	--	---

XOL18.03.09 NV45 97.0A.01/2018

View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialogue box that appears. Note: If your browser does not support this function, select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. GETTING YOUR SHIPMENT TO UPS

Customers with a scheduled Pickup

- o Your driver will pickup your shipment(s) as usual.

Customers without a scheduled Pickup

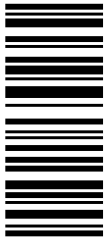
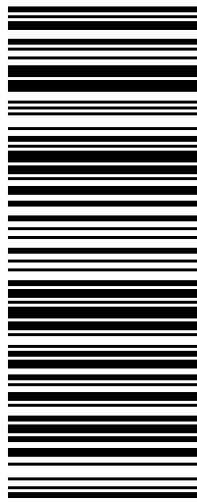

- o Schedule a Pickup on ups.com to have a UPS driver pickup all of your packages.
- o Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. To find the location nearest you, please visit the 'Locations' Quick link at ups.com.

UPS Access Point™
 138 EXPRESS 286
 286 BROADWAY
 TAUNTON MA 02780-1533

UPS Access Point™
 MARYN-LOCKR-STOP & SHOP
 36 NEW STATE HWY
 RAYNHAM MA 02767-5423

UPS Access Point™
 TAILORS R US
 566 WASHINGTON ST
 SOUTH EASTON MA 02375-1946

FOLD HERE

<p>BRENDA BLASK-LEWIS 315-867-3236 CENTERLINE COMMUNICATIONS, LLC 763 EATONVILLE ROAD HERKIMER NY 13350</p> <p>SHIP TO: ATTN: BUILDING/PLANNING TOWN OF WATERFORD CT 15 ROPE FERRY ROAD WATERFORD CT 06385</p>	<p>1 LBS</p> <p>DWT: 12,12,1</p> <p>CT 063 5-02</p> 	<p>UPS GROUND</p> <p>TRACKING #: 1Z 9Y4 503 03 1860 6193</p> 	<p>1 OF 1</p>  <p>XOL 18.03.09 NV45 97.0A.01/2018</p> <p>BILLING: P/P</p>
--	---	--	--

View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialogue box that appears. Note: If your browser does not support this function, select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. GETTING YOUR SHIPMENT TO UPS

Customers with a scheduled Pickup

- Your driver will pickup your shipment(s) as usual.

Customers without a scheduled Pickup

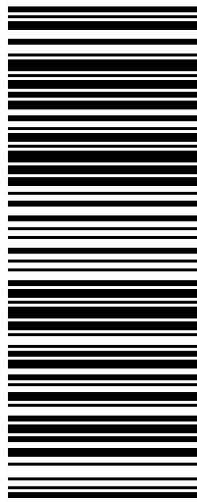

- Schedule a Pickup on ups.com to have a UPS driver pickup all of your packages.
- Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. To find the location nearest you, please visit the 'Locations' Quick link at ups.com.

UPS Access Point™
 138 EXPRESS 286
 286 BROADWAY
 TAUNTON MA 02780-1533

UPS Access Point™
 MARYN-LOCKR-STOP & SHOP
 36 NEW STATE HWY
 RAYNHAM MA 02767-5423

UPS Access Point™
 TAILORS R US
 566 WASHINGTON ST
 SOUTH EASTON MA 02375-1946

FOLD HERE

1 LBS 1 OF 1 DWT: 12,12,1 BRENDA BLASK-LEWIS 315-867-3236 CENTERLINE COMMUNICATIONS, LLC 763 EATONVILLE ROAD HERKIMER NY 13350 SHIP TO: CARLA SHORTER 5612269476 SBA COMMUNICATIONS CORPORATION 8051 CONGRESS AVENUE BOCA RATON FL 33487	FL 332 6-07 	UPS GROUND TRACKING #: 1Z 9Y4 503 03 2060 2423 	BILLING: P/P  XOL18.03.09 NV45 97.0A 01/2018
---	---	--	--

View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialogue box that appears. Note: If your browser does not support this function, select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. GETTING YOUR SHIPMENT TO UPS

Customers with a scheduled Pickup

- o Your driver will pickup your shipment(s) as usual.

Customers without a scheduled Pickup

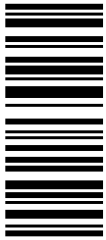
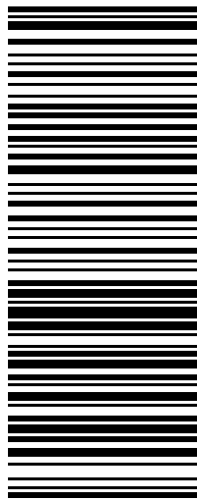
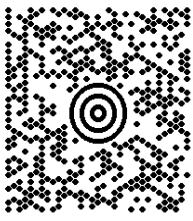

- o Schedule a Pickup on ups.com to have a UPS driver pickup all of your packages.
- o Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. To find the location nearest you, please visit the 'Locations' Quick link at ups.com.

UPS Access Point™
 138 EXPRESS 286
 286 BROADWAY
 TAUNTON MA 02780-1533

UPS Access Point™
 MARYN-LOCKR-STOP & SHOP
 36 NEW STATE HWY
 RAYNHAM MA 02767-5423

UPS Access Point™
 TAILORS R US
 566 WASHINGTON ST
 SOUTH EASTON MA 02375-1946

FOLD HERE

<p>BRENDA BLASK-LEWIS 315-867-3236 CENTERLINE COMMUNICATIONS, LLC 763 EATONVILLE ROAD HERKIMER NY 13350</p> <p>SHIP TO: ATTN: LANDLORD ANGIOLETTA, LLC 45 FARGO ROAD WATERFORD CT 06385</p>	<p>1 LBS</p> <p>DWT: 12,12,1</p> <p>1 OF 1</p>	<p>CT 063 5-02</p> 	<p>UPS GROUND</p> <p>TRACKING #: 1Z 9Y4 503 03 0929 0210</p> 	<p>BILLING: P/P</p>   <p>XOL 18.03.09 NV45 97.0A.01/2018</p>
---	--	---	--	---



Tower Engineering Solutions

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

Structural Analysis Report

Existing 183 ft Nudd Corporation Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01002-S

Customer Site Name: Waterford

Carrier Name: AT&T

Carrier Site ID / Name: CT2079 / Waterford

Site Location: 45 Fargo Road

Waterford, Connecticut

New London County

Latitude: 41.389339

Longitude: -72.171408

Analysis Result:

Max Structural Usage: 71.3% [Pass]

Max Foundation Usage: 33.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Mariana Franco



3/13/18



Tower Engineering Solutions

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

Structural Analysis Report

Existing 183 ft Nudd Corporation Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01002-S

Customer Site Name: Waterford

Carrier Name: AT&T

Carrier Site ID / Name: CT2079 / Waterford

Site Location: 45 Fargo Road

Waterford, Connecticut

New London County

Latitude: 41.389339

Longitude: -72.171408

Analysis Result:

Max Structural Usage: 71.3% [Pass]

Max Foundation Usage: 33.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Mariana Franco

Introduction

The purpose of this report is to summarize the analysis results on the 183 ft Nudd Corporation Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	A.Nudd Corp. Project #6637, dated May 7, 1999
Foundation Drawing	A.Nudd Corp. Project #6637, dated May 7, 1999
Geotechnical Report	Jaworski Geotech Inc Project #C98392G, dated September 18, 1998
Modification Drawings	Semaan Engineering Solutions, Inc. Analysis and Modifications Package, dated May 7, 2002 FDH Engineering Inc. Project #10-08045E S2, dated November 4, 2010

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 $V_{ult} = 135.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 105.0$ 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:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_5 = 0.164g$, $S_1 = 0.059g$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	173.0	4	Antel - LPA-80080-4CF-EDIN-0 - Panel	Low Profile Platform	(3) 1 5/8" Outside *(9) 1 5/8" (2) 1 5/8" Hybriflex	Verizon
2		2	RFS - APL866513-42T0 - Panel			
3		6	Commscope - HBXX-6517DS-VTM - Panel			
4		3	Commscope - LNX-6514DS-VTM - Panel			
5		3	Alcatel RRH2X60-AWS-RRH			
6		3	Alcatel RRH2x60-PCS-RRH			
7		3	Alcatel RRH2x60-700U-RRH			
8		2	RFS DB-T1-6Z-8AB-OZ ODU			
9	163.0	3	Samsung DAP Radio Head	Low Profile Platform	(3) 9/16" (3) 5/16" (1) 3" Conduit	Clearwire
10		3	Argus - LLPX310R - Panel			
11	153.0	3	Ericsson - AIR 21 B2A B4P - Panel	Low Profile Platform	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
12		3	Ericsson - AIR 21 B4A B2P - Panel			
13		3	Commscope - LNX-6515DS - Panel			
14		3	Ericsson KRY 112 144/1			
15		3	Ericsson S11B12			
-	143.0	3	Powerwave - 7770.00 - Panel	Low Profile Platform	(12) 1 1/4" (2) 3/4" DC (1) 7/16" Fiber	AT&T
-		2	KMW - AM-X-CD-16-65-00T- Panel			
-		2	Andrew - SBNH-1D6565C - Panel			
-		2	Powerwave - P65-17-XLH-RR - Panel			
-		6	ADC Cleargain 850-1900 TMA			
-		6	Ericsson RRUS 11-RRU			
-		3	Powerwave LGP13519 Diplexer			
-		3	CSS DBC-750 Diplexers			
-		1	Ray cap DC6-48-60-18-8F			

*(3) 1 5/8" transmission lines were considered outside of the pole shafts.

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
16	143.0	1	Quintel QS46512-2 - Panel	Low Profile Platform	(12) 1 5/8" Coax (2) 3/4" DC (1) 5/16" Fiber	AT&T
17		1	Cci OPA-65R-LCUU-H4 - Panel			
18		2	Cci TPA-65R-LCUUUU-H8 - Panel			
19		2	Cci OPA-65R-LCUU-H8 - Panel			
20		3	Cci DTMABP7819VG12A TMA			
21		3	Kaelus DBC0061F1V51-2 - Diplexer			
22		3	Ericsson RRUS 32 B2			
23		3	Powerwave 7770 - Panel			
24		3	ADC ClearGain 850-1900 Dual Band - TMA			
25		3	Ericsson RRUS 11			
26		3	Css DBC-750			
27		1	Raycap DC6-48-60-18-8F			

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:	71.3%	37.0%	62.5%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4814.0	37.4	60.6

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 1.0842 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.

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 71.35% at 0.0ft

Structure: CT01002-S-SBA
Site Name: Waterford
Height: 183.00 (ft)
Base Elev: 0.000 (ft)

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

3/13/2018



Page: 1

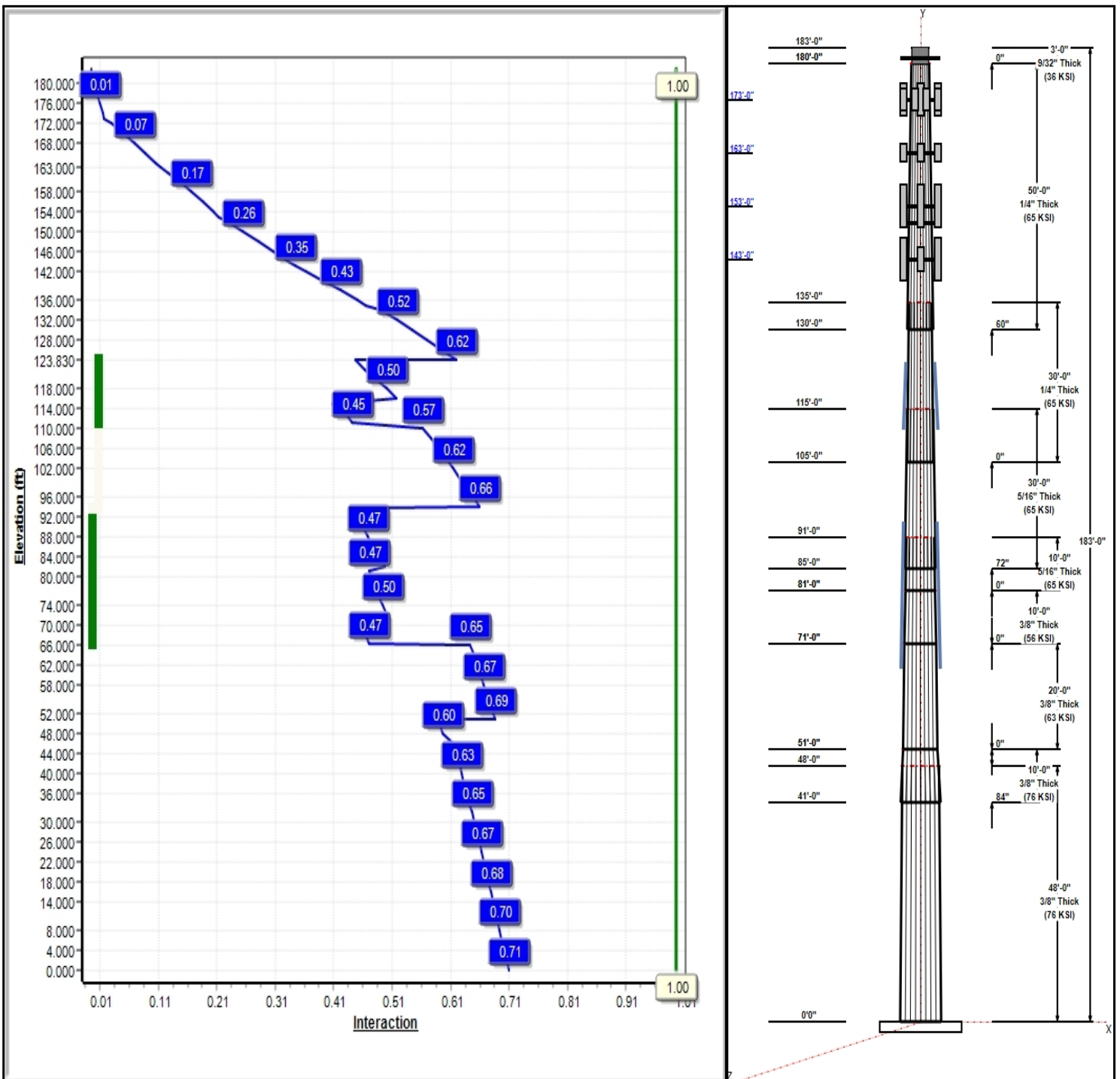
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 105 mph Wind



Iterations: 30

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.



Structure: CT01002-S-SBA

Type: Custom
Site Name: Waterford
Height: 183.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.00000

3/13/2018

Page: 2



Shaft Properties

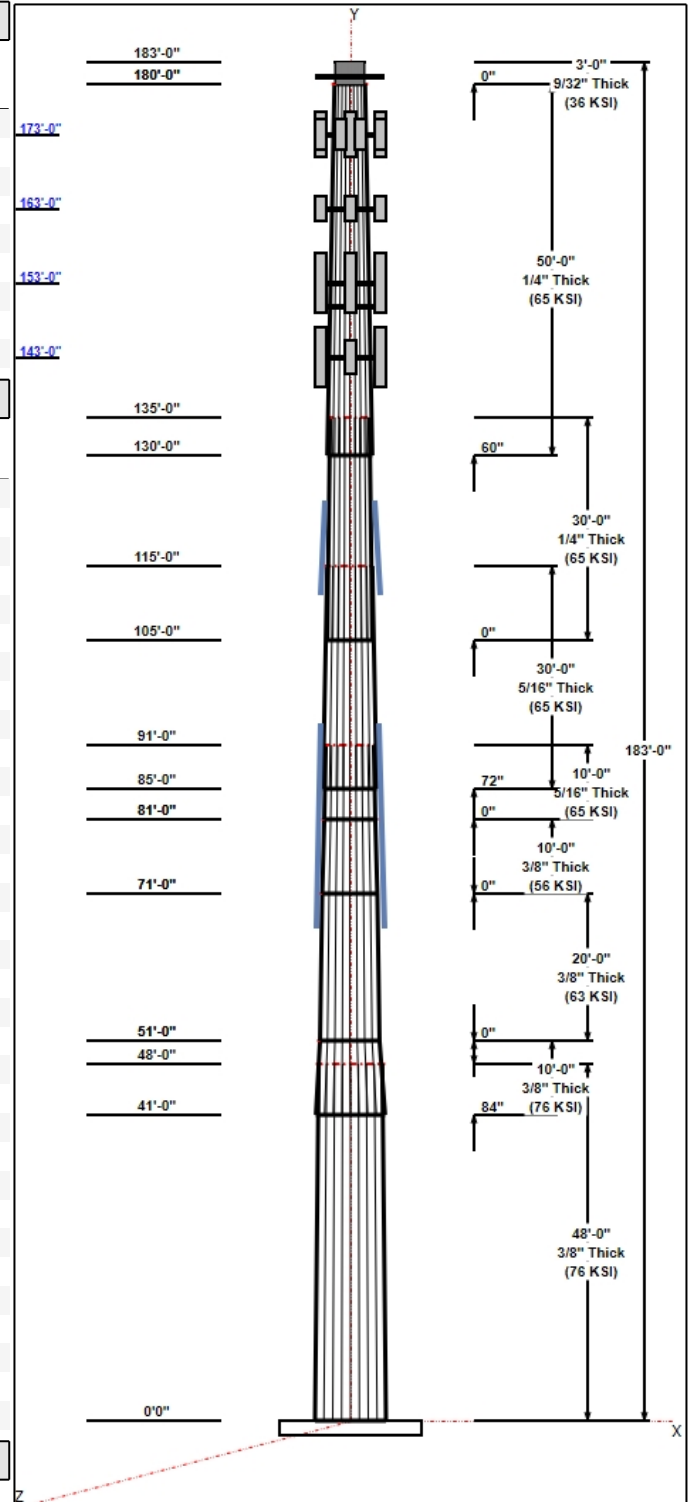
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	53.20	64.50	0.375		0.23542	76
2	10.00	53.24	55.60	0.375	Slip	0.23542	76
3	20.00	48.53	53.24	0.375	Butt	0.23542	63
4	10.00	46.18	48.53	0.375	Butt	0.23542	56
5	10.00	43.83	46.18	0.313	Butt	0.23542	65
6	30.00	38.80	45.87	0.313	Slip	0.23542	65
7	30.00	34.09	38.80	0.250	Butt	0.23542	65
8	50.00	24.00	35.77	0.250	Slip	0.23542	65
9	3.00	24.00	24.00	0.281	Butt	0.00000	36

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
181.00	181.00	1	Low Profile	Verizon
173.00	173.00	1	Low Profile	Verizon
173.00	173.00	4	LPA-80080-4CF-EDIN-0	Verizon
173.00	173.00	2	APL866513-42T0	Verizon
173.00	173.00	6	HBXX-6517DS-VTM	Verizon
173.00	173.00	3	LNx-6514DS-VTM	Verizon
173.00	173.00	3	RRH2x60-AWS	Verizon
173.00	173.00	3	RRH2x60-700U	Verizon
173.00	173.00	3	RRH2x60-1900	Verizon
173.00	173.00	2	DB-T1-6Z-8AB-OZ	Verizon
163.00	163.00	3	LLPX310R	Clearwire
163.00	163.00	1	Low Profile	Clearwire
163.00	163.00	3	DAP Head	Clearwire
153.00	153.00	1	Low Profile Platform-flat	T-Mobile
153.00	153.00	3	AIR 21, 1.3M, B2A B4P	T-Mobile
153.00	153.00	3	AIR 21, 1.3M, B4A B2P	T-Mobile
153.00	153.00	3	LNx-6515DS	T-Mobile
153.00	153.00	3	KRY 112 144/1	T-Mobile
153.00	153.00	3	S11B12	T-Mobile
150.00	150.00	1	Low Profile	Verizon
143.00	143.00	3	Powerwave 7770.00	AT&T
143.00	143.00	1	Low Profile	AT&T
143.00	143.00	3	850-1900 Dual Band	AT&T
143.00	143.00	3	RRUS 11	AT&T
143.00	143.00	3	DBC-750	AT&T
143.00	143.00	1	DC6-48-60-18-8F	AT&T
143.00	143.00	1	QS46512-2	AT&T
143.00	143.00	1	OPA-65R-LCUU-H4	AT&T
143.00	143.00	2	TPA-65R-LCUUUU-H8	AT&T
143.00	143.00	2	OPA-65R-LCUU-H8	AT&T
143.00	143.00	3	DTMABP7819VG12A	AT&T
143.00	143.00	3	DBC0061F1V51-2	AT&T
143.00	143.00	3	RRUS 32 B2	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	183.00	Outside	Safety Cable	
0.00	183.00	Outside	Step bolts (ladder)	
0.00	173.00	Outside	1 5/8" Coax	Verizon
0.00	173.00	Inside	1 5/8" Coax	Verizon



Structure: CT01002-S-SBA

Type: Custom
Site Name: Waterford
Height: 183.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.00000

3/13/2018

Page: 3



0.00	173.00	Inside	1 5/8" Hybrid	Verizon
0.00	163.00	Inside	3" Conduit	Clearwire
0.00	163.00	Inside	5/16" Coax	Clearwire
0.00	163.00	Inside	9/16" Coax	Clearwire
0.00	153.00	Inside	1 5/8" Coax	T-Mobile
0.00	153.00	Inside	1 5/8" Fiber	T-Mobile
0.00	143.00	Inside	1 5/8" Coax	AT&T
0.00	143.00	Inside	3/4" DC	AT&T
0.00	143.00	Inside	5/16" Fiber	AT&T
110.00	125.00	Outside	C6X10.5 Reinforcing	
65.00	95.00	Outside	C6X10.5 Reinforcing	

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	2.00" A687	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	64.5	60.0	Round

Reactions

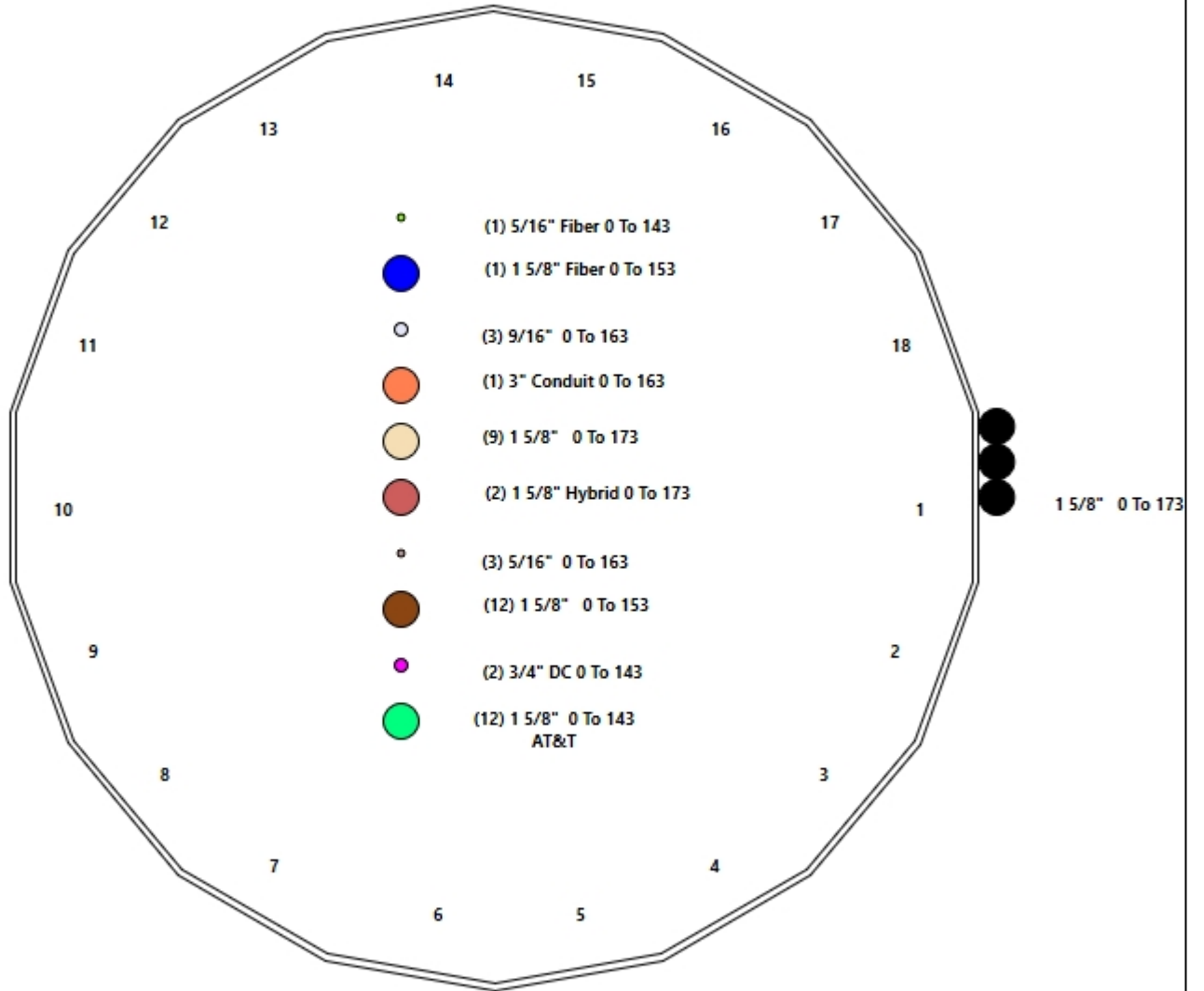
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	4814.0	37.4	60.6
0.9D + 1.6W 105 mph Wind	4755.1	37.4	45.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1200.6	9.3	93.8
1.2D + 1.0E	241.2	1.8	60.6
0.9D + 1.0E	238.1	1.8	45.4
1.0D + 1.0W 60 mph Wind	975.6	7.6	50.5

Structure: CT01002-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Waterford
Height: 183.00 (ft)

3/13/2018

Page: 4



Shaft Properties

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.3750	76		0.00	11,368
2	18	10.000	0.3750	76	Slip	84.00	2,189
3	18	20.000	0.3750	63	Flange	0.00	4,092
4	18	10.000	0.3750	56	Flange	0.00	1,903
5	18	10.000	0.3125	65	Flange	0.00	1,508
6	18	30.000	0.3125	65	Slip	72.00	4,255
7	18	30.000	0.2500	65	Flange	0.00	2,837
8	18	50.000	0.2500	65	Slip	60.00	4,001
9	R	3.000	0.2810	36	Flange	0.00	214
Total Shaft Weight:							32,365

Bottom

Top

Sec. No.	Bottom						Top						Taper
	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	
1	64.50	0.00	76.32	39651.33	28.92	172.00	53.20	48.00	62.87	22166.3	23.60	141.8	0.235417
2	55.60	41.00	65.73	25324.19	24.73	148.26	53.24	51.00	62.92	22221.5	23.62	141.9	0.235417
3	53.24	51.00	62.93	22221.78	23.62	141.98	48.53	71.00	57.32	16797.8	21.41	129.4	0.235417
4	48.53	71.00	57.32	16797.13	21.41	129.43	46.18	81.00	54.52	14452.3	20.30	123.1	0.235417
5	46.18	81.00	45.49	12093.11	24.65	147.78	43.83	91.00	43.16	10325.0	23.32	140.2	0.235417
6	45.87	85.00	45.18	11844.89	24.47	146.77	38.80	115.00	38.18	7145.58	20.48	124.1	0.235417
7	38.80	105.0	30.59	5744.14	25.96	155.21	34.09	135.00	24.99	3130.27	20.98	136.3	0.235417
8	35.77	130.0	28.18	4493.04	23.82	143.08	24.00	180.00	18.85	1343.02	15.52	96.00	0.235417
9	24.00	180.0	20.94	1473.63	0.00	85.41	24.00	183.00	20.94	1473.63	0.00	85.41	0.000000

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors		Termination Connectors			
							Description	Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty
66.17	93.83	6	PLT C6x10.5(1.5" Hole)	65	80	0.85	5/8" Hollo Bolt	0.00	5/8" Hollo Bolt	24.00		
111.1	123.8	3	PLT C6x10.5(1.5" Hole)	65	80	0.85	5/8" Hollo Bolt	0.00	5/8" Hollo Bolt	24.00		

Load Summary

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (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

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	181.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	2833.73	39.996	1.00	0.00	0.00
2	173.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	2827.72	39.915	1.00	0.00	0.00
3	173.00	LPA-80080-4CF-EDIN-0	4	12.00	2.61	1.00	129.28	3.521	1.00	0.00	0.00
4	173.00	APL866513-42T0	2	15.70	4.05	0.93	126.47	5.940	0.93	0.00	0.00
5	173.00	HBXX-6517DS-VTM	6	40.70	8.55	0.77	219.47	11.511	0.77	0.00	0.00
6	173.00	LNX-6514DS-VTM	3	33.10	8.09	0.80	210.32	10.926	0.80	0.00	0.00
7	173.00	RRH2X60-AWS	3	60.00	3.50	0.76	148.54	4.301	0.76	0.00	0.00
8	173.00	RRH2x60-700U	3	50.00	2.48	0.93	124.64	3.655	0.93	0.00	0.00
9	173.00	RRH2x60-1900	3	19.50	1.51	0.90	80.48	2.069	0.90	0.00	0.00
10	173.00	DB-T1-6Z-8AB-OZ	2	44.00	4.80	1.00	190.17	5.687	1.00	0.00	0.00
11	163.00	LLPX310R	3	28.60	4.30	0.69	119.66	5.974	0.69	0.00	0.00
12	163.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	2819.84	39.809	1.00	0.00	0.00
13	163.00	DAP Head	3	42.00	1.88	1.00	89.27	3.037	1.00	0.00	0.00
14	153.00	Low Profile Platform-flat	1	1200.00	25.00	1.00	2249.20	45.984	1.00	0.00	0.00
15	153.00	AIR 21, 1.3M, B2A B4P	3	91.50	6.09	0.86	260.79	7.190	0.86	0.00	0.00
16	153.00	AIR 21, 1.3M, B4A B2P	3	90.40	6.09	0.86	259.69	7.190	0.86	0.00	0.00
17	153.00	LNX-6515DS	3	49.80	11.47	0.80	279.81	14.743	0.80	0.00	0.00
18	153.00	KRY 112 144/1	3	11.00	0.41	0.70	21.80	0.886	0.70	0.00	0.00
19	153.00	S11B12	3	55.00	2.94	0.71	122.55	4.157	0.71	0.00	0.00
20	150.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	2808.91	39.662	1.00	0.00	0.00
21	143.00	Powerwave 7770.00	3	35.00	5.50	0.73	169.38	6.560	0.73	0.00	0.00
22	143.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	2802.67	39.577	1.00	0.00	0.00
23	143.00	850-1900 Dual Band	3	5.50	0.52	0.66	17.09	1.048	0.66	0.00	0.00
24	143.00	RRUS 11	3	50.70	2.52	0.67	139.37	3.168	0.67	0.00	0.00
25	143.00	DBC-750	3	4.80	0.51	1.00	14.42	1.037	1.00	0.00	0.00
26	143.00	DC6-48-60-18-8F	1	31.80	1.47	1.00	93.33	2.167	1.00	0.00	0.00
27	143.00	QS46512-2	1	27.30	5.55	0.96	195.54	14.338	0.96	0.00	0.00
28	143.00	OPA-65R-LCUU-H4	1	57.00	5.94	0.79	214.71	6.967	0.79	0.00	0.00
29	143.00	TPA-65R-LCUUUU-H8	2	75.00	13.30	0.83	385.41	14.938	0.83	0.00	0.00
30	143.00	OPA-65R-LCUU-H8	2	95.00	12.75	0.79	375.65	14.349	0.79	0.00	0.00
31	143.00	DTMABP7819VG12A	3	19.20	1.14	0.67	44.60	1.906	0.67	0.00	0.00
32	143.00	DBC0061F1V51-2	3	25.40	0.43	1.00	39.87	0.714	1.00	0.00	0.00
33	143.00	RRUS 32 B2	3	53.00	2.74	0.67	140.49	3.465	0.67	0.00	0.00
Totals:			81	11,741.20			27,683.31				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	183.00	(1) Safety Cable	0.00	Outside
0.00	183.00	(1) Step bolts (ladder)	0.00	Outside
0.00	173.00	(3) 1 5/8" Coax	0.00	Outside
0.00	173.00	(9) 1 5/8" Coax	0.00	Inside
0.00	173.00	(2) 1 5/8" Hybrid	0.00	Inside
0.00	163.00	(1) 3" Conduit	0.00	Inside
0.00	163.00	(3) 5/16" Coax	0.00	Inside
0.00	163.00	(3) 9/16" Coax	0.00	Inside

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		
0.00	153.00	(12) 1 5/8" Coax		0.00		Inside					
0.00	153.00	(1) 1 5/8" Fiber		0.00		Inside					
0.00	143.00	(12) 1 5/8" Coax		0.00		Inside					
0.00	143.00	(2) 3/4" DC		0.00		Inside					
0.00	143.00	(1) 5/16" Fiber		0.00		Inside					
110.0	125.00	(3) C6X10.5 Reinforcing plate		0.00		Outside					
65.00	95.00	(6) C6X10.5 Reinforcing plate		0.00		Outside					

Shaft Section Properties

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (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

Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00		0.3750	64.500	76.322	39651.3	28.92	172.00	76	76	0.0				
2.00		0.3750	64.029	75.762	38784.3	28.70	170.74	76	76	517.5				
4.00		0.3750	63.558	75.201	37930.0	28.47	169.49	76	76	513.7				
6.00		0.3750	63.087	74.641	37088.4	28.25	168.23	76	77	509.9				
8.00		0.3750	62.617	74.080	36259.3	28.03	166.98	76	77	506.1				
10.00		0.3750	62.146	73.520	35442.6	27.81	165.72	76	77	502.3				
12.00		0.3750	61.675	72.960	34638.3	27.59	164.47	76	78	498.4				
14.00		0.3750	61.204	72.399	33846.3	27.37	163.21	76	78	494.6				
16.00		0.3750	60.733	71.839	33066.4	27.15	161.96	76	78	490.8				
18.00		0.3750	60.262	71.279	32298.6	26.93	160.70	76	79	487.0				
20.00		0.3750	59.792	70.718	31542.8	26.70	159.44	76	79	483.2				
22.00		0.3750	59.321	70.158	30798.9	26.48	158.19	76	79	479.4				
24.00		0.3750	58.850	69.597	30066.7	26.26	156.93	76	80	475.6				
26.00		0.3750	58.379	69.037	29346.3	26.04	155.68	76	80	471.7				
28.00		0.3750	57.908	68.477	28637.4	25.82	154.42	76	80	467.9				
30.00		0.3750	57.437	67.916	27940.1	25.60	153.17	76	80	464.1				
32.00		0.3750	56.967	67.356	27254.2	25.38	151.91	76	81	460.3				
34.00		0.3750	56.496	66.795	26579.6	25.15	150.66	76	81	456.5				
36.00		0.3750	56.025	66.235	25916.2	24.93	149.40	76	81	452.7				
38.00		0.3750	55.554	65.675	25263.9	24.71	148.14	76	82	448.9				
40.00		0.3750	55.083	65.114	24622.7	24.49	146.89	76	82	445.0				
41.00	Bot - Section 2	0.3750	54.848	64.834	24306.2	24.38	146.26	76	82	221.1				
42.00		0.3750	54.612	64.554	23992.4	24.27	145.63	76	82	443.3				
44.00		0.3750	54.142	63.993	23373.0	24.05	144.38	76	83	880.9				
46.00		0.3750	53.671	63.433	22764.3	23.83	143.12	76	83	873.3				
48.00	Top - Section 1	0.3750	53.950	63.765	23124.1	23.96	143.87	76	83	865.7				
50.00		0.3750	53.479	63.205	22519.7	23.74	142.61	76	83	432.1				
51.00	Top - Section 2	0.3750	53.244	62.925	22221.6	23.62	141.98	76	83	214.6				
51.00	Bot - Section 3	0.3750	53.244	62.925	22221.8	23.62	141.98	63	72					
52.00		0.3750	53.009	62.645	21926.3	23.51	141.36	63	72	213.6				
54.00		0.3750	52.538	62.084	21343.1	23.29	140.10	63	72	424.4				
56.00		0.3750	52.067	61.524	20770.3	23.07	138.85	63	72	420.6				
58.00		0.3750	51.596	60.964	20207.9	22.85	137.59	63	73	416.8				
60.00		0.3750	51.125	60.403	19655.8	22.63	136.33	63	73	413.0				
62.00		0.3750	50.654	59.843	19113.8	22.41	135.08	63	73	409.2				
64.00		0.3750	50.184	59.283	18581.8	22.19	133.82	63	73	405.4				
66.00		0.3750	49.713	58.722	18059.8	21.96	132.57	63	74	401.5				
66.17	RB1	0.3750	49.673	58.675	18015.9	21.95	132.46	63	74	34.0	18.48	6572.7	6572.7	10.7
68.00		0.3750	49.242	58.162	17547.7	21.74	131.31	63	74	363.8	18.48	6467.0	6467.0	115.3
70.00		0.3750	48.771	57.601	17045.4	21.52	130.06	63	74	393.9	18.48	6352.5	6352.5	126.0
71.00	Top - Section 3	0.3750	48.536	57.321	16797.8	21.41	129.43	63	74	195.5	18.48	6295.6	6295.6	63.0
71.00	Bot - Section 4	0.3750	48.535	57.320	16797.1	21.41	129.43	56	67					
72.00		0.3750	48.300	57.040	16552.0	21.30	128.80	56	67	194.6	18.48	6238.8	6238.8	63.0
74.00		0.3750	47.829	56.480	16068.9	21.08	127.54	56	68	386.3	18.48	6126.3	6126.3	126.0
76.00		0.3750	47.358	55.919	15595.4	20.86	126.29	56	68	382.5	18.48	6014.8	6014.8	126.0
78.00		0.3750	46.887	55.359	15131.2	20.64	125.03	56	68	378.7	18.48	5904.4	5904.4	126.0
80.00		0.3750	46.416	54.799	14676.3	20.41	123.78	56	68	374.8	18.48	5795.0	5795.0	126.0
81.00	Top - Section 4	0.3750	46.181	54.518	14452.3	20.30	123.15	56	68	186.0	18.48	5740.7	5740.7	63.0
81.00	Bot - Section 5	0.3125	46.181	45.494	12093.1	24.36	147.78	65	72					
82.00		0.3125	45.946	45.261	11907.9	24.51	147.03	65	73	154.4	18.48	5686.6	5686.6	63.0

Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
84.00		0.3125	45.475	44.794	11543.1	24.25	145.52	65	73	306.4	18.48	5579.3	5579.3	126.0
85.00	Bot - Section 6	0.3125	45.239	44.560	11363.5	24.12	144.77	65	73	152.0	18.48	5526.0	5526.0	63.0
86.00		0.3125	45.004	44.327	11185.8	23.98	144.01	65	73	304.6	18.48	5614.5	5614.5	63.0
88.00		0.3125	44.533	43.860	10836.0	23.72	142.51	65	74	604.4	18.48	5507.8	5507.8	126.0
90.00		0.3125	44.062	43.393	10493.5	23.45	141.00	65	74	598.0	18.48	5402.1	5402.1	126.0
91.00	Top - Section 5	0.3125	44.452	43.780	10776.8	23.67	142.25	65	74	296.6	18.48	5349.7	5349.7	63.0
92.00		0.3125	44.217	43.546	10605.3	23.54	141.49	65	74	148.6	18.48	5297.5	5297.5	63.0
93.83	RT1	0.3125	43.786	43.119	10296.2	23.30	140.12	65	74	269.8	18.48	5202.6	5202.6	115.3
94.00		0.3125	43.746	43.079	10267.8	23.27	139.99	65	74	24.9				
96.00		0.3125	43.275	42.612	9937.5	23.01	138.48	65	74	291.6				
98.00		0.3125	42.805	42.145	9614.3	22.74	136.97	65	75	288.4				
100.00		0.3125	42.334	41.678	9298.2	22.48	135.47	65	75	285.2				
102.00		0.3125	41.863	41.211	8989.2	22.21	133.96	65	75	282.1				
104.00		0.3125	41.392	40.744	8687.0	21.94	132.45	65	76	278.9				
106.00		0.3125	40.921	40.277	8391.8	21.68	130.95	65	76	483.9				
108.00		0.3125	40.450	39.810	8103.2	21.41	129.44	65	76	478.2				
110.00		0.3125	39.980	39.343	7821.4	21.15	127.93	65	77	472.4				
111.17	RB2	0.3125	39.704	39.070	7659.6	20.99	127.05	65	77	273.7	9.24	1943.8	1943.8	36.9
112.00		0.3125	39.509	38.876	7546.2	20.88	126.43	65	77	193.0	9.24	1925.4	1925.4	26.1
114.00		0.3125	39.038	38.409	7277.5	20.62	124.92	65	77	461.0	9.24	1881.3	1881.3	63.0
115.00	Top - Section 6	0.3125	38.802	38.176	7145.6	20.48	124.17	65	77	130.3	9.24	2083.9	2083.9	31.5
115.00	Bot - Section 7	0.2500	38.802	30.590	5744.1	25.60	155.21	65	71					
116.00		0.2500	38.567	30.403	5639.6	25.79	154.27	65	71	103.8	9.24	2060.8	2060.8	31.5
118.00		0.2500	38.096	30.030	5434.2	25.46	152.38	65	71	205.6	9.24	2015.2	2015.2	63.0
120.00		0.2500	37.625	29.656	5233.9	25.13	150.50	65	72	203.1	9.24	1970.0	1970.0	63.0
122.00		0.2500	37.154	29.282	5038.6	24.79	148.62	65	72	200.6	9.24	1925.4	1925.4	63.0
123.83	RT2	0.2500	36.723	28.940	4864.2	24.49	146.89	65	73	181.3	9.24	1885.0	1885.0	57.6
124.00		0.2500	36.683	28.909	4848.2	24.46	146.73	65	73	16.7				
126.00		0.2500	36.212	28.535	4662.6	24.13	144.85	65	73	195.5				
128.00		0.2500	35.742	28.162	4481.9	23.80	142.97	65	73	192.9				
130.00	Bot - Section 8	0.2500	35.271	27.788	4305.9	23.47	141.08	65	74	190.4				
132.00		0.2500	34.800	27.414	4134.5	23.13	139.20	65	74	378.4				
134.00		0.2500	34.329	27.041	3967.8	22.80	137.32	65	75	373.3				
135.00	Top - Section 7	0.2500	34.594	27.251	4061.0	22.99	138.38	65	74	184.7				
136.00		0.2500	34.358	27.064	3978.1	22.82	137.43	65	75	92.4				
138.00		0.2500	33.888	26.691	3815.6	22.49	135.55	65	75	182.9				
140.00		0.2500	33.417	26.317	3657.6	22.16	133.67	65	75	180.4				
142.00		0.2500	32.946	25.943	3504.0	21.83	131.78	65	76	177.8				
143.00		0.2500	32.711	25.757	3428.9	21.66	130.84	65	76	88.0				
144.00		0.2500	32.475	25.570	3354.8	21.49	129.90	65	76	87.3				
146.00		0.2500	32.004	25.196	3209.9	21.16	128.02	65	77	172.7				
148.00		0.2500	31.533	24.823	3069.2	20.83	126.13	65	77	170.2				
150.00		0.2500	31.063	24.449	2932.7	20.50	124.25	65	77	167.7				
152.00		0.2500	30.592	24.075	2800.3	20.17	122.37	65	78	165.1				
153.00		0.2500	30.356	23.889	2735.7	20.00	121.43	65	78	81.6				
154.00		0.2500	30.121	23.702	2672.0	19.83	120.48	65	78	81.0				
156.00		0.2500	29.650	23.328	2547.6	19.50	118.60	65	78	160.0				
158.00		0.2500	29.179	22.955	2427.2	19.17	116.72	65	79	157.5				
160.00		0.2500	28.708	22.581	2310.6	18.84	114.83	65	79	154.9				
162.00		0.2500	28.238	22.207	2197.8	18.51	112.95	65	80	152.4				
163.00		0.2500	28.002	22.021	2142.8	18.34	112.01	65	80	75.2				
164.00		0.2500	27.767	21.834	2088.7	18.17	111.07	65	80	74.6				
166.00		0.2500	27.296	21.460	1983.3	17.84	109.18	65	80	147.3				
168.00		0.2500	26.825	21.087	1881.5	17.51	107.30	65	81	144.8				
170.00		0.2500	26.354	20.713	1783.3	17.18	105.42	65	81	142.2				
172.00		0.2500	25.883	20.339	1688.5	16.85	103.53	65	82	139.7				
173.00		0.2500	25.648	20.153	1642.4	16.68	102.59	65	82	68.9				
174.00		0.2500	25.413	19.966	1597.2	16.51	101.65	65	82	68.3				
176.00		0.2500	24.942	19.592	1509.2	16.18	99.77	65	82	134.6				
178.00		0.2500	24.471	19.219	1424.5	15.85	97.88	65	83	132.1				

Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
180.00	Top - Section 8	0.2500	24.000	18.845	1343.0	15.52	96.00	65	83	129.5				
180.00	Bot - Section 9	0.2810	24.000	20.939	1473.6	13.81	85.41	36	36					
181.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36	36	71.3				
182.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36	36	71.3				
183.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36	36	71.3				
Total Weight										32498.7	2188.9			

Wind Loading - Shaft

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 30

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	18.769	20.65	479.47	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.70	18.769	20.65	475.97	0.650	0.000	2.00	10.876	7.07	233.5	0.0	621.0
4.00		1.00	0.70	18.769	20.65	472.47	0.650	0.000	2.00	10.796	7.02	231.8	0.0	616.4
6.00		1.00	0.70	18.769	20.65	468.97	0.650	0.000	2.00	10.717	6.97	230.1	0.0	611.9
8.00		1.00	0.70	18.769	20.65	465.47	0.650	0.000	2.00	10.637	6.91	228.4	0.0	607.3
10.00		1.00	0.70	18.769	20.65	461.97	0.650	0.000	2.00	10.557	6.86	226.7	0.0	602.7
12.00		1.00	0.70	18.769	20.65	458.47	0.650	0.000	2.00	10.478	6.81	225.0	0.0	598.1
14.00		1.00	0.70	18.769	20.65	454.97	0.650	0.000	2.00	10.398	6.76	223.3	0.0	593.5
16.00		1.00	0.70	18.769	20.65	451.47	0.650	0.000	2.00	10.318	6.71	221.5	0.0	589.0
18.00		1.00	0.70	18.769	20.65	447.97	0.650	0.000	2.00	10.239	6.66	219.8	0.0	584.4
20.00		1.00	0.70	18.769	20.65	444.47	0.650	0.000	2.00	10.159	6.60	218.1	0.0	579.8
22.00		1.00	0.70	18.769	20.65	440.97	0.650	0.000	2.00	10.079	6.55	216.4	0.0	575.2
24.00		1.00	0.70	18.769	20.65	437.47	0.650	0.000	2.00	9.999	6.50	214.7	0.0	570.7
26.00		1.00	0.70	18.769	20.65	433.97	0.650	0.000	2.00	9.920	6.45	213.0	0.0	566.1
28.00		1.00	0.70	18.769	20.65	430.47	0.650	0.000	2.00	9.840	6.40	211.3	0.0	561.5
30.00		1.00	0.70	18.785	20.66	427.15	0.650	0.000	2.00	9.760	6.34	209.7	0.0	556.9
32.00		1.00	0.71	19.134	21.05	427.58	0.650	0.000	2.00	9.681	6.29	211.9	0.0	552.4
34.00		1.00	0.73	19.469	21.42	427.73	0.650	0.000	2.00	9.601	6.24	213.8	0.0	547.8
36.00		1.00	0.74	19.789	21.77	427.64	0.650	0.000	2.00	9.521	6.19	215.6	0.0	543.2
38.00		1.00	0.75	20.097	22.11	427.34	0.650	0.000	2.00	9.442	6.14	217.1	0.0	538.6
40.00		1.00	0.76	20.394	22.43	426.83	0.650	0.000	2.00	9.362	6.09	218.4	0.0	534.1
41.00	Bot - Section 2	1.00	0.77	20.538	22.59	426.51	0.650	0.000	1.00	4.651	3.02	109.3	0.0	265.3
42.00		1.00	0.77	20.680	22.75	426.14	0.650	0.000	1.00	4.695	3.05	111.1	0.0	532.0
44.00		1.00	0.78	20.957	23.05	425.29	0.650	0.000	2.00	9.330	6.06	223.7	0.0	1057.1
46.00		1.00	0.79	21.225	23.35	424.27	0.650	0.000	2.00	9.250	6.01	224.6	0.0	1047.9
48.00	Top - Section 1	1.00	0.80	21.485	23.63	423.12	0.650	0.000	2.00	9.170	5.96	225.4	0.0	1038.8
50.00		1.00	0.81	21.737	23.91	427.83	0.650	0.000	2.00	9.091	5.91	226.1	0.0	518.5
51.00	Top - Section 2	1.00	0.82	21.860	24.05	427.15	0.650	0.000	1.00	4.515	2.94	112.9	0.0	257.5
52.00		1.00	0.82	21.982	24.18	426.44	0.650	0.000	1.00	4.495	2.92	113.0	0.0	256.4
54.00		1.00	0.83	22.220	24.44	424.94	0.650	0.000	2.00	8.931	5.81	227.0	0.0	509.3
56.00		1.00	0.84	22.452	24.70	423.33	0.650	0.000	2.00	8.852	5.75	227.4	0.0	504.7
58.00		1.00	0.85	22.678	24.95	421.61	0.650	0.000	2.00	8.772	5.70	227.6	0.0	500.2
60.00		1.00	0.85	22.899	25.19	419.79	0.650	0.000	2.00	8.692	5.65	227.7	0.0	495.6
62.00		1.00	0.86	23.114	25.43	417.87	0.650	0.000	2.00	8.612	5.60	227.7	0.0	491.0
64.00		1.00	0.87	23.325	25.66	415.87	0.650	0.000	2.00	8.533	5.55	227.7	0.0	486.4
66.00		1.00	0.88	23.531	25.88	413.78	0.650	0.000	2.00	8.453	5.49	227.6	0.0	481.9
66.17	RB1	1.00	0.88	23.548	25.90	413.60	0.650	0.000	0.17	0.715	0.46	19.3	0.0	40.7
68.00		1.00	0.89	23.733	26.11	411.62	0.650	0.000	1.83	7.659	4.98	207.9	0.0	436.5
70.00		1.00	0.89	23.930	26.32	409.37	0.650	0.000	2.00	8.294	5.39	227.0	0.0	472.7
71.00	Top - Section 3	1.00	0.90	24.027	26.43	408.22	0.650	0.000	1.00	4.117	2.68	113.2	0.0	234.6
72.00		1.00	0.90	24.123	26.54	407.05	0.650	0.000	1.00	4.097	2.66	113.1	0.0	233.5
74.00		1.00	0.91	24.313	26.74	404.66	0.650	0.000	2.00	8.134	5.29	226.2	0.0	463.5
76.00		1.00	0.91	24.499	26.95	402.21	0.650	0.000	2.00	8.055	5.24	225.7	0.0	459.0
78.00		1.00	0.92	24.681	27.15	399.69	0.650	0.000	2.00	7.975	5.18	225.2	0.0	454.4
80.00		1.00	0.93	24.861	27.35	397.11	0.650	0.000	2.00	7.895	5.13	224.5	0.0	449.8
81.00	Top - Section 4	1.00	0.93	24.949	27.44	395.80	0.650	0.000	1.00	3.918	2.55	111.8	0.0	223.2
82.00		1.00	0.93	25.037	27.54	394.47	0.650	0.000	1.00	3.898	2.53	111.6	0.0	185.3

Wind Loading - Shaft

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 12

84.00	1.00	0.94	25.210	27.73	391.78	0.650	0.000	2.00	7.736	5.03	223.1	0.0	367.7
85.00 Bot - Section 6	1.00	0.94	25.295	27.82	390.41	0.650	0.000	1.00	3.838	2.49	111.1	0.0	182.4
86.00	1.00	0.95	25.380	27.92	389.03	0.650	0.000	1.00	3.871	2.52	112.4	0.0	365.5
88.00	1.00	0.95	25.547	28.10	386.22	0.650	0.000	2.00	7.682	4.99	224.5	0.0	725.3
90.00	1.00	0.96	25.711	28.28	383.37	0.650	0.000	2.00	7.603	4.94	223.6	0.0	717.6
91.00 Top - Section 5	1.00	0.96	25.793	28.37	381.92	0.650	0.000	1.00	3.771	2.45	111.3	0.0	356.0
92.00	1.00	0.96	25.873	28.46	385.92	0.650	0.000	1.00	3.752	2.44	111.0	0.0	178.3
93.83 RT1	1.00	0.97	26.019	28.62	383.24	0.650	0.000	1.83	6.814	4.43	202.8	0.0	323.8
94.00	1.00	0.97	26.033	28.64	382.99	0.650	0.000	0.17	0.630	0.41	18.8	0.0	29.9
96.00	1.00	0.98	26.190	28.81	380.01	0.650	0.000	2.00	7.364	4.79	220.6	0.0	349.9
98.00	1.00	0.98	26.345	28.98	376.98	0.650	0.000	2.00	7.284	4.73	219.5	0.0	346.1
100.00	1.00	0.99	26.497	29.15	373.91	0.650	0.000	2.00	7.204	4.68	218.4	0.0	342.3
102.00	1.00	0.99	26.648	29.31	370.80	0.650	0.000	2.00	7.125	4.63	217.2	0.0	338.5
104.00	1.00	1.00	26.796	29.48	367.65	0.650	0.000	2.00	7.045	4.58	216.0	0.0	334.7
106.00	1.00	1.00	26.942	29.64	364.46	0.650	0.000	2.00	6.967	4.53	214.8	0.0	330.9
108.00	1.00	1.01	27.086	29.79	361.23	0.650	0.000	2.00	6.887	4.48	213.6	0.0	327.1
110.00	1.00	1.02	27.229	29.95	357.96	0.650	0.000	2.00	6.807	4.43	212.4	0.0	323.3
111.17 RB2	1.00	1.02	27.311	30.04	356.03	0.650	0.000	1.17	3.711	2.41	116.0	0.0	187.3
112.00	1.00	1.02	27.369	30.11	354.66	0.650	0.000	0.83	2.616	1.70	81.9	0.0	132.1
114.00	1.00	1.03	27.508	30.26	351.32	0.650	0.000	2.00	6.248	4.06	196.6	0.0	315.6
115.00 Top - Section 6	1.00	1.03	27.577	30.33	349.64	0.650	0.000	1.00	3.293	2.14	103.9	0.0	156.4
116.00	1.00	1.03	27.645	30.41	347.94	0.650	0.000	1.00	3.273	2.13	103.5	0.0	124.5
118.00	1.00	1.04	27.780	30.56	344.53	0.650	0.000	2.00	6.487	4.22	206.2	0.0	246.8
120.00	1.00	1.04	27.914	30.71	341.09	0.650	0.000	2.00	6.407	4.16	204.6	0.0	243.7
122.00	1.00	1.05	28.046	30.85	337.62	0.650	0.000	2.00	6.328	4.11	203.0	0.0	240.7
123.83 RT2	1.00	1.05	28.166	30.98	334.42	0.650	0.000	1.83	5.720	3.72	184.3	0.0	217.5
124.00	1.00	1.05	28.177	30.99	334.12	0.650	0.000	0.17	0.528	0.34	17.0	0.0	20.1
126.00	1.00	1.06	28.306	31.14	330.58	0.650	0.000	2.00	6.168	4.01	199.7	0.0	234.6
128.00	1.00	1.06	28.434	31.28	327.02	0.650	0.000	2.00	6.089	3.96	198.1	0.0	231.5
130.00 Bot - Section 8	1.00	1.07	28.560	31.42	323.43	0.650	0.000	2.00	6.009	3.91	196.3	0.0	228.5
132.00	1.00	1.07	28.685	31.55	319.81	0.650	0.000	2.00	6.014	3.91	197.4	0.0	454.1
134.00	1.00	1.07	28.808	31.69	316.16	0.650	0.000	2.00	5.934	3.86	195.6	0.0	448.0
135.00 Top - Section 7	1.00	1.08	28.869	31.76	314.32	0.650	0.000	1.00	2.937	1.91	97.0	0.0	221.7
136.00	1.00	1.08	28.930	31.82	317.10	0.650	0.000	1.00	2.917	1.90	96.6	0.0	110.9
138.00	1.00	1.08	29.051	31.96	313.41	0.650	0.000	2.00	5.775	3.75	191.9	0.0	219.5
140.00	1.00	1.09	29.171	32.09	309.69	0.650	0.000	2.00	5.695	3.70	190.1	0.0	216.4
142.00	1.00	1.09	29.289	32.22	305.95	0.650	0.000	2.00	5.616	3.65	188.2	0.0	213.4
143.00 Appurtenance(s)	1.00	1.09	29.348	32.28	304.06	0.650	0.000	1.00	2.778	1.81	93.3	0.0	105.6
144.00	1.00	1.10	29.407	32.35	302.18	0.650	0.000	1.00	2.758	1.79	92.8	0.0	104.8
146.00	1.00	1.10	29.523	32.48	298.38	0.650	0.000	2.00	5.456	3.55	184.3	0.0	207.3
148.00	1.00	1.11	29.638	32.60	294.56	0.650	0.000	2.00	5.376	3.49	182.3	0.0	204.2
150.00 Appurtenance(s)	1.00	1.11	29.752	32.73	290.72	0.650	0.000	2.00	5.297	3.44	180.3	0.0	201.2
152.00	1.00	1.11	29.865	32.85	286.86	0.650	0.000	2.00	5.217	3.39	178.2	0.0	198.1
153.00 Appurtenance(s)	1.00	1.12	29.921	32.91	284.92	0.650	0.000	1.00	2.579	1.68	88.3	0.0	97.9
154.00	1.00	1.12	29.976	32.97	282.97	0.650	0.000	1.00	2.559	1.66	87.7	0.0	97.2
156.00	1.00	1.12	30.087	33.10	279.06	0.650	0.000	2.00	5.058	3.29	174.1	0.0	192.0
158.00	1.00	1.13	30.197	33.22	275.13	0.650	0.000	2.00	4.978	3.24	172.0	0.0	189.0
160.00	1.00	1.13	30.305	33.34	271.18	0.650	0.000	2.00	4.898	3.18	169.8	0.0	185.9
162.00	1.00	1.13	30.413	33.45	267.21	0.650	0.000	2.00	4.819	3.13	167.7	0.0	182.9
163.00 Appurtenance(s)	1.00	1.14	30.467	33.51	265.21	0.650	0.000	1.00	2.379	1.55	82.9	0.0	90.3
164.00	1.00	1.14	30.520	33.57	263.21	0.650	0.000	1.00	2.360	1.53	82.4	0.0	89.5
166.00	1.00	1.14	30.626	33.69	259.20	0.650	0.000	2.00	4.659	3.03	163.2	0.0	176.8
168.00	1.00	1.15	30.731	33.80	255.16	0.650	0.000	2.00	4.580	2.98	161.0	0.0	173.7
170.00	1.00	1.15	30.835	33.92	251.11	0.650	0.000	2.00	4.500	2.92	158.7	0.0	170.7
172.00	1.00	1.15	30.938	34.03	247.03	0.650	0.000	2.00	4.420	2.87	156.4	0.0	167.6
173.00 Appurtenance(s)	1.00	1.16	30.989	34.09	244.99	0.650	0.000	1.00	2.180	1.42	77.3	0.0	82.7
174.00	1.00	1.16	31.041	34.14	242.94	0.650	0.000	1.00	2.160	1.40	76.7	0.0	81.9

Wind Loading - Shaft

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 13
	Struct Class: II	



176.00	1.00	1.16	31.142	34.26	238.83	0.650	0.000	2.00	4.261	2.77	151.8	0.0	161.5
178.00	1.00	1.17	31.243	34.37	234.70	0.650	0.000	2.00	4.181	2.72	149.4	0.0	158.5
180.00 Top - Section 8	1.00	1.17	31.343	34.48	230.55	0.650	0.000	2.00	4.102	2.67	147.1	0.0	155.4
181.00 Appurtenance(s)	1.00	1.17	31.392	34.53	227.23	0.600	0.000	1.00	2.000	1.20	66.3	0.0	85.5
182.00	1.00	1.17	31.442	34.59	227.41	0.600	0.000	1.00	2.000	1.20	66.4	0.0	85.5
183.00	1.00	1.17	31.491	34.64	227.58	0.600	0.000	1.00	2.000	1.20	66.5	0.0	85.5
Totals:								183.00			18,722.6		37,779.9

Discrete Appurtenance Forces

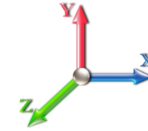
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 14

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 30

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	181.00	Low Profile	1	31.392	34.532	1.00	1.00	22.00	1800.00	0.000	0.000	1215.51	0.00	0.00
2	173.00	LNx-6514DS-VTM	3	30.989	34.088	0.64	0.80	15.53	119.16	0.000	0.000	847.18	0.00	0.00
3	173.00	Low Profile	1	30.989	34.088	1.00	1.00	22.00	1800.00	0.000	0.000	1199.91	0.00	0.00
4	173.00	LPA-80080-4CF-EDIN-0	4	30.989	34.088	0.80	0.80	8.35	57.60	0.000	0.000	455.53	0.00	0.00
5	173.00	HBXX-6517DS-VTM	6	30.989	34.088	0.62	0.80	31.60	293.04	0.000	0.000	1723.55	0.00	0.00
6	173.00	APL866513-42T0	2	30.989	34.088	0.74	0.80	6.03	37.68	0.000	0.000	328.69	0.00	0.00
7	173.00	RRH2X60-AWS	3	30.989	34.088	0.61	0.80	6.38	216.00	0.000	0.000	348.19	0.00	0.00
8	173.00	RRH2x60-700U	3	30.989	34.088	0.74	0.80	5.54	180.00	0.000	0.000	301.91	0.00	0.00
9	173.00	RRH2x60-1900	3	30.989	34.088	0.72	0.80	3.26	70.20	0.000	0.000	177.89	0.00	0.00
10	173.00	DB-T1-6Z-8AB-OZ	2	30.989	34.088	0.80	0.80	7.68	105.60	0.000	0.000	418.88	0.00	0.00
11	163.00	DAP Head	3	30.467	33.513	0.80	0.80	4.51	151.20	0.000	0.000	241.94	0.00	0.00
12	163.00	Low Profile	1	30.467	33.513	1.00	1.00	22.00	1800.00	0.000	0.000	1179.67	0.00	0.00
13	163.00	LLPX310R	3	30.467	33.513	0.55	0.80	7.12	102.96	0.000	0.000	381.83	0.00	0.00
14	153.00	S11B12	3	29.921	32.913	0.57	0.80	5.01	198.00	0.000	0.000	263.81	0.00	0.00
15	153.00	KRY 112 144/1	3	29.921	32.913	0.56	0.80	0.69	39.60	0.000	0.000	36.27	0.00	0.00
16	153.00	LNx-6515DS	3	29.921	32.913	0.64	0.80	22.02	179.28	0.000	0.000	1159.70	0.00	0.00
17	153.00	AIR 21, 1.3M, B4A B2P	3	29.921	32.913	0.69	0.80	12.57	325.44	0.000	0.000	661.93	0.00	0.00
18	153.00	Low Profile Platform-flat	1	29.921	32.913	1.00	1.00	25.00	1440.00	0.000	0.000	1316.50	0.00	0.00
19	153.00	AIR 21, 1.3M, B2A B4P	3	29.921	32.913	0.69	0.80	12.57	329.40	0.000	0.000	661.93	0.00	0.00
20	150.00	Low Profile	1	29.752	32.727	1.00	1.00	22.00	1800.00	0.000	0.000	1151.99	0.00	0.00
21	143.00	DC6-48-60-18-8F	1	29.348	32.283	0.80	0.80	1.18	38.16	0.000	0.000	60.74	0.00	0.00
22	143.00	Powerwave 7770.00	3	29.348	32.283	0.58	0.80	9.64	126.00	0.000	0.000	497.73	0.00	0.00
23	143.00	Low Profile	1	29.348	32.283	1.00	1.00	22.00	1800.00	0.000	0.000	1136.36	0.00	0.00
24	143.00	850-1900 Dual Band	3	29.348	32.283	0.53	0.80	0.82	19.80	0.000	0.000	42.55	0.00	0.00
25	143.00	RRUS 11	3	29.348	32.283	0.54	0.80	4.05	182.52	0.000	0.000	209.31	0.00	0.00
26	143.00	DBC-750	3	29.348	32.283	0.80	0.80	1.22	17.28	0.000	0.000	63.22	0.00	0.00
27	143.00	TPA-65R-LCUUUU-H8	2	29.348	32.283	0.66	0.80	17.66	180.00	0.000	0.000	912.32	0.00	0.00
28	143.00	QS46512-2	1	29.348	32.283	0.77	0.80	4.25	32.76	0.000	0.000	219.71	0.00	0.00
29	143.00	OPA-65R-LCUU-H4	1	29.348	32.283	0.63	0.80	3.75	68.40	0.000	0.000	193.91	0.00	0.00
30	143.00	OPA-65R-LCUU-H8	2	29.348	32.283	0.63	0.80	16.12	228.00	0.000	0.000	832.44	0.00	0.00
31	143.00	DTMABP7819VG12A	3	29.348	32.283	0.54	0.80	1.83	69.12	0.000	0.000	94.69	0.00	0.00
32	143.00	DBC0061F1V51-2	3	29.348	32.283	0.80	0.80	1.03	91.44	0.000	0.000	53.31	0.00	0.00
33	143.00	RRUS 32 B2	3	29.348	32.283	0.54	0.80	4.41	190.80	0.000	0.000	227.58	0.00	0.00
Totals:									14,089.44			18,616.67		

Total Applied Force Summary

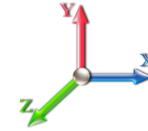
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 15

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 30

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
2.00		233.53	731.37	0.00	0.00
4.00		231.82	726.79	0.00	0.00
6.00		230.10	722.21	0.00	0.00
8.00		228.39	717.64	0.00	0.00
10.00		226.68	713.06	0.00	0.00
12.00		224.97	708.48	0.00	0.00
14.00		223.26	703.91	0.00	0.00
16.00		221.55	699.33	0.00	0.00
18.00		219.84	694.76	0.00	0.00
20.00		218.13	690.18	0.00	0.00
22.00		216.42	685.60	0.00	0.00
24.00		214.71	681.03	0.00	0.00
26.00		212.99	676.45	0.00	0.00
28.00		211.28	671.87	0.00	0.00
30.00		209.75	667.30	0.00	0.00
32.00		211.91	662.72	0.00	0.00
34.00		213.84	658.14	0.00	0.00
36.00		215.55	653.57	0.00	0.00
38.00		217.08	648.99	0.00	0.00
40.00		218.42	644.41	0.00	0.00
41.00		109.28	320.49	0.00	0.00
42.00		111.07	587.16	0.00	0.00
44.00		223.68	1167.45	0.00	0.00
46.00		224.60	1158.30	0.00	0.00
48.00		225.39	1149.15	0.00	0.00
50.00		226.05	628.82	0.00	0.00
51.00		112.92	312.69	0.00	0.00
52.00		113.05	311.55	0.00	0.00
54.00		227.03	619.67	0.00	0.00
56.00		227.35	615.09	0.00	0.00
58.00		227.58	610.52	0.00	0.00
60.00		227.70	605.94	0.00	0.00
62.00		227.74	601.36	0.00	0.00
64.00		227.69	596.79	0.00	0.00
66.00		227.55	592.21	0.00	0.00
66.17		19.26	50.13	0.00	0.00
68.00		207.93	537.51	0.00	0.00
70.00		227.05	583.06	0.00	0.00
71.00		113.16	289.81	0.00	0.00
72.00		113.07	288.67	0.00	0.00
74.00		226.25	573.90	0.00	0.00
76.00		225.74	569.32	0.00	0.00
78.00		225.18	564.75	0.00	0.00
80.00		224.54	560.17	0.00	0.00
81.00		111.82	278.37	0.00	0.00
82.00		111.64	240.47	0.00	0.00

Total Applied Force Summary

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 16

84.00		223.10	478.08	0.00	0.00
85.00		111.06	237.61	0.00	0.00
86.00		112.39	420.67	0.00	0.00
88.00		224.52	835.62	0.00	0.00
90.00		223.63	827.99	0.00	0.00
91.00		111.28	411.13	0.00	0.00
92.00		111.04	233.47	0.00	0.00
93.83		202.82	424.78	0.00	0.00
94.00		18.75	39.30	0.00	0.00
96.00		220.63	460.27	0.00	0.00
98.00		219.53	456.45	0.00	0.00
100.00		218.38	452.64	0.00	0.00
102.00		217.19	448.83	0.00	0.00
104.00		215.96	445.01	0.00	0.00
106.00		202.40	441.20	0.00	0.00
108.00		201.01	437.38	0.00	0.00
110.00		199.59	433.57	0.00	0.00
111.17		115.96	251.87	0.00	0.00
112.00		81.92	177.89	0.00	0.00
114.00		196.62	425.94	0.00	0.00
115.00		103.90	211.54	0.00	0.00
116.00		103.53	179.71	0.00	0.00
118.00		206.16	357.13	0.00	0.00
120.00		204.61	354.07	0.00	0.00
122.00		203.02	351.02	0.00	0.00
123.83		184.31	318.51	0.00	0.00
124.00		17.02	29.46	0.00	0.00
126.00		199.74	344.92	0.00	0.00
128.00		198.05	341.87	0.00	0.00
130.00		196.33	338.82	0.00	0.00
132.00		197.35	564.42	0.00	0.00
134.00		195.57	558.32	0.00	0.00
135.00		97.01	276.87	0.00	0.00
136.00		96.55	166.07	0.00	0.00
138.00		191.93	329.86	0.00	0.00
140.00		190.06	326.81	0.00	0.00
142.00		188.16	323.76	0.00	0.00
143.00	(29) attachments	4637.12	3205.01	0.00	0.00
144.00		92.78	143.94	0.00	0.00
146.00		184.28	285.59	0.00	0.00
148.00		182.29	282.54	0.00	0.00
150.00	(1) attachments	1332.27	2079.49	0.00	0.00
152.00		178.24	276.44	0.00	0.00
153.00	(16) attachments	4188.41	2648.79	0.00	0.00
154.00		87.75	120.02	0.00	0.00
156.00		174.09	237.74	0.00	0.00
158.00		171.97	234.69	0.00	0.00
160.00		169.82	231.64	0.00	0.00
162.00		167.66	228.59	0.00	0.00
163.00	(7) attachments	1886.37	2167.31	0.00	0.00
164.00		82.38	108.73	0.00	0.00
166.00		163.25	215.17	0.00	0.00
168.00		161.00	212.12	0.00	0.00
170.00		158.74	209.07	0.00	0.00
172.00		156.45	206.01	0.00	0.00
173.00	(27) attachments	5879.03	2981.14	0.00	0.00
174.00		76.71	83.48	0.00	0.00

Total Applied Force Summary

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 17

176.00	151.80	164.68	0.00	0.00
178.00	149.45	161.63	0.00	0.00
180.00	147.07	158.58	0.00	0.00
181.00	(1) attachments 1281.81	1887.08	0.00	0.00
182.00	66.40	87.08	0.00	0.00
183.00	66.51	87.08	0.00	0.00
Totals:	37,339.30	60,587.64	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

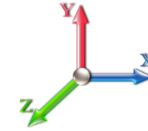
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 18

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
2.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
4.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
4.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
6.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
6.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
8.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
8.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
10.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
10.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
12.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
12.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
14.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
14.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
16.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
16.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
18.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
18.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
20.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
22.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
22.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
24.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
24.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
26.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
26.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
28.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.66
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	2.50
28.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	7.49
30.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	0.66
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	2.50
30.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	7.49
32.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.134	0.00	0.66
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.134	0.00	2.50

Linear Appurtenance Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

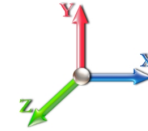


Page: 19

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
32.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.134	0.00	7.49
34.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.469	0.00	0.66
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.469	0.00	2.50
34.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.469	0.00	7.49
36.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.789	0.00	0.66
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.789	0.00	2.50
36.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.789	0.00	7.49
38.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.097	0.00	0.66
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.097	0.00	2.50
38.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.097	0.00	7.49
40.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	0.66
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	2.50
40.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	7.49
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.538	0.00	0.33
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.538	0.00	1.25
41.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.538	0.00	3.74
42.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.680	0.00	0.33
42.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.680	0.00	1.25
42.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.680	0.00	3.74
44.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.957	0.00	0.66
44.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.957	0.00	2.50
44.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.957	0.00	7.49
46.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.225	0.00	0.66
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.225	0.00	2.50
46.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.225	0.00	7.49
48.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.485	0.00	0.66
48.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.485	0.00	2.50
48.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.485	0.00	7.49
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	0.66
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	2.50
50.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	7.49
51.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.860	0.00	0.33
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.860	0.00	1.25
51.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.860	0.00	3.74
52.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.982	0.00	0.33
52.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.982	0.00	1.25
52.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.982	0.00	3.74
54.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.220	0.00	0.66
54.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.220	0.00	2.50
54.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.220	0.00	7.49
56.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.452	0.00	0.66
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.452	0.00	2.50
56.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.452	0.00	7.49
58.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.678	0.00	0.66
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.678	0.00	2.50
58.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.678	0.00	7.49
60.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	0.66

Linear Appurtenance Segment Forces (Factored)

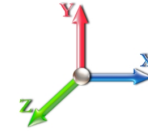
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 20

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	2.50
60.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	7.49
62.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.114	0.00	0.66
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.114	0.00	2.50
62.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.114	0.00	7.49
64.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.325	0.00	0.66
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.325	0.00	2.50
64.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.325	0.00	7.49
66.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.531	0.00	0.66
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.531	0.00	2.50
66.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.531	0.00	7.49
66.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	23.531	0.00	0.00
66.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	23.548	0.00	0.06
66.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	23.548	0.00	0.21
66.17	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	23.548	0.00	0.64
66.17	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	23.548	0.00	0.00
68.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	23.733	0.00	0.60
68.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	23.733	0.00	2.28
68.00	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	23.733	0.00	6.85
68.00	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	23.733	0.00	0.00
70.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	0.66
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	2.50
70.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	7.49
70.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	0.00
71.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.027	0.00	0.33
71.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.027	0.00	1.25
71.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.027	0.00	3.74
71.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.027	0.00	0.00
72.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.123	0.00	0.33
72.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.123	0.00	1.25
72.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.123	0.00	3.74
72.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.123	0.00	0.00
74.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	0.66
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	2.50
74.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	7.49
74.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	0.00
76.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.499	0.00	0.66
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.499	0.00	2.50
76.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.499	0.00	7.49
76.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.499	0.00	0.00
78.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.681	0.00	0.66
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.681	0.00	2.50
78.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.681	0.00	7.49
78.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.681	0.00	0.00
80.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	0.66
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	2.50
80.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	7.49

Linear Appurtenance Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

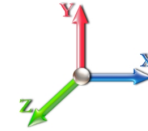


Page: 21

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
80.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	0.00
81.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.949	0.00	0.33
81.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.949	0.00	1.25
81.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.949	0.00	3.74
81.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.949	0.00	0.00
82.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.037	0.00	0.33
82.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.037	0.00	1.25
82.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.037	0.00	3.74
82.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.037	0.00	0.00
84.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	0.66
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	2.50
84.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	7.49
84.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	0.00
85.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	0.33
85.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	1.25
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	3.74
85.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	0.00
86.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.380	0.00	0.33
86.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.380	0.00	1.25
86.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.380	0.00	3.74
86.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.380	0.00	0.00
88.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.547	0.00	0.66
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.547	0.00	2.50
88.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.547	0.00	7.49
88.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.547	0.00	0.00
90.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	0.66
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	2.50
90.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	7.49
90.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	0.00
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.793	0.00	0.33
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.793	0.00	1.25
91.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.793	0.00	3.74
91.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.793	0.00	0.00
92.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.873	0.00	0.33
92.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.873	0.00	1.25
92.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.873	0.00	3.74
92.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.873	0.00	0.00
93.83	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	26.019	0.00	0.60
93.83	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	26.019	0.00	2.28
93.83	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	26.019	0.00	6.85
93.83	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	26.019	0.00	0.00
94.00	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	26.033	0.00	0.06
94.00	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	26.033	0.00	0.21
94.00	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	26.033	0.00	0.64
94.00	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	26.033	0.00	0.00
96.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.190	0.00	0.66
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.190	0.00	2.50

Linear Appurtenance Segment Forces (Factored)

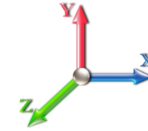
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 22

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
96.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.190	0.00	7.49
96.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.190	0.00	0.00
98.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.345	0.00	0.66
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.345	0.00	2.50
98.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.345	0.00	7.49
100.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	0.66
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	2.50
100.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	7.49
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.648	0.00	0.66
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.648	0.00	2.50
102.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.648	0.00	7.49
104.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.796	0.00	0.66
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.796	0.00	2.50
104.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.796	0.00	7.49
106.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.942	0.00	0.66
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.942	0.00	2.50
106.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.942	0.00	7.49
108.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.086	0.00	0.66
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.086	0.00	2.50
108.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.086	0.00	7.49
110.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	0.66
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	2.50
110.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	7.49
111.17	Safety Cable	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	27.311	0.00	0.38
111.17	Step bolts (ladder)	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	27.311	0.00	1.46
111.17	1 5/8" Coax	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	27.311	0.00	4.38
111.17	C6X10.5 Reinforcing	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	27.311	0.00	0.00
112.00	Safety Cable	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	27.369	0.00	0.27
112.00	Step bolts (ladder)	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	27.369	0.00	1.04
112.00	1 5/8" Coax	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	27.369	0.00	3.11
112.00	C6X10.5 Reinforcing	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	27.369	0.00	0.00
114.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.508	0.00	0.66
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.508	0.00	2.50
114.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.508	0.00	7.49
114.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.508	0.00	0.00
115.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	0.33
115.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	1.25
115.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	3.74
115.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	0.00
116.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.645	0.00	0.33
116.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.645	0.00	1.25
116.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.645	0.00	3.74
116.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.645	0.00	0.00
118.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.780	0.00	0.66
118.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.780	0.00	2.50
118.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.780	0.00	7.49
118.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.780	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

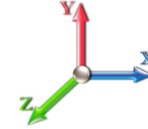
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 23

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
120.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	0.66
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	2.50
120.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	7.49
120.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	0.00
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.046	0.00	0.66
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.046	0.00	2.50
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.046	0.00	7.49
122.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.046	0.00	0.00
123.83	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	28.166	0.00	0.60
123.83	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	28.166	0.00	2.28
123.83	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	28.166	0.00	6.85
123.83	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	28.166	0.00	0.00
124.00	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	28.177	0.00	0.06
124.00	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	28.177	0.00	0.21
124.00	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	28.177	0.00	0.64
124.00	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	28.177	0.00	0.00
126.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.306	0.00	0.66
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.306	0.00	2.50
126.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.306	0.00	7.49
126.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.306	0.00	0.00
128.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.434	0.00	0.66
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.434	0.00	2.50
128.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.434	0.00	7.49
130.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.560	0.00	0.66
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.560	0.00	2.50
130.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.560	0.00	7.49
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.685	0.00	0.66
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.685	0.00	2.50
132.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.685	0.00	7.49
134.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.808	0.00	0.66
134.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.808	0.00	2.50
134.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.808	0.00	7.49
135.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.869	0.00	0.33
135.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.869	0.00	1.25
135.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.869	0.00	3.74
136.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.930	0.00	0.33
136.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.930	0.00	1.25
136.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.930	0.00	3.74
138.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.051	0.00	0.66
138.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.051	0.00	2.50
138.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.051	0.00	7.49
140.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.171	0.00	0.66
140.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.171	0.00	2.50
140.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.171	0.00	7.49
142.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.289	0.00	0.66
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.289	0.00	2.50
142.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.289	0.00	7.49

Linear Appurtenance Segment Forces (Factored)

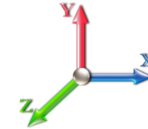
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 24

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
143.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.348	0.00	0.33
143.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.348	0.00	1.25
143.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.348	0.00	3.74
144.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.407	0.00	0.33
144.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.407	0.00	1.25
144.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.407	0.00	3.74
146.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.523	0.00	0.66
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.523	0.00	2.50
146.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.523	0.00	7.49
148.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.638	0.00	0.66
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.638	0.00	2.50
148.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.638	0.00	7.49
150.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.752	0.00	0.66
150.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.752	0.00	2.50
150.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.752	0.00	7.49
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.865	0.00	0.66
152.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.865	0.00	2.50
152.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.865	0.00	7.49
153.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.921	0.00	0.33
153.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.921	0.00	1.25
153.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.921	0.00	3.74
154.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.976	0.00	0.33
154.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.976	0.00	1.25
154.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.976	0.00	3.74
156.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.087	0.00	0.66
156.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.087	0.00	2.50
156.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.087	0.00	7.49
158.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.197	0.00	0.66
158.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.197	0.00	2.50
158.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.197	0.00	7.49
160.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.305	0.00	0.66
160.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.305	0.00	2.50
160.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.305	0.00	7.49
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.413	0.00	0.66
162.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.413	0.00	2.50
162.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.413	0.00	7.49
163.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.467	0.00	0.33
163.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.467	0.00	1.25
163.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.467	0.00	3.74
164.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.520	0.00	0.33
164.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.520	0.00	1.25
164.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.520	0.00	3.74
166.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.626	0.00	0.66
166.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.626	0.00	2.50
166.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.626	0.00	7.49
168.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.731	0.00	0.66
168.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.731	0.00	2.50

Linear Appurtenance Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

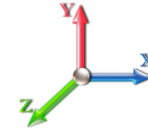


Page: 25

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
168.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.731	0.00	7.49
170.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.835	0.00	0.66
170.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.835	0.00	2.50
170.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.835	0.00	7.49
172.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.938	0.00	0.66
172.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.938	0.00	2.50
172.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.938	0.00	7.49
173.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.989	0.00	0.33
173.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.989	0.00	1.25
173.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.989	0.00	3.74
174.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.041	0.00	0.33
174.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.041	0.00	1.25
176.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.142	0.00	0.66
176.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.142	0.00	2.50
178.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.243	0.00	0.66
178.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.243	0.00	2.50
180.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.343	0.00	0.66
180.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.343	0.00	2.50
181.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.392	0.00	0.33
181.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.392	0.00	1.25
182.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.442	0.00	0.33
182.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.442	0.00	1.25
183.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.491	0.00	0.33
183.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.491	0.00	1.25
Totals:											0.0	936.0

Calculated Forces

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (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	



168.00	-5.16	-8.71	0.00	-58.57	0.00	58.57	1533.54	766.77	1672.03	837.26	107.89	-5.877	0.000	0.073
170.00	-4.97	-8.53	0.00	-41.15	0.00	41.15	1513.65	756.83	1620.83	811.62	110.35	-5.892	0.000	0.054
172.00	-4.78	-8.35	0.00	-24.09	0.00	24.09	1493.50	746.75	1570.13	786.23	112.82	-5.902	0.000	0.034
173.00	-2.42	-2.20	0.00	-15.73	0.00	15.73	1483.33	741.66	1544.98	773.64	114.05	-5.906	0.000	0.022
174.00	-2.34	-2.12	0.00	-13.53	0.00	13.53	1473.09	736.54	1519.95	761.10	115.29	-5.908	0.000	0.019
176.00	-2.19	-1.95	0.00	-9.30	0.00	9.30	1452.41	726.20	1470.30	736.24	117.76	-5.912	0.000	0.014
178.00	-2.05	-1.78	0.00	-5.41	0.00	5.41	1427.85	713.93	1417.60	709.85	120.23	-5.915	0.000	0.009
180.00	-1.90	-1.62	0.00	-1.84	0.00	1.84	1400.09	700.05	1362.74	682.38	122.71	-5.916	0.000	0.004
180.00	-1.90	-1.62	0.00	-1.84	0.00	1.84	678.42	339.21	662.23	396.30	122.71	-5.916	0.000	0.007
181.00	-0.16	-0.15	0.00	-0.23	0.00	0.23	678.42	339.21	662.23	396.30	123.94	-5.917	0.000	0.001
182.00	-0.08	-0.08	0.00	-0.08	0.00	0.08	678.42	339.21	662.23	396.30	125.18	-5.917	0.000	0.000
183.00	0.00	-0.07	0.00	0.00	0.00	0.00	678.42	339.21	662.23	396.30	126.42	-5.917	0.000	0.000

Wind Loading - Shaft

Structure: CT01002-S-SBA **Code:** EIA/TIA-222-G 3/13/2018
Site Name: Waterford **Exposure:** B
Height: 183.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II **Page:** 29



Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 30

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	18.769	20.65	479.47	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.70	18.769	20.65	475.97	0.650	0.000	2.00	10.876	7.07	233.5	0.0	465.8
4.00		1.00	0.70	18.769	20.65	472.47	0.650	0.000	2.00	10.796	7.02	231.8	0.0	462.3
6.00		1.00	0.70	18.769	20.65	468.97	0.650	0.000	2.00	10.717	6.97	230.1	0.0	458.9
8.00		1.00	0.70	18.769	20.65	465.47	0.650	0.000	2.00	10.637	6.91	228.4	0.0	455.5
10.00		1.00	0.70	18.769	20.65	461.97	0.650	0.000	2.00	10.557	6.86	226.7	0.0	452.0
12.00		1.00	0.70	18.769	20.65	458.47	0.650	0.000	2.00	10.478	6.81	225.0	0.0	448.6
14.00		1.00	0.70	18.769	20.65	454.97	0.650	0.000	2.00	10.398	6.76	223.3	0.0	445.2
16.00		1.00	0.70	18.769	20.65	451.47	0.650	0.000	2.00	10.318	6.71	221.5	0.0	441.7
18.00		1.00	0.70	18.769	20.65	447.97	0.650	0.000	2.00	10.239	6.66	219.8	0.0	438.3
20.00		1.00	0.70	18.769	20.65	444.47	0.650	0.000	2.00	10.159	6.60	218.1	0.0	434.9
22.00		1.00	0.70	18.769	20.65	440.97	0.650	0.000	2.00	10.079	6.55	216.4	0.0	431.4
24.00		1.00	0.70	18.769	20.65	437.47	0.650	0.000	2.00	9.999	6.50	214.7	0.0	428.0
26.00		1.00	0.70	18.769	20.65	433.97	0.650	0.000	2.00	9.920	6.45	213.0	0.0	424.6
28.00		1.00	0.70	18.769	20.65	430.47	0.650	0.000	2.00	9.840	6.40	211.3	0.0	421.1
30.00		1.00	0.70	18.785	20.66	427.15	0.650	0.000	2.00	9.760	6.34	209.7	0.0	417.7
32.00		1.00	0.71	19.134	21.05	427.58	0.650	0.000	2.00	9.681	6.29	211.9	0.0	414.3
34.00		1.00	0.73	19.469	21.42	427.73	0.650	0.000	2.00	9.601	6.24	213.8	0.0	410.8
36.00		1.00	0.74	19.789	21.77	427.64	0.650	0.000	2.00	9.521	6.19	215.6	0.0	407.4
38.00		1.00	0.75	20.097	22.11	427.34	0.650	0.000	2.00	9.442	6.14	217.1	0.0	404.0
40.00		1.00	0.76	20.394	22.43	426.83	0.650	0.000	2.00	9.362	6.09	218.4	0.0	400.5
41.00	Bot - Section 2	1.00	0.77	20.538	22.59	426.51	0.650	0.000	1.00	4.651	3.02	109.3	0.0	199.0
42.00		1.00	0.77	20.680	22.75	426.14	0.650	0.000	1.00	4.695	3.05	111.1	0.0	399.0
44.00		1.00	0.78	20.957	23.05	425.29	0.650	0.000	2.00	9.330	6.06	223.7	0.0	792.8
46.00		1.00	0.79	21.225	23.35	424.27	0.650	0.000	2.00	9.250	6.01	224.6	0.0	786.0
48.00	Top - Section 1	1.00	0.80	21.485	23.63	423.12	0.650	0.000	2.00	9.170	5.96	225.4	0.0	779.1
50.00		1.00	0.81	21.737	23.91	427.83	0.650	0.000	2.00	9.091	5.91	226.1	0.0	388.8
51.00	Top - Section 2	1.00	0.82	21.860	24.05	427.15	0.650	0.000	1.00	4.515	2.94	112.9	0.0	193.1
52.00		1.00	0.82	21.982	24.18	426.44	0.650	0.000	1.00	4.495	2.92	113.0	0.0	192.3
54.00		1.00	0.83	22.220	24.44	424.94	0.650	0.000	2.00	8.931	5.81	227.0	0.0	382.0
56.00		1.00	0.84	22.452	24.70	423.33	0.650	0.000	2.00	8.852	5.75	227.4	0.0	378.6
58.00		1.00	0.85	22.678	24.95	421.61	0.650	0.000	2.00	8.772	5.70	227.6	0.0	375.1
60.00		1.00	0.85	22.899	25.19	419.79	0.650	0.000	2.00	8.692	5.65	227.7	0.0	371.7
62.00		1.00	0.86	23.114	25.43	417.87	0.650	0.000	2.00	8.612	5.60	227.7	0.0	368.3
64.00		1.00	0.87	23.325	25.66	415.87	0.650	0.000	2.00	8.533	5.55	227.7	0.0	364.8
66.00		1.00	0.88	23.531	25.88	413.78	0.650	0.000	2.00	8.453	5.49	227.6	0.0	361.4
66.17	RB1	1.00	0.88	23.548	25.90	413.60	0.650	0.000	0.17	0.715	0.46	19.3	0.0	30.6
68.00		1.00	0.89	23.733	26.11	411.62	0.650	0.000	1.83	7.659	4.98	207.9	0.0	327.4
70.00		1.00	0.89	23.930	26.32	409.37	0.650	0.000	2.00	8.294	5.39	227.0	0.0	354.5
71.00	Top - Section 3	1.00	0.90	24.027	26.43	408.22	0.650	0.000	1.00	4.117	2.68	113.2	0.0	176.0
72.00		1.00	0.90	24.123	26.54	407.05	0.650	0.000	1.00	4.097	2.66	113.1	0.0	175.1
74.00		1.00	0.91	24.313	26.74	404.66	0.650	0.000	2.00	8.134	5.29	226.2	0.0	347.7
76.00		1.00	0.91	24.499	26.95	402.21	0.650	0.000	2.00	8.055	5.24	225.7	0.0	344.2
78.00		1.00	0.92	24.681	27.15	399.69	0.650	0.000	2.00	7.975	5.18	225.2	0.0	340.8
80.00		1.00	0.93	24.861	27.35	397.11	0.650	0.000	2.00	7.895	5.13	224.5	0.0	337.4
81.00	Top - Section 4	1.00	0.93	24.949	27.44	395.80	0.650	0.000	1.00	3.918	2.55	111.8	0.0	167.4
82.00		1.00	0.93	25.037	27.54	394.47	0.650	0.000	1.00	3.898	2.53	111.6	0.0	139.0

Wind Loading - Shaft

Structure: CT01002-S-SBA
Site Name: Waterford
Height: 183.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

3/13/2018
Page: 30



84.00	1.00	0.94	25.210	27.73	391.78	0.650	0.000	2.00	7.736	5.03	223.1	0.0	275.8
85.00 Bot - Section 6	1.00	0.94	25.295	27.82	390.41	0.650	0.000	1.00	3.838	2.49	111.1	0.0	136.8
86.00	1.00	0.95	25.380	27.92	389.03	0.650	0.000	1.00	3.871	2.52	112.4	0.0	274.1
88.00	1.00	0.95	25.547	28.10	386.22	0.650	0.000	2.00	7.682	4.99	224.5	0.0	543.9
90.00	1.00	0.96	25.711	28.28	383.37	0.650	0.000	2.00	7.603	4.94	223.6	0.0	538.2
91.00 Top - Section 5	1.00	0.96	25.793	28.37	381.92	0.650	0.000	1.00	3.771	2.45	111.3	0.0	267.0
92.00	1.00	0.96	25.873	28.46	385.92	0.650	0.000	1.00	3.752	2.44	111.0	0.0	133.7
93.83 RT1	1.00	0.97	26.019	28.62	383.24	0.650	0.000	1.83	6.814	4.43	202.8	0.0	242.9
94.00	1.00	0.97	26.033	28.64	382.99	0.650	0.000	0.17	0.630	0.41	18.8	0.0	22.4
96.00	1.00	0.98	26.190	28.81	380.01	0.650	0.000	2.00	7.364	4.79	220.6	0.0	262.4
98.00	1.00	0.98	26.345	28.98	376.98	0.650	0.000	2.00	7.284	4.73	219.5	0.0	259.6
100.00	1.00	0.99	26.497	29.15	373.91	0.650	0.000	2.00	7.204	4.68	218.4	0.0	256.7
102.00	1.00	0.99	26.648	29.31	370.80	0.650	0.000	2.00	7.125	4.63	217.2	0.0	253.8
104.00	1.00	1.00	26.796	29.48	367.65	0.650	0.000	2.00	7.045	4.58	216.0	0.0	251.0
106.00	1.00	1.00	26.942	29.64	364.46	0.650	0.000	2.00	6.967	4.53	214.8	0.0	248.1
108.00	1.00	1.01	27.086	29.79	361.23	0.650	0.000	2.00	6.887	4.48	213.6	0.0	245.3
110.00	1.00	1.02	27.229	29.95	357.96	0.650	0.000	2.00	6.807	4.43	212.4	0.0	242.4
111.17 RB2	1.00	1.02	27.311	30.04	356.03	0.650	0.000	1.17	3.711	2.41	116.0	0.0	140.5
112.00	1.00	1.02	27.369	30.11	354.66	0.650	0.000	0.83	2.616	1.70	81.9	0.0	99.1
114.00	1.00	1.03	27.508	30.26	351.32	0.650	0.000	2.00	6.248	4.06	196.6	0.0	236.7
115.00 Top - Section 6	1.00	1.03	27.577	30.33	349.64	0.650	0.000	1.00	3.293	2.14	103.9	0.0	117.3
116.00	1.00	1.03	27.645	30.41	347.94	0.650	0.000	1.00	3.273	2.13	103.5	0.0	93.4
118.00	1.00	1.04	27.780	30.56	344.53	0.650	0.000	2.00	6.487	4.22	206.2	0.0	185.1
120.00	1.00	1.04	27.914	30.71	341.09	0.650	0.000	2.00	6.407	4.16	204.6	0.0	182.8
122.00	1.00	1.05	28.046	30.85	337.62	0.650	0.000	2.00	6.328	4.11	203.0	0.0	180.5
123.83 RT2	1.00	1.05	28.166	30.98	334.42	0.650	0.000	1.83	5.720	3.72	184.3	0.0	163.2
124.00	1.00	1.05	28.177	30.99	334.12	0.650	0.000	0.17	0.528	0.34	17.0	0.0	15.1
126.00	1.00	1.06	28.306	31.14	330.58	0.650	0.000	2.00	6.168	4.01	199.7	0.0	175.9
128.00	1.00	1.06	28.434	31.28	327.02	0.650	0.000	2.00	6.089	3.96	198.1	0.0	173.6
130.00 Bot - Section 8	1.00	1.07	28.560	31.42	323.43	0.650	0.000	2.00	6.009	3.91	196.3	0.0	171.3
132.00	1.00	1.07	28.685	31.55	319.81	0.650	0.000	2.00	6.014	3.91	197.4	0.0	340.5
134.00	1.00	1.07	28.808	31.69	316.16	0.650	0.000	2.00	5.934	3.86	195.6	0.0	336.0
135.00 Top - Section 7	1.00	1.08	28.869	31.76	314.32	0.650	0.000	1.00	2.937	1.91	97.0	0.0	166.3
136.00	1.00	1.08	28.930	31.82	317.10	0.650	0.000	1.00	2.917	1.90	96.6	0.0	83.2
138.00	1.00	1.08	29.051	31.96	313.41	0.650	0.000	2.00	5.775	3.75	191.9	0.0	164.6
140.00	1.00	1.09	29.171	32.09	309.69	0.650	0.000	2.00	5.695	3.70	190.1	0.0	162.3
142.00	1.00	1.09	29.289	32.22	305.95	0.650	0.000	2.00	5.616	3.65	188.2	0.0	160.0
143.00 Appurtenance(s)	1.00	1.09	29.348	32.28	304.06	0.650	0.000	1.00	2.778	1.81	93.3	0.0	79.2
144.00	1.00	1.10	29.407	32.35	302.18	0.650	0.000	1.00	2.758	1.79	92.8	0.0	78.6
146.00	1.00	1.10	29.523	32.48	298.38	0.650	0.000	2.00	5.456	3.55	184.3	0.0	155.5
148.00	1.00	1.11	29.638	32.60	294.56	0.650	0.000	2.00	5.376	3.49	182.3	0.0	153.2
150.00 Appurtenance(s)	1.00	1.11	29.752	32.73	290.72	0.650	0.000	2.00	5.297	3.44	180.3	0.0	150.9
152.00	1.00	1.11	29.865	32.85	286.86	0.650	0.000	2.00	5.217	3.39	178.2	0.0	148.6
153.00 Appurtenance(s)	1.00	1.12	29.921	32.91	284.92	0.650	0.000	1.00	2.579	1.68	88.3	0.0	73.4
154.00	1.00	1.12	29.976	32.97	282.97	0.650	0.000	1.00	2.559	1.66	87.7	0.0	72.9
156.00	1.00	1.12	30.087	33.10	279.06	0.650	0.000	2.00	5.058	3.29	174.1	0.0	144.0
158.00	1.00	1.13	30.197	33.22	275.13	0.650	0.000	2.00	4.978	3.24	172.0	0.0	141.7
160.00	1.00	1.13	30.305	33.34	271.18	0.650	0.000	2.00	4.898	3.18	169.8	0.0	139.5
162.00	1.00	1.13	30.413	33.45	267.21	0.650	0.000	2.00	4.819	3.13	167.7	0.0	137.2
163.00 Appurtenance(s)	1.00	1.14	30.467	33.51	265.21	0.650	0.000	1.00	2.379	1.55	82.9	0.0	67.7
164.00	1.00	1.14	30.520	33.57	263.21	0.650	0.000	1.00	2.360	1.53	82.4	0.0	67.2
166.00	1.00	1.14	30.626	33.69	259.20	0.650	0.000	2.00	4.659	3.03	163.2	0.0	132.6
168.00	1.00	1.15	30.731	33.80	255.16	0.650	0.000	2.00	4.580	2.98	161.0	0.0	130.3
170.00	1.00	1.15	30.835	33.92	251.11	0.650	0.000	2.00	4.500	2.92	158.7	0.0	128.0
172.00	1.00	1.15	30.938	34.03	247.03	0.650	0.000	2.00	4.420	2.87	156.4	0.0	125.7
173.00 Appurtenance(s)	1.00	1.16	30.989	34.09	244.99	0.650	0.000	1.00	2.180	1.42	77.3	0.0	62.0
174.00	1.00	1.16	31.041	34.14	242.94	0.650	0.000	1.00	2.160	1.40	76.7	0.0	61.4

Wind Loading - Shaft

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 31
	Struct Class: II	



176.00	1.00	1.16	31.142	34.26	238.83	0.650	0.000	2.00	4.261	2.77	151.8	0.0	121.1
178.00	1.00	1.17	31.243	34.37	234.70	0.650	0.000	2.00	4.181	2.72	149.4	0.0	118.9
180.00 Top - Section 8	1.00	1.17	31.343	34.48	230.55	0.650	0.000	2.00	4.102	2.67	147.1	0.0	116.6
181.00 Appurtenance(s)	1.00	1.17	31.392	34.53	227.23	0.600	0.000	1.00	2.000	1.20	66.3	0.0	64.1
182.00	1.00	1.17	31.442	34.59	227.41	0.600	0.000	1.00	2.000	1.20	66.4	0.0	64.1
183.00	1.00	1.17	31.491	34.64	227.58	0.600	0.000	1.00	2.000	1.20	66.5	0.0	64.1
Totals:								183.00			18,722.6		28,334.9

Discrete Appurtenance Forces

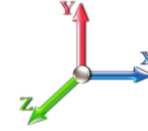
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 32

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 30

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	181.00	Low Profile	1	31.392	34.532	1.00	1.00	22.00	1350.00	0.000	0.000	1215.51	0.00	0.00
2	173.00	LNx-6514DS-VTM	3	30.989	34.088	0.64	0.80	15.53	89.37	0.000	0.000	847.18	0.00	0.00
3	173.00	Low Profile	1	30.989	34.088	1.00	1.00	22.00	1350.00	0.000	0.000	1199.91	0.00	0.00
4	173.00	LPA-80080-4CF-EDIN-0	4	30.989	34.088	0.80	0.80	8.35	43.20	0.000	0.000	455.53	0.00	0.00
5	173.00	HBXX-6517DS-VTM	6	30.989	34.088	0.62	0.80	31.60	219.78	0.000	0.000	1723.55	0.00	0.00
6	173.00	APL866513-42T0	2	30.989	34.088	0.74	0.80	6.03	28.26	0.000	0.000	328.69	0.00	0.00
7	173.00	RRH2X60-AWS	3	30.989	34.088	0.61	0.80	6.38	162.00	0.000	0.000	348.19	0.00	0.00
8	173.00	RRH2x60-700U	3	30.989	34.088	0.74	0.80	5.54	135.00	0.000	0.000	301.91	0.00	0.00
9	173.00	RRH2x60-1900	3	30.989	34.088	0.72	0.80	3.26	52.65	0.000	0.000	177.89	0.00	0.00
10	173.00	DB-T1-6Z-8AB-OZ	2	30.989	34.088	0.80	0.80	7.68	79.20	0.000	0.000	418.88	0.00	0.00
11	163.00	DAP Head	3	30.467	33.513	0.80	0.80	4.51	113.40	0.000	0.000	241.94	0.00	0.00
12	163.00	Low Profile	1	30.467	33.513	1.00	1.00	22.00	1350.00	0.000	0.000	1179.67	0.00	0.00
13	163.00	LLPX310R	3	30.467	33.513	0.55	0.80	7.12	77.22	0.000	0.000	381.83	0.00	0.00
14	153.00	S11B12	3	29.921	32.913	0.57	0.80	5.01	148.50	0.000	0.000	263.81	0.00	0.00
15	153.00	KRY 112 144/1	3	29.921	32.913	0.56	0.80	0.69	29.70	0.000	0.000	36.27	0.00	0.00
16	153.00	LNx-6515DS	3	29.921	32.913	0.64	0.80	22.02	134.46	0.000	0.000	1159.70	0.00	0.00
17	153.00	AIR 21, 1.3M, B4A B2P	3	29.921	32.913	0.69	0.80	12.57	244.08	0.000	0.000	661.93	0.00	0.00
18	153.00	Low Profile Platform-flat	1	29.921	32.913	1.00	1.00	25.00	1080.00	0.000	0.000	1316.50	0.00	0.00
19	153.00	AIR 21, 1.3M, B2A B4P	3	29.921	32.913	0.69	0.80	12.57	247.05	0.000	0.000	661.93	0.00	0.00
20	150.00	Low Profile	1	29.752	32.727	1.00	1.00	22.00	1350.00	0.000	0.000	1151.99	0.00	0.00
21	143.00	DC6-48-60-18-8F	1	29.348	32.283	0.80	0.80	1.18	28.62	0.000	0.000	60.74	0.00	0.00
22	143.00	Powerwave 7770.00	3	29.348	32.283	0.58	0.80	9.64	94.50	0.000	0.000	497.73	0.00	0.00
23	143.00	Low Profile	1	29.348	32.283	1.00	1.00	22.00	1350.00	0.000	0.000	1136.36	0.00	0.00
24	143.00	850-1900 Dual Band	3	29.348	32.283	0.53	0.80	0.82	14.85	0.000	0.000	42.55	0.00	0.00
25	143.00	RRUS 11	3	29.348	32.283	0.54	0.80	4.05	136.89	0.000	0.000	209.31	0.00	0.00
26	143.00	DBC-750	3	29.348	32.283	0.80	0.80	1.22	12.96	0.000	0.000	63.22	0.00	0.00
27	143.00	TPA-65R-LCUUUU-H8	2	29.348	32.283	0.66	0.80	17.66	135.00	0.000	0.000	912.32	0.00	0.00
28	143.00	QS46512-2	1	29.348	32.283	0.77	0.80	4.25	24.57	0.000	0.000	219.71	0.00	0.00
29	143.00	OPA-65R-LCUU-H4	1	29.348	32.283	0.63	0.80	3.75	51.30	0.000	0.000	193.91	0.00	0.00
30	143.00	OPA-65R-LCUU-H8	2	29.348	32.283	0.63	0.80	16.12	171.00	0.000	0.000	832.44	0.00	0.00
31	143.00	DTMABP7819VG12A	3	29.348	32.283	0.54	0.80	1.83	51.84	0.000	0.000	94.69	0.00	0.00
32	143.00	DBC0061F1V51-2	3	29.348	32.283	0.80	0.80	1.03	68.58	0.000	0.000	53.31	0.00	0.00
33	143.00	RRUS 32 B2	3	29.348	32.283	0.54	0.80	4.41	143.10	0.000	0.000	227.58	0.00	0.00
Totals:								10,567.08				18,616.67		

Total Applied Force Summary

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

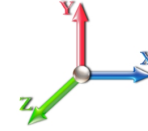


Page: 33

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 30

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
2.00		233.53	548.53	0.00	0.00
4.00		231.82	545.09	0.00	0.00
6.00		230.10	541.66	0.00	0.00
8.00		228.39	538.23	0.00	0.00
10.00		226.68	534.80	0.00	0.00
12.00		224.97	531.36	0.00	0.00
14.00		223.26	527.93	0.00	0.00
16.00		221.55	524.50	0.00	0.00
18.00		219.84	521.07	0.00	0.00
20.00		218.13	517.63	0.00	0.00
22.00		216.42	514.20	0.00	0.00
24.00		214.71	510.77	0.00	0.00
26.00		212.99	507.34	0.00	0.00
28.00		211.28	503.90	0.00	0.00
30.00		209.75	500.47	0.00	0.00
32.00		211.91	497.04	0.00	0.00
34.00		213.84	493.61	0.00	0.00
36.00		215.55	490.18	0.00	0.00
38.00		217.08	486.74	0.00	0.00
40.00		218.42	483.31	0.00	0.00
41.00		109.28	240.37	0.00	0.00
42.00		111.07	440.37	0.00	0.00
44.00		223.68	875.59	0.00	0.00
46.00		224.60	868.73	0.00	0.00
48.00		225.39	861.86	0.00	0.00
50.00		226.05	471.62	0.00	0.00
51.00		112.92	234.52	0.00	0.00
52.00		113.05	233.66	0.00	0.00
54.00		227.03	464.75	0.00	0.00
56.00		227.35	461.32	0.00	0.00
58.00		227.58	457.89	0.00	0.00
60.00		227.70	454.46	0.00	0.00
62.00		227.74	451.02	0.00	0.00
64.00		227.69	447.59	0.00	0.00
66.00		227.55	444.16	0.00	0.00
66.17		19.26	37.60	0.00	0.00
68.00		207.93	403.13	0.00	0.00
70.00		227.05	437.29	0.00	0.00
71.00		113.16	217.36	0.00	0.00
72.00		113.07	216.50	0.00	0.00
74.00		226.25	430.42	0.00	0.00
76.00		225.74	426.99	0.00	0.00
78.00		225.18	423.56	0.00	0.00
80.00		224.54	420.13	0.00	0.00
81.00		111.82	208.78	0.00	0.00
82.00		111.64	180.35	0.00	0.00

Total Applied Force Summary

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 34

84.00		223.10	358.56	0.00	0.00
85.00		111.06	178.21	0.00	0.00
86.00		112.39	315.50	0.00	0.00
88.00		224.52	626.71	0.00	0.00
90.00		223.63	620.99	0.00	0.00
91.00		111.28	308.35	0.00	0.00
92.00		111.04	175.10	0.00	0.00
93.83		202.82	318.59	0.00	0.00
94.00		18.75	29.47	0.00	0.00
96.00		220.63	345.20	0.00	0.00
98.00		219.53	342.34	0.00	0.00
100.00		218.38	339.48	0.00	0.00
102.00		217.19	336.62	0.00	0.00
104.00		215.96	333.76	0.00	0.00
106.00		202.40	330.90	0.00	0.00
108.00		201.01	328.04	0.00	0.00
110.00		199.59	325.18	0.00	0.00
111.17		115.96	188.90	0.00	0.00
112.00		81.92	133.41	0.00	0.00
114.00		196.62	319.46	0.00	0.00
115.00		103.90	158.66	0.00	0.00
116.00		103.53	134.78	0.00	0.00
118.00		206.16	267.84	0.00	0.00
120.00		204.61	265.56	0.00	0.00
122.00		203.02	263.27	0.00	0.00
123.83		184.31	238.89	0.00	0.00
124.00		17.02	22.09	0.00	0.00
126.00		199.74	258.69	0.00	0.00
128.00		198.05	256.40	0.00	0.00
130.00		196.33	254.11	0.00	0.00
132.00		197.35	423.31	0.00	0.00
134.00		195.57	418.74	0.00	0.00
135.00		97.01	207.65	0.00	0.00
136.00		96.55	124.55	0.00	0.00
138.00		191.93	247.39	0.00	0.00
140.00		190.06	245.10	0.00	0.00
142.00		188.16	242.82	0.00	0.00
143.00	(29) attachments	4637.12	2403.76	0.00	0.00
144.00		92.78	107.95	0.00	0.00
146.00		184.28	214.19	0.00	0.00
148.00		182.29	211.90	0.00	0.00
150.00	(1) attachments	1332.27	1559.62	0.00	0.00
152.00		178.24	207.33	0.00	0.00
153.00	(16) attachments	4188.41	1986.60	0.00	0.00
154.00		87.75	90.01	0.00	0.00
156.00		174.09	178.31	0.00	0.00
158.00		171.97	176.02	0.00	0.00
160.00		169.82	173.73	0.00	0.00
162.00		167.66	171.44	0.00	0.00
163.00	(7) attachments	1886.37	1625.48	0.00	0.00
164.00		82.38	81.55	0.00	0.00
166.00		163.25	161.38	0.00	0.00
168.00		161.00	159.09	0.00	0.00
170.00		158.74	156.80	0.00	0.00
172.00		156.45	154.51	0.00	0.00
173.00	(27) attachments	5879.03	2235.86	0.00	0.00
174.00		76.71	62.61	0.00	0.00

Total Applied Force Summary

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 35

176.00	151.80	123.51	0.00	0.00
178.00	149.45	121.22	0.00	0.00
180.00	147.07	118.93	0.00	0.00
181.00	(1) attachments 1281.81	1415.31	0.00	0.00
182.00	66.40	65.31	0.00	0.00
183.00	66.51	65.31	0.00	0.00
Totals:	37,339.30	45,440.73	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT01002-S-SBA

Code: EIA/TIA-222-G

3/13/2018

Site Name: Waterford

Exposure: B



Height: 183.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

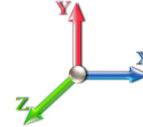
Page: 36

Load Case: 0.9D + 1.6W 105 mph Wind

Iterations 30

Dead Load Factor 0.90

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
2.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
4.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
4.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
6.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
6.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
8.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
8.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
10.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
10.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
12.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
12.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
14.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
14.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
16.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
16.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
18.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
18.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
20.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
22.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
22.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
24.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
24.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
26.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
26.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
28.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.49
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	1.87
28.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.62
30.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	0.49
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	1.87
30.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	5.62
32.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.134	0.00	0.49
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.134	0.00	1.87

Linear Appurtenance Segment Forces (Factored)

Structure: CT01002-S-SBA **Code:** EIA/TIA-222-G 3/13/2018
Site Name: Waterford **Exposure:** B
Height: 183.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 37

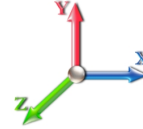


Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60

Iterations 30



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
32.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.134	0.00	5.62
34.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.469	0.00	0.49
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.469	0.00	1.87
34.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.469	0.00	5.62
36.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.789	0.00	0.49
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.789	0.00	1.87
36.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.789	0.00	5.62
38.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.097	0.00	0.49
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.097	0.00	1.87
38.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.097	0.00	5.62
40.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	0.49
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	1.87
40.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	5.62
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.538	0.00	0.25
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.538	0.00	0.94
41.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.538	0.00	2.81
42.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.680	0.00	0.25
42.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.680	0.00	0.94
42.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	20.680	0.00	2.81
44.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.957	0.00	0.49
44.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.957	0.00	1.87
44.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	20.957	0.00	5.62
46.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.225	0.00	0.49
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.225	0.00	1.87
46.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.225	0.00	5.62
48.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.485	0.00	0.49
48.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.485	0.00	1.87
48.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.485	0.00	5.62
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	0.49
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	1.87
50.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	5.62
51.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.860	0.00	0.25
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.860	0.00	0.94
51.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.860	0.00	2.81
52.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.982	0.00	0.25
52.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.982	0.00	0.94
52.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	21.982	0.00	2.81
54.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.220	0.00	0.49
54.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.220	0.00	1.87
54.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.220	0.00	5.62
56.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.452	0.00	0.49
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.452	0.00	1.87
56.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.452	0.00	5.62
58.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.678	0.00	0.49
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.678	0.00	1.87
58.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.678	0.00	5.62
60.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	0.49

Linear Appurtenance Segment Forces (Factored)

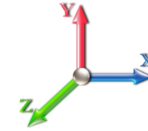
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 38

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	1.87
60.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	5.62
62.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.114	0.00	0.49
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.114	0.00	1.87
62.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.114	0.00	5.62
64.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.325	0.00	0.49
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.325	0.00	1.87
64.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.325	0.00	5.62
66.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.531	0.00	0.49
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.531	0.00	1.87
66.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.531	0.00	5.62
66.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	23.531	0.00	0.00
66.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	23.548	0.00	0.04
66.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	23.548	0.00	0.16
66.17	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	23.548	0.00	0.48
66.17	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	23.548	0.00	0.00
68.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	23.733	0.00	0.45
68.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	23.733	0.00	1.71
68.00	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	23.733	0.00	5.14
68.00	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	23.733	0.00	0.00
70.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	0.49
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	1.87
70.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	5.62
70.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	0.00
71.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.027	0.00	0.25
71.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.027	0.00	0.94
71.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.027	0.00	2.81
71.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.027	0.00	0.00
72.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.123	0.00	0.25
72.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.123	0.00	0.94
72.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.123	0.00	2.81
72.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.123	0.00	0.00
74.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	0.49
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	1.87
74.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	5.62
74.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	0.00
76.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.499	0.00	0.49
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.499	0.00	1.87
76.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.499	0.00	5.62
76.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.499	0.00	0.00
78.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.681	0.00	0.49
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.681	0.00	1.87
78.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.681	0.00	5.62
78.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.681	0.00	0.00
80.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	0.49
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	1.87
80.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	5.62

Linear Appurtenance Segment Forces (Factored)

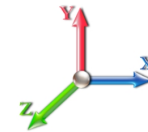
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 39

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
80.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	0.00
81.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.949	0.00	0.25
81.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.949	0.00	0.94
81.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.949	0.00	2.81
81.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.949	0.00	0.00
82.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.037	0.00	0.25
82.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.037	0.00	0.94
82.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.037	0.00	2.81
82.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.037	0.00	0.00
84.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	0.49
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	1.87
84.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	5.62
84.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	0.00
85.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	0.25
85.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	0.94
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	2.81
85.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	0.00
86.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.380	0.00	0.25
86.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.380	0.00	0.94
86.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.380	0.00	2.81
86.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.380	0.00	0.00
88.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.547	0.00	0.49
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.547	0.00	1.87
88.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.547	0.00	5.62
88.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.547	0.00	0.00
90.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	0.49
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	1.87
90.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	5.62
90.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	0.00
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.793	0.00	0.25
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.793	0.00	0.94
91.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.793	0.00	2.81
91.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.793	0.00	0.00
92.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.873	0.00	0.25
92.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.873	0.00	0.94
92.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.873	0.00	2.81
92.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.873	0.00	0.00
93.83	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	26.019	0.00	0.45
93.83	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	26.019	0.00	1.71
93.83	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	26.019	0.00	5.14
93.83	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	26.019	0.00	0.00
94.00	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	26.033	0.00	0.04
94.00	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	26.033	0.00	0.16
94.00	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	26.033	0.00	0.48
94.00	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	26.033	0.00	0.00
96.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.190	0.00	0.49
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.190	0.00	1.87

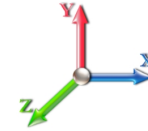
Linear Appurtenance Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
96.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.190	0.00	5.62
96.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.190	0.00	0.00
98.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.345	0.00	0.49
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.345	0.00	1.87
98.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.345	0.00	5.62
100.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	0.49
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	1.87
100.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	5.62
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.648	0.00	0.49
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.648	0.00	1.87
102.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.648	0.00	5.62
104.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.796	0.00	0.49
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.796	0.00	1.87
104.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.796	0.00	5.62
106.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.942	0.00	0.49
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.942	0.00	1.87
106.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.942	0.00	5.62
108.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.086	0.00	0.49
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.086	0.00	1.87
108.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.086	0.00	5.62
110.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	0.49
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	1.87
110.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	5.62
111.17	Safety Cable	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	27.311	0.00	0.29
111.17	Step bolts (ladder)	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	27.311	0.00	1.10
111.17	1 5/8" Coax	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	27.311	0.00	3.29
111.17	C6X10.5 Reinforcing	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	27.311	0.00	0.00
112.00	Safety Cable	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	27.369	0.00	0.20
112.00	Step bolts (ladder)	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	27.369	0.00	0.78
112.00	1 5/8" Coax	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	27.369	0.00	2.33
112.00	C6X10.5 Reinforcing	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	27.369	0.00	0.00
114.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.508	0.00	0.49
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.508	0.00	1.87
114.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.508	0.00	5.62
114.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.508	0.00	0.00
115.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	0.25
115.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	0.94
115.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	2.81
115.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	0.00
116.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.645	0.00	0.25
116.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.645	0.00	0.94
116.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.645	0.00	2.81
116.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.645	0.00	0.00
118.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.780	0.00	0.49
118.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.780	0.00	1.87
118.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.780	0.00	5.62
118.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.780	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

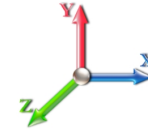
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 41

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
120.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	0.49
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	1.87
120.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	5.62
120.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	0.00
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.046	0.00	0.49
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.046	0.00	1.87
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.046	0.00	5.62
122.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.046	0.00	0.00
123.83	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	28.166	0.00	0.45
123.83	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	28.166	0.00	1.71
123.83	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	28.166	0.00	5.14
123.83	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	28.166	0.00	0.00
124.00	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	28.177	0.00	0.04
124.00	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	28.177	0.00	0.16
124.00	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	28.177	0.00	0.48
124.00	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	28.177	0.00	0.00
126.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.306	0.00	0.49
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.306	0.00	1.87
126.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.306	0.00	5.62
126.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.306	0.00	0.00
128.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.434	0.00	0.49
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.434	0.00	1.87
128.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.434	0.00	5.62
130.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.560	0.00	0.49
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.560	0.00	1.87
130.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.560	0.00	5.62
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.685	0.00	0.49
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.685	0.00	1.87
132.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.685	0.00	5.62
134.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.808	0.00	0.49
134.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.808	0.00	1.87
134.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.808	0.00	5.62
135.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.869	0.00	0.25
135.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.869	0.00	0.94
135.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.869	0.00	2.81
136.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.930	0.00	0.25
136.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.930	0.00	0.94
136.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.930	0.00	2.81
138.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.051	0.00	0.49
138.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.051	0.00	1.87
138.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.051	0.00	5.62
140.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.171	0.00	0.49
140.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.171	0.00	1.87
140.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.171	0.00	5.62
142.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.289	0.00	0.49
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.289	0.00	1.87
142.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.289	0.00	5.62

Linear Appurtenance Segment Forces (Factored)

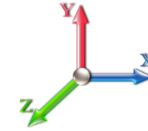
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 42

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
143.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.348	0.00	0.25
143.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.348	0.00	0.94
143.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.348	0.00	2.81
144.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.407	0.00	0.25
144.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.407	0.00	0.94
144.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.407	0.00	2.81
146.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.523	0.00	0.49
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.523	0.00	1.87
146.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.523	0.00	5.62
148.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.638	0.00	0.49
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.638	0.00	1.87
148.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.638	0.00	5.62
150.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.752	0.00	0.49
150.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.752	0.00	1.87
150.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.752	0.00	5.62
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.865	0.00	0.49
152.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.865	0.00	1.87
152.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	29.865	0.00	5.62
153.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.921	0.00	0.25
153.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.921	0.00	0.94
153.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.921	0.00	2.81
154.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.976	0.00	0.25
154.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.976	0.00	0.94
154.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	29.976	0.00	2.81
156.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.087	0.00	0.49
156.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.087	0.00	1.87
156.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.087	0.00	5.62
158.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.197	0.00	0.49
158.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.197	0.00	1.87
158.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.197	0.00	5.62
160.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.305	0.00	0.49
160.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.305	0.00	1.87
160.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.305	0.00	5.62
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.413	0.00	0.49
162.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.413	0.00	1.87
162.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.413	0.00	5.62
163.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.467	0.00	0.25
163.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.467	0.00	0.94
163.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.467	0.00	2.81
164.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.520	0.00	0.25
164.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.520	0.00	0.94
164.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.520	0.00	2.81
166.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.626	0.00	0.49
166.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.626	0.00	1.87
166.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.626	0.00	5.62
168.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.731	0.00	0.49
168.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.731	0.00	1.87

Linear Appurtenance Segment Forces (Factored)

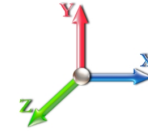
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 43

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
168.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.731	0.00	5.62
170.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.835	0.00	0.49
170.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.835	0.00	1.87
170.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.835	0.00	5.62
172.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.938	0.00	0.49
172.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.938	0.00	1.87
172.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	30.938	0.00	5.62
173.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.989	0.00	0.25
173.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.989	0.00	0.94
173.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.989	0.00	2.81
174.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.041	0.00	0.25
174.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.041	0.00	0.94
176.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.142	0.00	0.49
176.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.142	0.00	1.87
178.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.243	0.00	0.49
178.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.243	0.00	1.87
180.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.343	0.00	0.49
180.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.343	0.00	1.87
181.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.392	0.00	0.25
181.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.392	0.00	0.94
182.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.442	0.00	0.25
182.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.442	0.00	0.94
183.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.491	0.00	0.25
183.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	31.491	0.00	0.94
Totals:											0.0	702.0

Calculated Forces

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 46
	Struct Class: II	



168.00	-3.68	-8.55	0.00	-57.26	0.00	57.26	1533.54	766.77	1672.03	837.26	106.16	-5.775	0.000	0.071
170.00	-3.53	-8.37	0.00	-40.17	0.00	40.17	1513.65	756.83	1620.83	811.62	108.58	-5.790	0.000	0.052
172.00	-3.40	-8.20	0.00	-23.42	0.00	23.42	1493.50	746.75	1570.13	786.23	111.00	-5.800	0.000	0.032
173.00	-1.77	-2.13	0.00	-15.22	0.00	15.22	1483.33	741.66	1544.98	773.64	112.21	-5.803	0.000	0.021
174.00	-1.71	-2.05	0.00	-13.09	0.00	13.09	1473.09	736.54	1519.95	761.10	113.43	-5.806	0.000	0.018
176.00	-1.60	-1.88	0.00	-8.99	0.00	8.99	1452.41	726.20	1470.30	736.24	115.86	-5.809	0.000	0.013
178.00	-1.50	-1.72	0.00	-5.23	0.00	5.23	1427.85	713.93	1417.60	709.85	118.29	-5.812	0.000	0.008
180.00	-1.39	-1.56	0.00	-1.78	0.00	1.78	1400.09	700.05	1362.74	682.38	120.72	-5.814	0.000	0.004
180.00	-1.39	-1.56	0.00	-1.78	0.00	1.78	678.42	339.21	662.23	396.30	120.72	-5.814	0.000	0.007
181.00	-0.12	-0.15	0.00	-0.22	0.00	0.22	678.42	339.21	662.23	396.30	121.93	-5.814	0.000	0.001
182.00	-0.06	-0.07	0.00	-0.07	0.00	0.07	678.42	339.21	662.23	396.30	123.15	-5.814	0.000	0.000
183.00	0.00	-0.07	0.00	0.00	0.00	0.00	678.42	339.21	662.23	396.30	124.36	-5.814	0.000	0.000

Wind Loading - Shaft

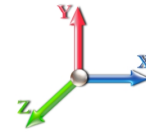
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 47

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.256	4.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.70	4.256	4.68	0.00	1.200	1.133	2.00	11.254	13.50	63.2	183.2	804.2
4.00		1.00	0.70	4.256	4.68	0.00	1.200	1.215	2.00	11.201	13.44	62.9	195.2	811.6
6.00		1.00	0.70	4.256	4.68	0.00	1.200	1.265	2.00	11.138	13.37	62.6	201.9	813.8
8.00		1.00	0.70	4.256	4.68	0.00	1.200	1.302	2.00	11.071	13.29	62.2	206.4	813.7
10.00		1.00	0.70	4.256	4.68	0.00	1.200	1.331	2.00	11.001	13.20	61.8	209.6	812.3
12.00		1.00	0.70	4.256	4.68	0.00	1.200	1.356	2.00	10.929	13.12	61.4	211.9	810.1
14.00		1.00	0.70	4.256	4.68	0.00	1.200	1.377	2.00	10.857	13.03	61.0	213.7	807.2
16.00		1.00	0.70	4.256	4.68	0.00	1.200	1.395	2.00	10.783	12.94	60.6	215.0	804.0
18.00		1.00	0.70	4.256	4.68	0.00	1.200	1.412	2.00	10.709	12.85	60.2	216.0	800.4
20.00		1.00	0.70	4.256	4.68	0.00	1.200	1.427	2.00	10.634	12.76	59.7	216.6	796.5
22.00		1.00	0.70	4.256	4.68	0.00	1.200	1.440	2.00	10.559	12.67	59.3	217.1	792.3
24.00		1.00	0.70	4.256	4.68	0.00	1.200	1.453	2.00	10.484	12.58	58.9	217.3	788.0
26.00		1.00	0.70	4.256	4.68	0.00	1.200	1.465	2.00	10.408	12.49	58.5	217.4	783.5
28.00		1.00	0.70	4.256	4.68	0.00	1.200	1.476	2.00	10.332	12.40	58.0	217.3	778.8
30.00		1.00	0.70	4.260	4.69	0.00	1.200	1.486	2.00	10.256	12.31	57.7	217.1	774.1
32.00		1.00	0.71	4.339	4.77	0.00	1.200	1.495	2.00	10.179	12.22	58.3	216.8	769.2
34.00		1.00	0.73	4.415	4.86	0.00	1.200	1.504	2.00	10.103	12.12	58.9	216.4	764.2
36.00		1.00	0.74	4.487	4.94	0.00	1.200	1.513	2.00	10.026	12.03	59.4	215.9	759.1
38.00		1.00	0.75	4.557	5.01	0.00	1.200	1.521	2.00	9.949	11.94	59.8	215.4	754.0
40.00		1.00	0.76	4.625	5.09	0.00	1.200	1.529	2.00	9.872	11.85	60.3	214.7	748.8
41.00 Bot - Section 2		1.00	0.77	4.657	5.12	0.00	1.200	1.533	1.00	4.907	5.89	30.2	107.2	372.5
42.00		1.00	0.77	4.689	5.16	0.00	1.200	1.537	1.00	4.951	5.94	30.6	108.4	640.4
44.00		1.00	0.78	4.752	5.23	0.00	1.200	1.544	2.00	9.844	11.81	61.8	216.1	1273.2
46.00		1.00	0.79	4.813	5.29	0.00	1.200	1.551	2.00	9.767	11.72	62.0	215.3	1263.2
48.00 Top - Section 1		1.00	0.80	4.872	5.36	0.00	1.200	1.557	2.00	9.689	11.63	62.3	214.4	1253.2
50.00		1.00	0.81	4.929	5.42	0.00	1.200	1.564	2.00	9.612	11.53	62.5	213.5	731.9
51.00 Top - Section 2		1.00	0.82	4.957	5.45	0.00	1.200	1.567	1.00	4.777	5.73	31.3	106.5	364.0
52.00		1.00	0.82	4.984	5.48	0.00	1.200	1.570	1.00	4.757	5.71	31.3	106.2	362.6
54.00		1.00	0.83	5.039	5.54	0.00	1.200	1.576	2.00	9.456	11.35	62.9	211.5	720.8
56.00		1.00	0.84	5.091	5.60	0.00	1.200	1.581	2.00	9.379	11.25	63.0	210.4	715.1
58.00		1.00	0.85	5.142	5.66	0.00	1.200	1.587	2.00	9.301	11.16	63.1	209.3	709.5
60.00		1.00	0.85	5.193	5.71	0.00	1.200	1.592	2.00	9.223	11.07	63.2	208.2	703.8
62.00		1.00	0.86	5.241	5.77	0.00	1.200	1.598	2.00	9.145	10.97	63.3	207.0	698.0
64.00		1.00	0.87	5.289	5.82	0.00	1.200	1.603	2.00	9.067	10.88	63.3	205.8	692.3
66.00		1.00	0.88	5.336	5.87	0.00	1.200	1.608	2.00	8.989	10.79	63.3	204.6	686.5
66.17 RB1		1.00	0.88	5.340	5.87	0.00	1.200	1.608	0.17	0.760	0.91	5.4	17.4	58.1
68.00		1.00	0.89	5.382	5.92	0.00	1.200	1.612	1.83	8.150	9.78	57.9	186.1	622.6
70.00		1.00	0.89	5.426	5.97	0.00	1.200	1.617	2.00	8.833	10.60	63.3	202.1	674.8
71.00 Top - Section 3		1.00	0.90	5.448	5.99	0.00	1.200	1.619	1.00	4.387	5.26	31.5	100.7	335.3
72.00		1.00	0.90	5.470	6.02	0.00	1.200	1.622	1.00	4.367	5.24	31.5	100.4	333.9
74.00		1.00	0.91	5.513	6.06	0.00	1.200	1.626	2.00	8.676	10.41	63.1	199.4	663.0
76.00		1.00	0.91	5.555	6.11	0.00	1.200	1.631	2.00	8.598	10.32	63.0	198.1	657.0
78.00		1.00	0.92	5.597	6.16	0.00	1.200	1.635	2.00	8.520	10.22	62.9	196.7	651.1
80.00		1.00	0.93	5.637	6.20	0.00	1.200	1.639	2.00	8.442	10.13	62.8	195.3	645.1
81.00 Top - Section 4		1.00	0.93	5.657	6.22	0.00	1.200	1.641	1.00	4.191	5.03	31.3	97.3	320.5
82.00		1.00	0.93	5.677	6.24	0.00	1.200	1.643	1.00	4.172	5.01	31.3	96.9	282.2

Wind Loading - Shaft

Structure: CT01002-S-SBA

Code: EIA/TIA-222-G

3/13/2018

Site Name: Waterford

Exposure: B

Height: 183.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 48



84.00	1.00	0.94	5.716	6.29	0.00	1.200	1.647	2.00	8.285	9.94	62.5	192.4	560.2
85.00 Bot - Section 6	1.00	0.94	5.736	6.31	0.00	1.200	1.649	1.00	4.113	4.94	31.1	95.9	278.3
86.00	1.00	0.95	5.755	6.33	0.00	1.200	1.651	1.00	4.146	4.98	31.5	96.8	462.3
88.00	1.00	0.95	5.793	6.37	0.00	1.200	1.655	2.00	8.234	9.88	63.0	192.1	917.3
90.00	1.00	0.96	5.830	6.41	0.00	1.200	1.658	2.00	8.155	9.79	62.8	190.6	908.2
91.00 Top - Section 5	1.00	0.96	5.849	6.43	0.00	1.200	1.660	1.00	4.048	4.86	31.3	94.9	450.9
92.00	1.00	0.96	5.867	6.45	0.00	1.200	1.662	1.00	4.029	4.83	31.2	94.5	272.8
93.83 RT1	1.00	0.97	5.900	6.49	0.00	1.200	1.665	1.83	7.322	8.79	57.0	171.7	495.5
94.00	1.00	0.97	5.903	6.49	0.00	1.200	1.666	0.17	0.677	0.81	5.3	15.9	45.9
96.00	1.00	0.98	5.939	6.53	0.00	1.200	1.669	2.00	7.920	9.50	62.1	186.0	535.9
98.00	1.00	0.98	5.974	6.57	0.00	1.200	1.672	2.00	7.841	9.41	61.8	184.5	530.6
100.00	1.00	0.99	6.008	6.61	0.00	1.200	1.676	2.00	7.763	9.32	61.6	182.9	525.2
102.00	1.00	0.99	6.043	6.65	0.00	1.200	1.679	2.00	7.684	9.22	61.3	181.3	519.8
104.00	1.00	1.00	6.076	6.68	0.00	1.200	1.682	2.00	7.606	9.13	61.0	179.7	514.4
106.00	1.00	1.00	6.109	6.72	0.00	1.200	1.686	2.00	7.129	8.55	57.5	168.2	499.1
108.00	1.00	1.01	6.142	6.76	0.00	1.200	1.689	2.00	7.050	8.46	57.2	166.6	493.6
110.00	1.00	1.02	6.174	6.79	0.00	1.200	1.692	2.00	6.971	8.37	56.8	164.9	488.2
111.17 RB2	1.00	1.02	6.193	6.81	0.00	1.200	1.694	1.17	4.042	4.85	33.0	95.9	283.2
112.00	1.00	1.02	6.206	6.83	0.00	1.200	1.695	0.83	2.851	3.42	23.4	67.8	199.8
114.00	1.00	1.03	6.238	6.86	0.00	1.200	1.698	2.00	6.814	8.18	56.1	161.6	477.2
115.00 Top - Section 6	1.00	1.03	6.253	6.88	0.00	1.200	1.699	1.00	3.577	4.29	29.5	85.3	241.7
116.00	1.00	1.03	6.269	6.90	0.00	1.200	1.701	1.00	3.557	4.27	29.4	84.9	209.4
118.00	1.00	1.04	6.299	6.93	0.00	1.200	1.704	2.00	7.055	8.47	58.7	168.1	414.9
120.00	1.00	1.04	6.330	6.96	0.00	1.200	1.707	2.00	6.976	8.37	58.3	166.4	410.2
122.00	1.00	1.05	6.360	7.00	0.00	1.200	1.710	2.00	6.898	8.28	57.9	164.7	405.4
123.83 RT2	1.00	1.05	6.387	7.03	0.00	1.200	1.712	1.83	6.242	7.49	52.6	149.3	366.8
124.00	1.00	1.05	6.389	7.03	0.00	1.200	1.712	0.17	0.576	0.69	4.9	13.9	33.9
126.00	1.00	1.06	6.419	7.06	0.00	1.200	1.715	2.00	6.740	8.09	57.1	161.3	395.8
128.00	1.00	1.06	6.448	7.09	0.00	1.200	1.718	2.00	6.661	7.99	56.7	159.5	391.1
130.00 Bot - Section 8	1.00	1.07	6.476	7.12	0.00	1.200	1.720	2.00	6.582	7.90	56.3	157.8	386.3
132.00	1.00	1.07	6.504	7.15	0.00	1.200	1.723	2.00	6.588	7.91	56.6	158.2	612.2
134.00	1.00	1.07	6.532	7.19	0.00	1.200	1.726	2.00	6.509	7.81	56.1	156.4	604.4
135.00 Top - Section 7	1.00	1.08	6.546	7.20	0.00	1.200	1.727	1.00	3.225	3.87	27.9	77.8	299.4
136.00	1.00	1.08	6.560	7.22	0.00	1.200	1.728	1.00	3.205	3.85	27.8	77.3	188.2
138.00	1.00	1.08	6.588	7.25	0.00	1.200	1.731	2.00	6.352	7.62	55.2	152.8	372.3
140.00	1.00	1.09	6.615	7.28	0.00	1.200	1.733	2.00	6.273	7.53	54.8	151.0	367.5
142.00	1.00	1.09	6.642	7.31	0.00	1.200	1.736	2.00	6.194	7.43	54.3	149.2	362.6
143.00 Appurtenance(s)	1.00	1.09	6.655	7.32	0.00	1.200	1.737	1.00	3.067	3.68	26.9	74.2	179.7
144.00	1.00	1.10	6.668	7.34	0.00	1.200	1.738	1.00	3.048	3.66	26.8	73.7	178.5
146.00	1.00	1.10	6.695	7.36	0.00	1.200	1.741	2.00	6.036	7.24	53.3	145.6	352.9
148.00	1.00	1.11	6.721	7.39	0.00	1.200	1.743	2.00	5.957	7.15	52.8	143.8	348.0
150.00 Appurtenance(s)	1.00	1.11	6.746	7.42	0.00	1.200	1.745	2.00	5.879	7.05	52.4	141.9	343.1
152.00	1.00	1.11	6.772	7.45	0.00	1.200	1.748	2.00	5.800	6.96	51.8	140.1	338.2
153.00 Appurtenance(s)	1.00	1.12	6.785	7.46	0.00	1.200	1.749	1.00	2.870	3.44	25.7	69.6	167.5
154.00	1.00	1.12	6.797	7.48	0.00	1.200	1.750	1.00	2.850	3.42	25.6	69.1	166.3
156.00	1.00	1.12	6.822	7.50	0.00	1.200	1.752	2.00	5.642	6.77	50.8	136.4	328.4
158.00	1.00	1.13	6.847	7.53	0.00	1.200	1.754	2.00	5.563	6.68	50.3	134.5	323.5
160.00	1.00	1.13	6.872	7.56	0.00	1.200	1.757	2.00	5.484	6.58	49.7	132.7	318.6
162.00	1.00	1.13	6.896	7.59	0.00	1.200	1.759	2.00	5.405	6.49	49.2	130.8	313.7
163.00 Appurtenance(s)	1.00	1.14	6.909	7.60	0.00	1.200	1.760	1.00	2.673	3.21	24.4	64.9	155.2
164.00	1.00	1.14	6.921	7.61	0.00	1.200	1.761	1.00	2.653	3.18	24.2	64.4	154.0
166.00	1.00	1.14	6.945	7.64	0.00	1.200	1.763	2.00	5.247	6.30	48.1	127.0	303.8
168.00	1.00	1.15	6.968	7.67	0.00	1.200	1.765	2.00	5.168	6.20	47.5	125.1	298.8
170.00	1.00	1.15	6.992	7.69	0.00	1.200	1.767	2.00	5.089	6.11	47.0	123.2	293.9
172.00	1.00	1.15	7.015	7.72	0.00	1.200	1.769	2.00	5.010	6.01	46.4	121.3	288.9
173.00 Appurtenance(s)	1.00	1.16	7.027	7.73	0.00	1.200	1.770	1.00	2.475	2.97	23.0	60.2	142.8
174.00	1.00	1.16	7.039	7.74	0.00	1.200	1.771	1.00	2.456	2.95	22.8	59.7	141.6

Wind Loading - Shaft

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 49
	Struct Class: II	



176.00	1.00	1.16	7.062	7.77	0.00	1.200	1.773	2.00	4.852	5.82	45.2	117.4	279.0
178.00	1.00	1.17	7.085	7.79	0.00	1.200	1.775	2.00	4.773	5.73	44.6	115.5	274.0
180.00 Top - Section 8	1.00	1.17	7.107	7.82	0.00	1.200	1.777	2.00	4.694	5.63	44.0	113.6	269.0
181.00 Appurtenance(s)	1.00	1.17	7.118	7.83	0.00	1.200	1.778	1.00	2.296	2.76	21.6	56.0	141.5
182.00	1.00	1.17	7.130	7.84	0.00	1.200	1.779	1.00	2.297	2.76	21.6	56.0	141.5
183.00	1.00	1.17	7.141	7.85	0.00	1.200	1.780	1.00	2.297	2.76	21.6	56.1	141.6
Totals:							183.00					5,281.9	54,120.7

Discrete Appurtenance Forces

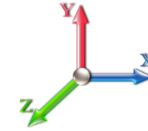
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 50

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

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	181.00	Low Profile	1	7.118	7.830	1.00	1.00	40.00	2833.73	0.000	0.000	313.18	0.00	0.00	
2	173.00	LNx-6514DS-VTM	3	7.027	7.730	0.64	0.80	20.98	500.82	0.000	0.000	162.15	0.00	0.00	
3	173.00	Low Profile	1	7.027	7.730	1.00	1.00	39.92	2827.72	0.000	0.000	308.54	0.00	0.00	
4	173.00	LPA-80080-4CF-EDIN-0	4	7.027	7.730	0.80	0.80	11.27	394.32	0.000	0.000	87.10	0.00	0.00	
5	173.00	HBXX-6517DS-VTM	6	7.027	7.730	0.62	0.80	42.54	1058.47	0.000	0.000	328.85	0.00	0.00	
6	173.00	APL866513-42T0	2	7.027	7.730	0.74	0.80	8.84	196.63	0.000	0.000	68.32	0.00	0.00	
7	173.00	RRH2X60-AWS	3	7.027	7.730	0.61	0.80	7.84	421.33	0.000	0.000	60.63	0.00	0.00	
8	173.00	RRH2x60-700U	3	7.027	7.730	0.74	0.80	8.16	340.61	0.000	0.000	63.06	0.00	0.00	
9	173.00	RRH2x60-1900	3	7.027	7.730	0.72	0.80	4.47	253.15	0.000	0.000	34.55	0.00	0.00	
10	173.00	DB-T1-6Z-8AB-OZ	2	7.027	7.730	0.80	0.80	9.10	397.93	0.000	0.000	70.34	0.00	0.00	
11	163.00	DAP Head	3	6.909	7.599	0.80	0.80	7.29	252.82	0.000	0.000	55.38	0.00	0.00	
12	163.00	Low Profile	1	6.909	7.599	1.00	1.00	39.81	2819.84	0.000	0.000	302.52	0.00	0.00	
13	163.00	LLPX310R	3	6.909	7.599	0.55	0.80	9.89	298.43	0.000	0.000	75.18	0.00	0.00	
14	153.00	S11B12	3	6.785	7.463	0.57	0.80	7.08	342.76	0.000	0.000	52.87	0.00	0.00	
15	153.00	KRY 112 144/1	3	6.785	7.463	0.56	0.80	1.49	62.71	0.000	0.000	11.11	0.00	0.00	
16	153.00	LNx-6515DS	3	6.785	7.463	0.64	0.80	28.31	671.90	0.000	0.000	211.26	0.00	0.00	
17	153.00	AIR 21, 1.3M, B4A B2P	3	6.785	7.463	0.69	0.80	14.84	833.30	0.000	0.000	110.75	0.00	0.00	
18	153.00	Low Profile Platform-flat	1	6.785	7.463	1.00	1.00	45.98	2189.20	0.000	0.000	343.19	0.00	0.00	
19	153.00	AIR 21, 1.3M, B2A B4P	3	6.785	7.463	0.69	0.80	14.84	837.26	0.000	0.000	110.75	0.00	0.00	
20	150.00	Low Profile	1	6.746	7.421	1.00	1.00	39.66	2808.91	0.000	0.000	294.33	0.00	0.00	
21	143.00	DC6-48-60-18-8F	1	6.655	7.320	0.80	0.80	1.73	81.99	0.000	0.000	12.69	0.00	0.00	
22	143.00	Powerwave 7770.00	3	6.655	7.320	0.58	0.80	11.49	529.15	0.000	0.000	84.13	0.00	0.00	
23	143.00	Low Profile	1	6.655	7.320	1.00	1.00	39.58	2802.67	0.000	0.000	289.72	0.00	0.00	
24	143.00	850-1900 Dual Band	3	6.655	7.320	0.53	0.80	1.66	44.66	0.000	0.000	12.15	0.00	0.00	
25	143.00	RRUS 11	3	6.655	7.320	0.54	0.80	5.09	448.54	0.000	0.000	37.29	0.00	0.00	
26	143.00	DBC-750	3	6.655	7.320	0.80	0.80	2.49	37.44	0.000	0.000	18.22	0.00	0.00	
27	143.00	TPA-65R-LCUUUU-H8	2	6.655	7.320	0.66	0.80	19.84	800.81	0.000	0.000	145.22	0.00	0.00	
28	143.00	QS46512-2	1	6.655	7.320	0.77	0.80	11.03	152.60	0.000	0.000	80.78	0.00	0.00	
29	143.00	OPA-65R-LCUU-H4	1	6.655	7.320	0.63	0.80	4.40	226.11	0.000	0.000	32.23	0.00	0.00	
30	143.00	OPA-65R-LCUU-H8	2	6.655	7.320	0.63	0.80	18.14	789.31	0.000	0.000	132.77	0.00	0.00	
31	143.00	DTMABP7819VG12A	3	6.655	7.320	0.54	0.80	3.06	123.41	0.000	0.000	22.43	0.00	0.00	
32	143.00	DBC0061F1V51-2	3	6.655	7.320	0.80	0.80	1.71	124.35	0.000	0.000	12.54	0.00	0.00	
33	143.00	RRUS 32 B2	3	6.655	7.320	0.54	0.80	5.57	453.26	0.000	0.000	40.79	0.00	0.00	
Totals:									26,956.15						3,985.02

Total Applied Force Summary

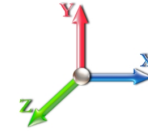
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 51

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

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
2.00		63.22	938.25	0.00	0.00
4.00		62.93	947.92	0.00	0.00
6.00		62.57	951.55	0.00	0.00
8.00		62.20	952.56	0.00	0.00
10.00		61.80	952.06	0.00	0.00
12.00		61.40	950.59	0.00	0.00
14.00		60.99	948.42	0.00	0.00
16.00		60.58	945.72	0.00	0.00
18.00		60.16	942.62	0.00	0.00
20.00		59.74	939.19	0.00	0.00
22.00		59.32	935.49	0.00	0.00
24.00		58.90	931.56	0.00	0.00
26.00		58.47	927.43	0.00	0.00
28.00		58.04	923.14	0.00	0.00
30.00		57.66	918.70	0.00	0.00
32.00		58.30	914.13	0.00	0.00
34.00		58.87	909.45	0.00	0.00
36.00		59.39	904.66	0.00	0.00
38.00		59.85	899.78	0.00	0.00
40.00		60.26	894.81	0.00	0.00
41.00		30.16	445.58	0.00	0.00
42.00		30.65	713.56	0.00	0.00
44.00		61.75	1419.72	0.00	0.00
46.00		62.05	1409.97	0.00	0.00
48.00		62.31	1400.17	0.00	0.00
50.00		62.54	879.13	0.00	0.00
51.00		31.25	437.66	0.00	0.00
52.00		31.30	436.32	0.00	0.00
54.00		62.89	868.40	0.00	0.00
56.00		63.03	862.97	0.00	0.00
58.00		63.13	857.49	0.00	0.00
60.00		63.22	851.96	0.00	0.00
62.00		63.27	846.40	0.00	0.00
64.00		63.30	840.81	0.00	0.00
66.00		63.31	848.50	0.00	0.00
66.17		5.36	73.04	0.00	0.00
68.00		57.90	783.28	0.00	0.00
70.00		63.27	850.64	0.00	0.00
71.00		31.55	423.34	0.00	0.00
72.00		31.53	421.92	0.00	0.00
74.00		63.14	839.33	0.00	0.00
76.00		63.05	833.63	0.00	0.00
78.00		62.94	827.91	0.00	0.00
80.00		62.82	822.16	0.00	0.00
81.00		31.30	409.06	0.00	0.00
82.00		31.26	370.87	0.00	0.00

Total Applied Force Summary

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 52

84.00		62.52	737.65	0.00	0.00
85.00		31.14	367.08	0.00	0.00
86.00		31.50	551.11	0.00	0.00
88.00		62.96	1095.23	0.00	0.00
90.00		62.76	1086.32	0.00	0.00
91.00		31.25	539.97	0.00	0.00
92.00		31.20	361.98	0.00	0.00
93.83		57.02	658.85	0.00	0.00
94.00		5.27	61.03	0.00	0.00
96.00		62.09	700.70	0.00	0.00
98.00		61.83	681.53	0.00	0.00
100.00		61.57	676.26	0.00	0.00
102.00		61.29	670.98	0.00	0.00
104.00		61.00	665.68	0.00	0.00
106.00		57.49	650.52	0.00	0.00
108.00		57.16	645.17	0.00	0.00
110.00		56.82	639.81	0.00	0.00
111.17		33.04	382.33	0.00	0.00
112.00		23.35	270.17	0.00	0.00
114.00		56.10	646.78	0.00	0.00
115.00		29.52	326.54	0.00	0.00
116.00		29.43	294.32	0.00	0.00
118.00		58.66	584.81	0.00	0.00
120.00		58.29	580.20	0.00	0.00
122.00		57.90	575.58	0.00	0.00
123.83		52.63	522.66	0.00	0.00
124.00		4.86	48.41	0.00	0.00
126.00		57.11	557.32	0.00	0.00
128.00		56.69	543.64	0.00	0.00
130.00		56.27	538.93	0.00	0.00
132.00		56.57	765.00	0.00	0.00
134.00		56.13	757.23	0.00	0.00
135.00		27.87	375.91	0.00	0.00
136.00		27.76	264.69	0.00	0.00
138.00		55.23	525.39	0.00	0.00
140.00		54.77	520.64	0.00	0.00
142.00		54.30	515.87	0.00	0.00
143.00	(29) attachments	947.90	6870.66	0.00	0.00
144.00		26.83	239.13	0.00	0.00
146.00		53.34	474.25	0.00	0.00
148.00		52.85	469.46	0.00	0.00
150.00	(1) attachments	346.68	3273.57	0.00	0.00
152.00		51.84	459.84	0.00	0.00
153.00	(16) attachments	865.63	5165.47	0.00	0.00
154.00		25.58	210.84	0.00	0.00
156.00		50.81	417.61	0.00	0.00
158.00		50.28	412.77	0.00	0.00
160.00		49.74	407.93	0.00	0.00
162.00		49.20	403.08	0.00	0.00
163.00	(7) attachments	457.46	3571.03	0.00	0.00
164.00		24.24	195.07	0.00	0.00
166.00		48.10	386.03	0.00	0.00
168.00		47.54	381.16	0.00	0.00
170.00		46.97	376.27	0.00	0.00
172.00		46.40	371.38	0.00	0.00
173.00	(27) attachments	1206.49	6575.07	0.00	0.00
174.00		22.81	152.25	0.00	0.00

Total Applied Force Summary

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 53

176.00	45.23	300.32	0.00	0.00
178.00	44.64	295.38	0.00	0.00
180.00	44.04	290.42	0.00	0.00
181.00	(1) attachments 334.76	2985.97	0.00	0.00
182.00	21.61	152.28	0.00	0.00
183.00	21.65	152.32	0.00	0.00
Totals:	9,266.93	93,777.70	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

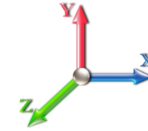
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 54

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	4.48
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	6.80
2.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	23.06
4.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	4.99
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	7.35
4.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	24.28
6.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	5.33
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	7.70
6.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	25.05
8.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	5.58
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	7.97
8.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	25.62
10.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	5.79
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	8.19
10.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	26.08
12.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	5.96
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	8.37
12.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	26.47
14.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	6.11
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	8.53
14.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	26.80
16.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	6.25
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	8.67
16.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	27.10
18.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	6.37
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	8.80
18.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	27.37
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	6.48
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	8.92
20.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	27.61
22.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	6.59
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	9.03
22.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	27.83
24.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	6.68
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	9.13
24.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	28.04
26.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	6.77
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	9.23
26.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	28.23
28.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	6.86
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	9.32
28.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	28.41
30.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	6.94
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	9.40
30.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	28.57
32.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.339	0.00	7.02
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.339	0.00	9.48

Linear Appurtenance Segment Forces (Factored)

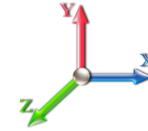
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 55

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
32.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.339	0.00	28.73
34.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.415	0.00	7.09
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.415	0.00	9.55
34.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.415	0.00	28.88
36.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.487	0.00	7.16
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.487	0.00	9.63
36.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.487	0.00	29.03
38.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.557	0.00	7.22
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.557	0.00	9.70
38.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.557	0.00	29.16
40.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	7.28
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	9.76
40.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	29.29
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.657	0.00	3.66
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.657	0.00	4.90
41.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.657	0.00	14.68
42.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.689	0.00	3.67
42.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.689	0.00	4.91
42.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.689	0.00	14.71
44.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.752	0.00	7.40
44.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.752	0.00	9.89
44.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.752	0.00	29.54
46.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.813	0.00	7.46
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.813	0.00	9.94
46.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.813	0.00	29.65
48.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.872	0.00	7.51
48.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.872	0.00	10.00
48.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.872	0.00	29.77
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	7.56
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	10.06
50.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	29.87
51.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.957	0.00	3.80
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.957	0.00	5.04
51.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.957	0.00	14.96
52.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.984	0.00	3.81
52.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.984	0.00	5.05
52.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	4.984	0.00	14.99
54.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.039	0.00	7.66
54.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.039	0.00	10.16
54.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.039	0.00	30.08
56.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.091	0.00	7.71
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.091	0.00	10.21
56.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.091	0.00	30.17
58.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.142	0.00	7.76
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.142	0.00	10.26
58.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.142	0.00	30.27
60.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	7.80

Linear Appurtenance Segment Forces (Factored)

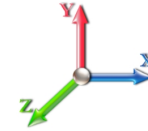
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 56

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	10.31
60.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	30.36
62.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.241	0.00	7.85
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.241	0.00	10.35
62.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.241	0.00	30.45
64.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.289	0.00	7.89
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.289	0.00	10.40
64.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.289	0.00	30.54
66.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.336	0.00	7.93
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.336	0.00	10.44
66.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.336	0.00	30.62
66.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.336	0.00	13.32
66.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	5.340	0.00	0.67
66.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	5.340	0.00	0.89
66.17	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	5.340	0.00	2.60
66.17	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	5.340	0.00	2.26
68.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	5.382	0.00	7.29
68.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	5.382	0.00	9.59
68.00	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	5.382	0.00	28.09
68.00	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	5.382	0.00	24.46
70.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	8.01
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	10.52
70.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	30.78
70.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	26.82
71.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.448	0.00	4.02
71.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.448	0.00	5.27
71.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.448	0.00	15.41
71.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.448	0.00	13.43
72.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.470	0.00	4.03
72.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.470	0.00	5.28
72.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.470	0.00	15.43
72.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.470	0.00	13.46
74.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.513	0.00	8.09
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.513	0.00	10.60
74.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.513	0.00	30.94
74.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.513	0.00	27.00
76.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.555	0.00	8.13
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.555	0.00	10.64
76.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.555	0.00	31.01
76.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.555	0.00	27.08
78.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.597	0.00	8.16
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.597	0.00	10.68
78.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.597	0.00	31.09
78.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.597	0.00	27.17
80.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	8.20
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	10.72
80.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	31.16

Linear Appurtenance Segment Forces (Factored)

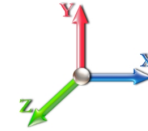
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 57

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
80.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	27.25
81.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.657	0.00	4.11
81.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.657	0.00	5.37
81.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.657	0.00	15.60
81.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.657	0.00	13.64
82.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.677	0.00	4.12
82.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.677	0.00	5.38
82.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.677	0.00	15.61
82.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.677	0.00	13.66
84.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.716	0.00	8.27
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.716	0.00	10.79
84.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.716	0.00	31.30
84.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.716	0.00	27.41
85.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	4.14
85.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	5.40
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	15.66
85.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	13.72
86.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.755	0.00	4.15
86.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.755	0.00	5.41
86.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.755	0.00	15.68
86.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.755	0.00	13.74
88.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.793	0.00	8.33
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.793	0.00	10.86
88.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.793	0.00	31.43
88.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.793	0.00	27.56
90.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	8.37
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	10.89
90.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	31.49
90.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	27.63
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.849	0.00	4.19
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.849	0.00	5.45
91.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.849	0.00	15.76
91.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.849	0.00	13.83
92.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.867	0.00	4.20
92.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.867	0.00	5.46
92.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.867	0.00	15.78
92.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.867	0.00	13.85
93.83	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	5.900	0.00	7.71
93.83	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	5.900	0.00	10.02
93.83	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	5.900	0.00	28.93
93.83	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	5.900	0.00	25.41
94.00	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	5.903	0.00	0.72
94.00	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	5.903	0.00	0.93
94.00	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	5.903	0.00	2.69
94.00	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	5.903	0.00	2.36
96.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.939	0.00	8.46
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.939	0.00	10.99

Linear Appurtenance Segment Forces (Factored)

Structure: CT01002-S-SBA

Code: EIA/TIA-222-G

3/13/2018

Site Name: Waterford

Exposure: B



Height: 183.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

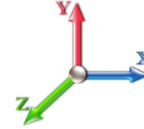
Page: 58

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

Iterations 29

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
96.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.939	0.00	31.68
96.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.939	0.00	13.92
98.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.974	0.00	8.49
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.974	0.00	11.02
98.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.974	0.00	31.74
100.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	8.52
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	11.05
100.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	31.80
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.043	0.00	8.55
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.043	0.00	11.08
102.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.043	0.00	31.86
104.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.076	0.00	8.58
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.076	0.00	11.11
104.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.076	0.00	31.91
106.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.109	0.00	8.60
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.109	0.00	11.14
106.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.109	0.00	31.97
108.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.142	0.00	8.63
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.142	0.00	11.17
108.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.142	0.00	32.02
110.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	8.66
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	11.20
110.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	32.08
111.17	Safety Cable	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	6.193	0.00	5.08
111.17	Step bolts (ladder)	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	6.193	0.00	6.56
111.17	1 5/8" Coax	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	6.193	0.00	18.78
111.17	C6X10.5 Reinforcing	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	6.193	0.00	10.34
112.00	Safety Cable	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	6.206	0.00	3.61
112.00	Step bolts (ladder)	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	6.206	0.00	4.66
112.00	1 5/8" Coax	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	6.206	0.00	13.33
112.00	C6X10.5 Reinforcing	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	6.206	0.00	7.34
114.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.238	0.00	8.71
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.238	0.00	11.26
114.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.238	0.00	32.19
114.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.238	0.00	17.73
115.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	4.36
115.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	5.64
115.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	16.11
115.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	8.88
116.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.269	0.00	4.37
116.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.269	0.00	5.64
116.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.269	0.00	16.12
116.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.269	0.00	8.89
118.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.299	0.00	8.77
118.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.299	0.00	11.31
118.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.299	0.00	32.29
118.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.299	0.00	17.81

Linear Appurtenance Segment Forces (Factored)

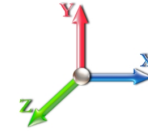
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 59

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
120.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	8.79
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	11.34
120.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	32.34
120.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	17.86
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.360	0.00	8.82
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.360	0.00	11.36
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.360	0.00	32.39
122.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.360	0.00	17.90
123.83	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	6.387	0.00	8.09
123.83	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	6.387	0.00	10.42
123.83	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	6.387	0.00	29.68
123.83	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	6.387	0.00	16.41
124.00	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	6.389	0.00	0.75
124.00	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	6.389	0.00	0.97
124.00	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	6.389	0.00	2.76
124.00	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	6.389	0.00	1.52
126.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.419	0.00	8.87
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.419	0.00	11.42
126.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.419	0.00	32.49
126.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.419	0.00	8.99
128.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.448	0.00	8.89
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.448	0.00	11.44
128.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.448	0.00	32.53
130.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.476	0.00	8.91
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.476	0.00	11.47
130.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.476	0.00	32.58
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	8.94
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	11.49
132.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	32.63
134.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.532	0.00	8.96
134.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.532	0.00	11.52
134.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.532	0.00	32.67
135.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.546	0.00	4.49
135.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.546	0.00	5.76
135.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.546	0.00	16.35
136.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.560	0.00	4.49
136.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.560	0.00	5.77
136.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.560	0.00	16.36
138.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.588	0.00	9.01
138.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.588	0.00	11.56
138.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.588	0.00	32.76
140.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.615	0.00	9.03
140.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.615	0.00	11.59
140.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.615	0.00	32.81
142.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.642	0.00	9.05
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.642	0.00	11.61
142.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.642	0.00	32.85

Linear Appurtenance Segment Forces (Factored)

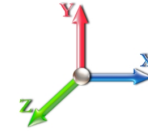
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 60

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
143.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.655	0.00	4.53
143.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.655	0.00	5.81
143.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.655	0.00	16.44
144.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.668	0.00	4.54
144.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.668	0.00	5.82
144.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.668	0.00	16.45
146.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.695	0.00	9.10
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.695	0.00	11.66
146.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.695	0.00	32.94
148.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.721	0.00	9.12
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.721	0.00	11.68
148.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.721	0.00	32.98
150.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.746	0.00	9.14
150.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.746	0.00	11.70
150.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.746	0.00	33.02
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.772	0.00	9.16
152.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.772	0.00	11.72
152.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.772	0.00	33.06
153.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	4.59
153.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	5.87
153.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	16.54
154.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.797	0.00	4.59
154.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.797	0.00	5.87
154.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.797	0.00	16.55
156.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.822	0.00	9.20
156.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.822	0.00	11.77
156.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.822	0.00	33.14
158.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.847	0.00	9.22
158.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.847	0.00	11.79
158.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.847	0.00	33.18
160.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.872	0.00	9.24
160.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.872	0.00	11.81
160.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.872	0.00	33.22
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.896	0.00	9.26
162.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.896	0.00	11.83
162.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.896	0.00	33.26
163.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.909	0.00	4.64
163.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.909	0.00	5.92
163.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.909	0.00	16.64
164.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.921	0.00	4.64
164.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.921	0.00	5.92
164.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.921	0.00	16.65
166.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.945	0.00	9.30
166.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.945	0.00	11.87
166.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.945	0.00	33.34
168.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.968	0.00	9.32
168.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.968	0.00	11.89

Linear Appurtenance Segment Forces (Factored)

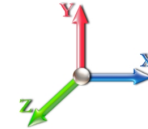
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 61

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
168.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.968	0.00	33.37
170.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.992	0.00	9.34
170.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.992	0.00	11.91
170.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.992	0.00	33.41
172.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.015	0.00	9.36
172.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.015	0.00	11.93
172.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.015	0.00	33.45
173.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.027	0.00	4.68
173.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.027	0.00	5.97
173.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.027	0.00	16.73
174.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.039	0.00	4.69
174.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.039	0.00	5.97
176.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.062	0.00	9.40
176.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.062	0.00	11.97
178.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.085	0.00	9.42
178.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.085	0.00	11.99
180.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.107	0.00	9.43
180.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.107	0.00	12.01
181.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.118	0.00	4.72
181.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.118	0.00	6.01
182.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.130	0.00	4.73
182.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.130	0.00	6.01
183.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.141	0.00	4.73
183.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.141	0.00	6.02
Totals:											0.0	4,918.5

Calculated Forces

Structure: CT01002-S-SBA

Code: EIA/TIA-222-G

3/13/2018

Site Name: Waterford

Exposure: B



Height: 183.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

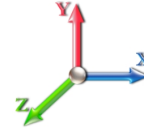
Page: 62

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

Iterations 29

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	-93.78	-9.28	0.00	-1200.5	0.00	1200.58	5190.16	2595.08	13702.9	6861.66	0.00	0.000	0.000	0.193
2.00	-92.84	-9.24	0.00	-1182.0	0.00	1182.02	5174.50	2587.25	13560.7	6790.43	0.00	-0.017	0.000	0.192
4.00	-91.88	-9.21	0.00	-1163.5	0.00	1163.53	5158.51	2579.25	13418.2	6719.08	0.01	-0.034	0.000	0.191
6.00	-90.93	-9.17	0.00	-1145.1	0.00	1145.11	5142.18	2571.09	13275.4	6647.61	0.03	-0.052	0.000	0.190
8.00	-89.97	-9.14	0.00	-1126.7	0.00	1126.77	5125.52	2562.76	13132.5	6576.03	0.06	-0.069	0.000	0.189
10.00	-89.02	-9.10	0.00	-1108.4	0.00	1108.49	5108.53	2554.27	12989.4	6504.36	0.09	-0.087	0.000	0.188
12.00	-88.07	-9.07	0.00	-1090.2	0.00	1090.29	5091.21	2545.61	12846.0	6432.60	0.13	-0.104	0.000	0.187
14.00	-87.12	-9.03	0.00	-1072.1	0.00	1072.16	5073.56	2536.78	12702.6	6360.75	0.18	-0.122	0.000	0.186
16.00	-86.17	-8.99	0.00	-1054.1	0.00	1054.10	5055.57	2527.79	12559.0	6288.85	0.23	-0.140	0.000	0.185
18.00	-85.22	-8.96	0.00	-1036.1	0.00	1036.11	5037.25	2518.63	12415.3	6216.88	0.30	-0.158	0.000	0.184
20.00	-84.28	-8.92	0.00	-1018.1	0.00	1018.19	5018.60	2509.30	12271.4	6144.86	0.37	-0.176	0.000	0.183
22.00	-83.34	-8.89	0.00	-1000.3	0.00	1000.35	4999.62	2499.81	12127.5	6072.81	0.44	-0.194	0.000	0.181
24.00	-82.41	-8.85	0.00	-982.57	0.00	982.57	4980.31	2490.15	11983.6	6000.72	0.53	-0.212	0.000	0.180
26.00	-81.48	-8.82	0.00	-964.87	0.00	964.87	4960.66	2480.33	11839.6	5928.62	0.62	-0.231	0.000	0.179
28.00	-80.55	-8.78	0.00	-947.24	0.00	947.24	4940.68	2470.34	11695.6	5856.50	0.72	-0.249	0.000	0.178
30.00	-79.63	-8.74	0.00	-929.68	0.00	929.68	4920.37	2460.19	11551.6	5784.39	0.83	-0.268	0.000	0.177
32.00	-78.71	-8.71	0.00	-912.19	0.00	912.19	4899.73	2449.87	11407.6	5712.28	0.95	-0.287	0.000	0.176
34.00	-77.80	-8.67	0.00	-894.78	0.00	894.78	4878.76	2439.38	11263.6	5640.19	1.07	-0.306	0.000	0.175
36.00	-76.90	-8.63	0.00	-877.44	0.00	877.44	4857.45	2428.72	11119.7	5568.14	1.21	-0.325	0.000	0.173
38.00	-75.99	-8.59	0.00	-860.18	0.00	860.18	4835.81	2417.91	10975.9	5496.12	1.35	-0.344	0.000	0.172
40.00	-75.10	-8.54	0.00	-843.00	0.00	843.00	4813.84	2406.92	10832.2	5424.15	1.49	-0.363	0.000	0.171
41.00	-74.65	-8.52	0.00	-834.46	0.00	834.46	4802.73	2401.36	10760.3	5388.18	1.57	-0.373	0.000	0.170
42.00	-73.93	-8.51	0.00	-825.93	0.00	825.93	4791.54	2395.77	10688.5	5352.24	1.65	-0.382	0.000	0.170
44.00	-72.51	-8.46	0.00	-808.92	0.00	808.92	4768.90	2384.45	10545.1	5280.39	1.81	-0.402	0.000	0.168
46.00	-71.10	-8.41	0.00	-792.00	0.00	792.00	4745.94	2372.97	10401.7	5208.63	1.99	-0.421	0.000	0.167
48.00	-69.70	-8.36	0.00	-775.18	0.00	775.18	4759.60	2379.80	10486.7	5251.18	2.17	-0.441	0.000	0.162
50.00	-68.82	-8.31	0.00	-758.45	0.00	758.45	4736.50	2368.25	10343.5	5179.45	2.36	-0.460	0.000	0.161
51.00	-68.38	-8.29	0.00	-750.14	0.00	750.14	4724.82	2362.41	10271.9	5143.62	2.45	-0.470	0.000	0.160
51.00	-68.38	-8.29	0.00	-750.14	0.00	750.14	4064.30	2032.15	8835.99	4424.56	2.45	-0.470	0.000	0.186
52.00	-67.94	-8.27	0.00	-741.85	0.00	741.85	4053.20	2026.60	8772.35	4392.70	2.55	-0.480	0.000	0.186
54.00	-67.07	-8.22	0.00	-725.31	0.00	725.31	4030.83	2015.41	8645.34	4329.09	2.76	-0.499	0.000	0.184
56.00	-66.20	-8.17	0.00	-708.87	0.00	708.87	4008.20	2004.10	8518.66	4265.66	2.97	-0.518	0.000	0.183
58.00	-65.34	-8.12	0.00	-692.52	0.00	692.52	3985.33	1992.66	8392.33	4202.40	3.19	-0.537	0.000	0.181
60.00	-64.49	-8.07	0.00	-676.28	0.00	676.28	3962.20	1981.10	8266.38	4139.33	3.42	-0.556	0.000	0.180
62.00	-63.64	-8.02	0.00	-660.13	0.00	660.13	3938.82	1969.41	8140.81	4076.46	3.66	-0.576	0.000	0.178
64.00	-62.80	-7.97	0.00	-644.08	0.00	644.08	3915.19	1957.60	8015.64	4013.78	3.91	-0.595	0.000	0.177
66.00	-61.95	-7.91	0.00	-628.13	0.00	628.13	3891.31	1945.66	7890.88	3951.30	4.16	-0.614	0.000	0.175
66.17	-61.88	-7.91	0.00	-626.79	0.00	626.79	3889.27	1944.64	7880.29	3946.00	4.18	-0.616	0.000	0.128
68.00	-61.09	-7.86	0.00	-612.30	0.00	612.30	3867.19	1933.59	7766.55	3889.05	4.42	-0.629	0.000	0.127
70.00	-60.24	-7.80	0.00	-596.58	0.00	596.58	3842.81	1921.40	7642.66	3827.01	4.69	-0.644	0.000	0.125
71.00	-59.82	-7.77	0.00	-588.78	0.00	588.78	3830.52	1915.26	7580.89	3796.08	4.82	-0.651	0.000	0.125
71.00	-59.82	-7.77	0.00	-588.78	0.00	588.78	3467.89	1733.95	6863.13	3436.66	4.82	-0.651	0.000	0.138
72.00	-59.39	-7.75	0.00	-581.00	0.00	581.00	3456.29	1728.14	6806.46	3408.29	4.96	-0.658	0.000	0.137
74.00	-58.55	-7.69	0.00	-565.51	0.00	565.51	3432.92	1716.46	6693.50	3351.73	5.24	-0.672	0.000	0.135
76.00	-57.72	-7.63	0.00	-550.13	0.00	550.13	3409.33	1704.67	6581.05	3295.42	5.52	-0.687	0.000	0.133
78.00	-56.89	-7.57	0.00	-534.87	0.00	534.87	3385.54	1692.77	6469.11	3239.36	5.81	-0.701	0.000	0.131
80.00	-56.07	-7.51	0.00	-519.72	0.00	519.72	3361.54	1680.77	6357.71	3183.58	6.11	-0.715	0.000	0.130
81.00	-55.66	-7.48	0.00	-512.21	0.00	512.21	3349.46	1674.73	6302.21	3155.79	6.26	-0.722	0.000	0.129

Calculated Forces

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 63



81.00	-55.66	-7.48	0.00	-512.21	0.00	512.21	2964.88	1482.44	5593.85	2801.08	6.26	-0.722	0.000	0.121
82.00	-55.28	-7.46	0.00	-504.73	0.00	504.73	2956.03	1478.01	5548.33	2778.29	6.41	-0.729	0.000	0.136
84.00	-54.55	-7.40	0.00	-489.82	0.00	489.82	2938.12	1469.06	5457.44	2732.78	6.72	-0.746	0.000	0.134
85.00	-54.18	-7.37	0.00	-482.43	0.00	482.43	2929.07	1464.54	5412.08	2710.06	6.88	-0.754	0.000	0.133
86.00	-53.63	-7.34	0.00	-475.06	0.00	475.06	2919.96	1459.98	5366.77	2687.37	7.04	-0.762	0.000	0.131
88.00	-52.53	-7.28	0.00	-460.38	0.00	460.38	2901.53	1450.76	5276.32	2642.08	7.36	-0.778	0.000	0.128
90.00	-51.44	-7.21	0.00	-445.83	0.00	445.83	2882.84	1441.42	5186.12	2596.92	7.69	-0.793	0.000	0.126
91.00	-50.90	-7.18	0.00	-438.62	0.00	438.62	2898.35	1449.17	5260.87	2634.34	7.86	-0.801	0.000	0.127
92.00	-50.54	-7.15	0.00	-431.45	0.00	431.45	2889.01	1444.51	5215.76	2611.76	8.02	-0.809	0.000	0.122
93.83	-49.88	-7.09	0.00	-418.36	0.00	418.36	2871.76	1435.88	5133.38	2570.50	8.34	-0.823	0.000	0.120
93.83	-49.88	-7.09	0.00	-418.36	0.00	418.36	2871.76	1435.88	5133.38	2570.50	8.34	-0.823	0.000	0.120
94.00	-49.82	-7.10	0.00	-417.16	0.00	417.16	2870.15	1435.07	5125.73	2566.68	8.37	-0.824	0.000	0.180
96.00	-49.12	-7.04	0.00	-402.97	0.00	402.97	2851.02	1425.51	5035.98	2521.73	8.72	-0.847	0.000	0.177
98.00	-48.43	-6.99	0.00	-388.88	0.00	388.88	2831.62	1415.81	4946.52	2476.93	9.08	-0.870	0.000	0.174
100.00	-47.75	-6.94	0.00	-374.90	0.00	374.90	2811.97	1405.98	4857.35	2432.29	9.45	-0.892	0.000	0.171
102.00	-47.08	-6.88	0.00	-361.03	0.00	361.03	2792.05	1396.03	4768.51	2387.80	9.83	-0.915	0.000	0.168
104.00	-46.41	-6.83	0.00	-347.27	0.00	347.27	2771.87	1385.94	4680.00	2343.48	10.21	-0.937	0.000	0.165
106.00	-45.76	-6.78	0.00	-333.61	0.00	333.61	2751.43	1375.71	4591.84	2299.33	10.61	-0.960	0.000	0.162
108.00	-45.12	-6.73	0.00	-320.05	0.00	320.05	2730.72	1365.36	4504.04	2255.37	11.02	-0.982	0.000	0.158
110.00	-44.48	-6.67	0.00	-306.60	0.00	306.60	2709.75	1354.88	4416.62	2211.59	11.43	-1.004	0.000	0.155
111.17	-44.09	-6.64	0.00	-298.79	0.00	298.79	2697.36	1348.68	4365.66	2186.08	11.68	-1.017	0.000	0.122
112.00	-43.82	-6.62	0.00	-293.28	0.00	293.28	2688.52	1344.26	4329.60	2168.02	11.86	-1.024	0.000	0.121
114.00	-43.17	-6.56	0.00	-280.03	0.00	280.03	2667.03	1333.51	4242.98	2124.64	12.29	-1.041	0.000	0.118
115.00	-42.85	-6.54	0.00	-273.47	0.00	273.47	2656.18	1328.09	4199.83	2103.04	12.51	-1.050	0.000	0.114
115.00	-42.85	-6.54	0.00	-273.47	0.00	273.47	1951.15	975.57	3095.05	1549.82	12.51	-1.050	0.000	0.124
116.00	-42.55	-6.51	0.00	-266.93	0.00	266.93	1944.57	972.29	3065.67	1535.11	12.73	-1.058	0.000	0.144
118.00	-41.97	-6.46	0.00	-253.91	0.00	253.91	1931.24	965.62	3006.98	1505.73	13.18	-1.077	0.000	0.140
120.00	-41.38	-6.40	0.00	-241.00	0.00	241.00	1917.63	958.82	2948.42	1476.40	13.63	-1.096	0.000	0.135
122.00	-40.81	-6.34	0.00	-228.20	0.00	228.20	1903.77	951.88	2889.98	1447.14	14.10	-1.115	0.000	0.130
123.83	-40.29	-6.29	0.00	-216.59	0.00	216.59	1890.85	945.43	2836.64	1420.43	14.53	-1.131	0.000	0.126
123.83	-40.29	-6.29	0.00	-216.59	0.00	216.59	1890.85	945.43	2836.64	1420.43	14.53	-1.131	0.000	0.126
124.00	-40.24	-6.29	0.00	-215.52	0.00	215.52	1889.64	944.82	2831.69	1417.95	14.57	-1.133	0.000	0.173
126.00	-39.68	-6.24	0.00	-202.94	0.00	202.94	1875.25	937.63	2773.56	1388.84	15.05	-1.157	0.000	0.167
128.00	-39.13	-6.19	0.00	-190.46	0.00	190.46	1860.60	930.30	2715.62	1359.83	15.54	-1.181	0.000	0.161
130.00	-38.59	-6.14	0.00	-178.09	0.00	178.09	1845.69	922.84	2657.86	1330.91	16.04	-1.205	0.000	0.155
132.00	-37.83	-6.08	0.00	-165.82	0.00	165.82	1830.51	915.25	2600.31	1302.09	16.55	-1.228	0.000	0.148
134.00	-37.07	-6.02	0.00	-153.66	0.00	153.66	1815.07	907.53	2542.99	1273.39	17.07	-1.250	0.000	0.141
135.00	-36.69	-5.99	0.00	-147.65	0.00	147.65	1823.79	911.89	2575.21	1289.52	17.33	-1.260	0.000	0.135
136.00	-36.43	-5.96	0.00	-141.66	0.00	141.66	1816.04	908.02	2546.57	1275.18	17.60	-1.271	0.000	0.131
138.00	-35.90	-5.91	0.00	-129.74	0.00	129.74	1800.35	900.18	2489.47	1246.58	18.13	-1.290	0.000	0.124
140.00	-35.38	-5.85	0.00	-117.92	0.00	117.92	1784.41	892.20	2432.62	1218.12	18.68	-1.309	0.000	0.117
142.00	-34.86	-5.79	0.00	-106.22	0.00	106.22	1768.19	884.10	2376.04	1189.79	19.23	-1.326	0.000	0.109
143.00	-28.02	-4.69	0.00	-100.43	0.00	100.43	1759.99	879.99	2347.86	1175.68	19.51	-1.335	0.000	0.101
144.00	-27.78	-4.66	0.00	-95.74	0.00	95.74	1751.72	875.86	2319.75	1161.60	19.79	-1.343	0.000	0.098
146.00	-27.30	-4.61	0.00	-86.41	0.00	86.41	1734.98	867.49	2263.76	1133.56	20.36	-1.358	0.000	0.092
148.00	-26.83	-4.55	0.00	-77.20	0.00	77.20	1717.98	858.99	2208.08	1105.68	20.93	-1.373	0.000	0.085
150.00	-23.57	-4.13	0.00	-68.10	0.00	68.10	1700.72	850.36	2152.74	1077.97	21.51	-1.386	0.000	0.077
152.00	-23.11	-4.07	0.00	-59.84	0.00	59.84	1683.20	841.60	2097.74	1050.43	22.09	-1.399	0.000	0.071
153.00	-17.97	-3.08	0.00	-55.77	0.00	55.77	1674.33	837.17	2070.37	1036.72	22.38	-1.404	0.000	0.065
154.00	-17.76	-3.05	0.00	-52.69	0.00	52.69	1665.41	832.70	2043.10	1023.07	22.68	-1.410	0.000	0.062
156.00	-17.34	-2.99	0.00	-46.59	0.00	46.59	1647.36	823.68	1988.83	995.90	23.27	-1.421	0.000	0.057
158.00	-16.93	-2.94	0.00	-40.61	0.00	40.61	1629.04	814.52	1934.96	968.92	23.87	-1.430	0.000	0.052
160.00	-16.52	-2.88	0.00	-34.74	0.00	34.74	1610.47	805.23	1881.50	942.15	24.47	-1.439	0.000	0.047
162.00	-16.12	-2.82	0.00	-28.98	0.00	28.98	1591.63	795.82	1828.46	915.59	25.07	-1.447	0.000	0.042
163.00	-12.56	-2.27	0.00	-26.16	0.00	26.16	1582.11	791.06	1802.10	902.39	25.38	-1.451	0.000	0.037
164.00	-12.37	-2.25	0.00	-23.89	0.00	23.89	1572.53	786.27	1775.86	889.25	25.68	-1.454	0.000	0.035
166.00	-11.98	-2.19	0.00	-19.40	0.00	19.40	1553.17	776.58	1723.71	863.13	26.29	-1.460	0.000	0.030

Calculated Forces

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 64
	Struct Class: II	



168.00	-11.60	-2.13	0.00	-15.02	0.00	15.02	1533.54	766.77	1672.03	837.26	26.90	-1.465	0.000	0.026
170.00	-11.23	-2.08	0.00	-10.76	0.00	10.76	1513.65	756.83	1620.83	811.62	27.52	-1.469	0.000	0.021
172.00	-10.86	-2.02	0.00	-6.60	0.00	6.60	1493.50	746.75	1570.13	786.23	28.14	-1.471	0.000	0.016
173.00	-4.31	-0.65	0.00	-4.58	0.00	4.58	1483.33	741.66	1544.98	773.64	28.44	-1.472	0.000	0.009
174.00	-4.16	-0.62	0.00	-3.94	0.00	3.94	1473.09	736.54	1519.95	761.10	28.75	-1.473	0.000	0.008
176.00	-3.86	-0.57	0.00	-2.70	0.00	2.70	1452.41	726.20	1470.30	736.24	29.37	-1.474	0.000	0.006
178.00	-3.57	-0.51	0.00	-1.57	0.00	1.57	1427.85	713.93	1417.60	709.85	29.99	-1.475	0.000	0.005
180.00	-3.28	-0.46	0.00	-0.54	0.00	0.54	1400.09	700.05	1362.74	682.38	30.61	-1.476	0.000	0.003
180.00	-3.28	-0.46	0.00	-0.54	0.00	0.54	678.42	339.21	662.23	396.30	30.61	-1.476	0.000	0.006
181.00	-0.30	-0.05	0.00	-0.08	0.00	0.08	678.42	339.21	662.23	396.30	30.91	-1.476	0.000	0.001
182.00	-0.15	-0.03	0.00	-0.03	0.00	0.03	678.42	339.21	662.23	396.30	31.22	-1.476	0.000	0.000
183.00	0.00	-0.02	0.00	0.00	0.00	0.00	678.42	339.21	662.23	396.30	31.53	-1.476	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 65

Load Case: 1.2D + 1.0E						Iterations 26
Gust Response Factor	1.10	Seismic Load Factor	1.00	Sds	0.17	Ss 0.16
Dead Load Factor	1.20	Structure Frequency	0.29	Sd1	0.09	S1 0.06
Wind Load Factor	0.00			SA	0.03	Seismic Importance Factor 1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	
0.00		0.00	0.00	0.00	0.00	0.00	
2.00		517.51	0.00	0.01	0.01	4.23	
4.00		513.69	0.00	0.02	0.01	7.17	
6.00		509.88	0.00	0.03	0.02	9.30	
8.00		506.07	0.00	0.04	0.02	10.88	
10.00		502.25	0.01	0.05	0.03	12.07	
12.00		498.44	0.01	0.05	0.03	12.96	
14.00		494.62	0.01	0.06	0.03	13.63	
16.00		490.81	0.01	0.06	0.04	14.13	
18.00		487.00	0.02	0.06	0.04	14.50	
20.00		483.18	0.02	0.07	0.04	14.76	
22.00		479.37	0.03	0.07	0.04	14.94	
24.00		475.56	0.03	0.07	0.04	15.07	
26.00		471.74	0.04	0.07	0.04	15.15	
28.00		467.93	0.04	0.07	0.04	15.19	
30.00		464.11	0.05	0.07	0.04	15.22	
32.00		460.30	0.06	0.07	0.04	15.23	
34.00		456.49	0.07	0.07	0.04	15.23	
36.00		452.67	0.07	0.07	0.04	15.22	
38.00		448.86	0.08	0.07	0.04	15.21	
40.00		445.05	0.09	0.07	0.04	15.20	
41.00	Bot - Section 2	221.09	0.09	0.07	0.04	7.58	
42.00		443.32	0.10	0.07	0.04	15.26	
44.00		880.91	0.11	0.07	0.04	30.57	
46.00		873.28	0.12	0.07	0.03	30.55	
48.00	Top - Section 1	865.66	0.13	0.07	0.03	30.51	
50.00		432.05	0.14	0.07	0.03	15.34	
51.00	Top - Section 2	214.60	0.15	0.07	0.03	7.64	
52.00		213.64	0.15	0.07	0.03	7.63	
54.00		424.43	0.16	0.07	0.03	15.24	
56.00		420.61	0.18	0.07	0.03	15.16	
58.00		416.80	0.19	0.06	0.02	15.05	
60.00		412.98	0.20	0.06	0.02	14.90	
62.00		409.17	0.22	0.06	0.02	14.71	
64.00		405.36	0.23	0.06	0.02	14.46	
66.00		401.54	0.25	0.06	0.02	14.15	
66.17	RB1	33.96	0.25	0.06	0.02	1.19	
68.00		363.77	0.26	0.05	0.02	12.58	
70.00		393.92	0.28	0.05	0.01	13.28	
71.00	Top - Section 3	195.53	0.28	0.05	0.01	6.49	
72.00		194.57	0.29	0.05	0.01	6.34	
74.00		386.28	0.31	0.04	0.01	12.04	
76.00		382.47	0.33	0.04	0.01	11.26	
78.00		378.66	0.34	0.03	0.01	10.36	
80.00		374.84	0.36	0.03	0.01	9.33	
81.00	Top - Section 4	185.99	0.37	0.03	0.01	4.37	

R: 1.50

Seismic Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 66

82.00		154.41	0.38	0.02	0.01
84.00		306.44	0.40	0.02	0.01
85.00	Bot - Section 6	152.03	0.41	0.02	0.01
86.00		304.57	0.42	0.01	0.01
88.00		604.38	0.44	0.01	0.01
90.00		598.02	0.46	0.00	0.01
91.00	Top - Section 5	296.63	0.47	0.00	0.01
92.00		148.58	0.48	-0.01	0.01
93.83	RT1	269.84	0.50	-0.01	0.01
94.00		24.93	0.50	-0.02	0.01
96.00		291.59	0.52	-0.02	0.01
98.00		288.41	0.54	-0.03	0.01
100.00		285.23	0.56	-0.04	0.01
102.00		282.06	0.59	-0.05	0.01
104.00		278.88	0.61	-0.06	0.02
106.00		483.88	0.63	-0.07	0.02
108.00		478.16	0.66	-0.07	0.02
110.00		472.44	0.68	-0.08	0.03
111.17	RB2	273.72	0.70	-0.09	0.03
112.00		192.99	0.71	-0.09	0.03
114.00		461.00	0.73	-0.10	0.04
115.00	Top - Section 6	130.30	0.75	-0.10	0.04
116.00		103.77	0.76	-0.10	0.04
118.00		205.64	0.79	-0.11	0.05
120.00		203.10	0.81	-0.11	0.06
122.00		200.55	0.84	-0.12	0.07
123.83	RT2	181.28	0.87	-0.12	0.07
124.00		16.73	0.87	-0.12	0.08
126.00		195.47	0.90	-0.12	0.09
128.00		192.93	0.92	-0.12	0.10
130.00	Bot - Section 8	190.38	0.95	-0.12	0.11
132.00		378.38	0.98	-0.11	0.12
134.00		373.30	1.01	-0.11	0.14
135.00	Top - Section 7	184.74	1.03	-0.10	0.15
136.00		92.41	1.04	-0.10	0.15
138.00		182.92	1.07	-0.08	0.17
140.00		180.37	1.11	-0.07	0.19
142.00		177.83	1.14	-0.05	0.21
143.00	Appurtenance(s)	2624.8	1.15	-0.03	0.22
144.00		87.33	1.17	-0.02	0.23
146.00		172.75	1.20	0.01	0.26
148.00		170.20	1.24	0.04	0.28
150.00	Appurtenance(s)	1667.6	1.27	0.08	0.31
152.00		165.12	1.30	0.13	0.34
153.00	Appurtenance(s)	2174.7	1.32	0.15	0.36
154.00		80.97	1.34	0.18	0.37
156.00		160.03	1.37	0.24	0.40
158.00		157.49	1.41	0.30	0.44
160.00		154.95	1.44	0.37	0.48
162.00		152.40	1.48	0.46	0.52
163.00	Appurtenance(s)	1787.0	1.50	0.50	0.54
164.00		74.61	1.52	0.55	0.56
166.00		147.32	1.56	0.65	0.61
168.00		144.78	1.59	0.76	0.66
170.00		142.23	1.63	0.88	0.71
172.00		139.69	1.67	1.01	0.77
173.00	Appurtenance(s)	2468.2	1.69	1.08	0.80

Seismic Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 67

174.00		68.26	1.71	1.16	0.83	10.32
176.00		134.61	1.75	1.31	0.89	22.26
178.00		132.06	1.79	1.49	0.96	23.77
180.00	Top - Section 8	129.52	1.83	1.67	1.03	25.28
181.00	Appurtenance(s)	1571.2	1.85	1.77	1.06	318.94
182.00		71.25	1.87	1.87	1.10	15.03
183.00		71.25	1.89	1.98	1.14	15.60
	Totals:	44,239.9				1,613.7
						Total Wind: 37,339.3

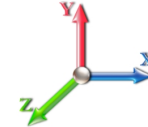
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0E										Iterations 26
Gust Response Factor 1.10					Sds 0.17					Ss 0.16
Dead Load Factor 1.20			Seismic Load Factor 1.00			Sd1 0.09		S1 0.06		
Wind Load Factor 0.00			Structure Frequency 0.29			SA 0.03		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	-60.59	-1.80	0.00	-241.25	0.00	241.25	5190.16	2595.08	13702.9	6861.66	0.00	0.00	0.00	0.047
2.00	-59.86	-1.80	0.00	-237.64	0.00	237.64	5174.50	2587.25	13560.7	6790.43	0.00	0.00	0.00	0.047
4.00	-59.13	-1.80	0.00	-234.03	0.00	234.03	5158.51	2579.25	13418.2	6719.08	0.00	-0.01	0.00	0.046
6.00	-58.41	-1.79	0.00	-230.43	0.00	230.43	5142.18	2571.09	13275.4	6647.61	0.01	-0.01	0.00	0.046
8.00	-57.69	-1.79	0.00	-226.85	0.00	226.85	5125.52	2562.76	13132.5	6576.03	0.01	-0.01	0.00	0.046
10.00	-56.98	-1.78	0.00	-223.27	0.00	223.27	5108.53	2554.27	12989.4	6504.36	0.02	-0.02	0.00	0.045
12.00	-56.27	-1.77	0.00	-219.72	0.00	219.72	5091.21	2545.61	12846.0	6432.60	0.03	-0.02	0.00	0.045
14.00	-55.56	-1.76	0.00	-216.18	0.00	216.18	5073.56	2536.78	12702.6	6360.75	0.04	-0.02	0.00	0.045
16.00	-54.86	-1.75	0.00	-212.67	0.00	212.67	5055.57	2527.79	12559.0	6288.85	0.05	-0.03	0.00	0.045
18.00	-54.17	-1.74	0.00	-209.17	0.00	209.17	5037.25	2518.63	12415.3	6216.88	0.06	-0.03	0.00	0.044
20.00	-53.48	-1.72	0.00	-205.70	0.00	205.70	5018.60	2509.30	12271.4	6144.86	0.07	-0.04	0.00	0.044
22.00	-52.79	-1.71	0.00	-202.25	0.00	202.25	4999.62	2499.81	12127.5	6072.81	0.09	-0.04	0.00	0.044
24.00	-52.11	-1.70	0.00	-198.83	0.00	198.83	4980.31	2490.15	11983.6	6000.72	0.11	-0.04	0.00	0.044
26.00	-51.44	-1.69	0.00	-195.43	0.00	195.43	4960.66	2480.33	11839.6	5928.62	0.13	-0.05	0.00	0.043
28.00	-50.76	-1.67	0.00	-192.06	0.00	192.06	4940.68	2470.34	11695.6	5856.50	0.15	-0.05	0.00	0.043
30.00	-50.10	-1.66	0.00	-188.71	0.00	188.71	4920.37	2460.19	11551.6	5784.39	0.17	-0.05	0.00	0.043
32.00	-49.43	-1.65	0.00	-185.38	0.00	185.38	4899.73	2449.87	11407.6	5712.28	0.19	-0.06	0.00	0.043
34.00	-48.77	-1.64	0.00	-182.09	0.00	182.09	4878.76	2439.38	11263.6	5640.19	0.22	-0.06	0.00	0.042
36.00	-48.12	-1.62	0.00	-178.81	0.00	178.81	4857.45	2428.72	11119.7	5568.14	0.24	-0.07	0.00	0.042
38.00	-47.47	-1.61	0.00	-175.56	0.00	175.56	4835.81	2417.91	10975.9	5496.12	0.27	-0.07	0.00	0.042
40.00	-46.83	-1.60	0.00	-172.34	0.00	172.34	4813.84	2406.92	10832.2	5424.15	0.30	-0.07	0.00	0.042
41.00	-46.51	-1.59	0.00	-170.74	0.00	170.74	4802.73	2401.36	10760.3	5388.18	0.32	-0.08	0.00	0.041
42.00	-45.92	-1.58	0.00	-169.15	0.00	169.15	4791.54	2395.77	10688.5	5352.24	0.33	-0.08	0.00	0.041
44.00	-44.75	-1.55	0.00	-166.00	0.00	166.00	4768.90	2384.45	10545.1	5280.39	0.37	-0.08	0.00	0.041
46.00	-43.59	-1.52	0.00	-162.90	0.00	162.90	4745.94	2372.97	10401.7	5208.63	0.40	-0.09	0.00	0.040
48.00	-42.44	-1.49	0.00	-159.86	0.00	159.86	4759.60	2379.80	10486.7	5251.18	0.44	-0.09	0.00	0.039
50.00	-41.82	-1.48	0.00	-156.88	0.00	156.88	4736.50	2368.25	10343.5	5179.45	0.48	-0.09	0.00	0.039
51.00	-41.50	-1.47	0.00	-155.40	0.00	155.40	4724.82	2362.41	10271.9	5143.62	0.50	-0.10	0.00	0.039
51.00	-41.50	-1.47	0.00	-155.40	0.00	155.40	4064.30	2032.15	8835.99	4424.56	0.50	-0.10	0.00	0.045
52.00	-41.19	-1.46	0.00	-153.93	0.00	153.93	4053.20	2026.60	8772.35	4392.70	0.52	-0.10	0.00	0.045
54.00	-40.57	-1.45	0.00	-151.00	0.00	151.00	4030.83	2015.41	8645.34	4329.09	0.56	-0.10	0.00	0.045
56.00	-39.96	-1.44	0.00	-148.10	0.00	148.10	4008.20	2004.10	8518.66	4265.66	0.60	-0.11	0.00	0.045
58.00	-39.35	-1.42	0.00	-145.23	0.00	145.23	3985.33	1992.66	8392.33	4202.40	0.65	-0.11	0.00	0.044
60.00	-38.74	-1.41	0.00	-142.39	0.00	142.39	3962.20	1981.10	8266.38	4139.33	0.69	-0.11	0.00	0.044
62.00	-38.14	-1.40	0.00	-139.57	0.00	139.57	3938.82	1969.41	8140.81	4076.46	0.74	-0.12	0.00	0.044
64.00	-37.54	-1.38	0.00	-136.77	0.00	136.77	3915.19	1957.60	8015.64	4013.78	0.79	-0.12	0.00	0.044
66.00	-36.95	-1.37	0.00	-134.00	0.00	134.00	3891.31	1945.66	7890.88	3951.30	0.84	-0.13	0.00	0.043
66.17	-36.90	-1.37	0.00	-133.77	0.00	133.77	3889.27	1944.64	7880.29	3946.00	0.85	-0.13	0.00	0.032
68.00	-36.36	-1.36	0.00	-131.27	0.00	131.27	3867.19	1933.59	7766.55	3889.05	0.90	-0.13	0.00	0.032
70.00	-35.78	-1.34	0.00	-128.55	0.00	128.55	3842.81	1921.40	7642.66	3827.01	0.95	-0.13	0.00	0.032
71.00	-35.49	-1.34	0.00	-127.21	0.00	127.21	3830.52	1915.26	7580.89	3796.08	0.98	-0.13	0.00	0.031
71.00	-35.49	-1.34	0.00	-127.21	0.00	127.21	3467.89	1733.95	6863.13	3436.66	0.98	-0.13	0.00	0.035
72.00	-35.20	-1.33	0.00	-125.87	0.00	125.87	3456.29	1728.14	6806.46	3408.29	1.01	-0.14	0.00	0.035
74.00	-34.63	-1.32	0.00	-123.20	0.00	123.20	3432.92	1716.46	6693.50	3351.73	1.06	-0.14	0.00	0.034
76.00	-34.06	-1.31	0.00	-120.56	0.00	120.56	3409.33	1704.67	6581.05	3295.42	1.12	-0.14	0.00	0.034
78.00	-33.49	-1.30	0.00	-117.94	0.00	117.94	3385.54	1692.77	6469.11	3239.36	1.18	-0.14	0.00	0.034
80.00	-32.93	-1.29	0.00	-115.34	0.00	115.34	3361.54	1680.77	6357.71	3183.58	1.24	-0.15	0.00	0.033

Calculated Forces

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 69

81.00	-32.65	-1.29	0.00	-114.05	0.00	114.05	3349.46	1674.73	6302.21	3155.79	1.28	-0.15	0.033
81.00	-32.65	-1.29	0.00	-114.05	0.00	114.05	2964.88	1482.44	5593.85	2801.08	1.28	-0.15	0.031
82.00	-32.41	-1.28	0.00	-112.76	0.00	112.76	2956.03	1478.01	5548.33	2778.29	1.31	-0.15	0.035
84.00	-31.94	-1.28	0.00	-110.19	0.00	110.19	2938.12	1469.06	5457.44	2732.78	1.37	-0.15	0.035
85.00	-31.70	-1.28	0.00	-108.91	0.00	108.91	2929.07	1464.54	5412.08	2710.06	1.40	-0.16	0.035
86.00	-31.28	-1.27	0.00	-107.64	0.00	107.64	2919.96	1459.98	5366.77	2687.37	1.44	-0.16	0.034
88.00	-30.44	-1.27	0.00	-105.09	0.00	105.09	2901.53	1450.76	5276.32	2642.08	1.50	-0.16	0.034
90.00	-29.61	-1.26	0.00	-102.56	0.00	102.56	2882.84	1441.42	5186.12	2596.92	1.57	-0.17	0.033
91.00	-29.20	-1.26	0.00	-101.30	0.00	101.30	2898.35	1449.17	5260.87	2634.34	1.61	-0.17	0.034
92.00	-28.97	-1.26	0.00	-100.04	0.00	100.04	2889.01	1444.51	5215.76	2611.76	1.64	-0.17	0.033
93.83	-28.54	-1.26	0.00	-97.74	0.00	97.74	2871.76	1435.88	5133.38	2570.50	1.71	-0.17	0.032
93.83	-28.54	-1.26	0.00	-97.74	0.00	97.74	2871.76	1435.88	5133.38	2570.50	1.71	-0.17	0.032
94.00	-28.50	-1.26	0.00	-97.53	0.00	97.53	2870.15	1435.07	5125.73	2566.68	1.71	-0.17	0.048
96.00	-28.04	-1.26	0.00	-95.01	0.00	95.01	2851.02	1425.51	5035.98	2521.73	1.79	-0.18	0.048
98.00	-27.59	-1.26	0.00	-92.49	0.00	92.49	2831.62	1415.81	4946.52	2476.93	1.86	-0.18	0.047
100.00	-27.13	-1.26	0.00	-89.96	0.00	89.96	2811.97	1405.98	4857.35	2432.29	1.94	-0.19	0.047
102.00	-26.69	-1.26	0.00	-87.44	0.00	87.44	2792.05	1396.03	4768.51	2387.80	2.02	-0.19	0.046
104.00	-26.24	-1.27	0.00	-84.91	0.00	84.91	2771.87	1385.94	4680.00	2343.48	2.10	-0.20	0.046
106.00	-25.80	-1.27	0.00	-82.38	0.00	82.38	2751.43	1375.71	4591.84	2299.33	2.19	-0.20	0.045
108.00	-25.36	-1.27	0.00	-79.84	0.00	79.84	2730.72	1365.36	4504.04	2255.37	2.28	-0.21	0.045
110.00	-24.93	-1.27	0.00	-77.31	0.00	77.31	2709.75	1354.88	4416.62	2211.59	2.36	-0.22	0.044
111.17	-24.68	-1.27	0.00	-75.83	0.00	75.83	2697.36	1348.68	4365.66	2186.08	2.42	-0.22	0.035
112.00	-24.50	-1.27	0.00	-74.77	0.00	74.77	2688.52	1344.26	4329.60	2168.02	2.46	-0.22	0.035
114.00	-24.07	-1.27	0.00	-72.24	0.00	72.24	2667.03	1333.51	4242.98	2124.64	2.55	-0.23	0.034
115.00	-23.86	-1.27	0.00	-70.97	0.00	70.97	2656.18	1328.09	4199.83	2103.04	2.60	-0.23	0.033
115.00	-23.86	-1.27	0.00	-70.97	0.00	70.97	1951.15	975.57	3095.05	1549.82	2.60	-0.23	0.036
116.00	-23.68	-1.27	0.00	-69.70	0.00	69.70	1944.57	972.29	3065.67	1535.11	2.65	-0.23	0.043
118.00	-23.32	-1.27	0.00	-67.16	0.00	67.16	1931.24	965.62	3006.98	1505.73	2.74	-0.23	0.042
120.00	-22.97	-1.27	0.00	-64.63	0.00	64.63	1917.63	958.82	2948.42	1476.40	2.84	-0.24	0.041
122.00	-22.62	-1.27	0.00	-62.08	0.00	62.08	1903.77	951.88	2889.98	1447.14	2.94	-0.24	0.040
123.83	-22.30	-1.27	0.00	-59.76	0.00	59.76	1890.85	945.43	2836.64	1420.43	3.04	-0.25	0.039
123.83	-22.30	-1.27	0.00	-59.76	0.00	59.76	1890.85	945.43	2836.64	1420.43	3.04	-0.25	0.039
124.00	-22.27	-1.27	0.00	-59.54	0.00	59.54	1889.64	944.82	2831.69	1417.95	3.05	-0.25	0.054
126.00	-21.92	-1.27	0.00	-57.00	0.00	57.00	1875.25	937.63	2773.56	1388.84	3.15	-0.26	0.053
128.00	-21.58	-1.27	0.00	-54.46	0.00	54.46	1860.60	930.30	2715.62	1359.83	3.26	-0.26	0.052
130.00	-21.24	-1.27	0.00	-51.91	0.00	51.91	1845.69	922.84	2657.86	1330.91	3.37	-0.27	0.051
132.00	-20.68	-1.27	0.00	-49.36	0.00	49.36	1830.51	915.25	2600.31	1302.09	3.49	-0.28	0.049
134.00	-20.12	-1.27	0.00	-46.81	0.00	46.81	1815.07	907.53	2542.99	1273.39	3.61	-0.28	0.048
135.00	-19.84	-1.27	0.00	-45.54	0.00	45.54	1823.79	911.89	2575.21	1289.52	3.67	-0.29	0.046
136.00	-19.68	-1.27	0.00	-44.26	0.00	44.26	1816.04	908.02	2546.57	1275.18	3.73	-0.29	0.046
138.00	-19.35	-1.27	0.00	-41.71	0.00	41.71	1800.35	900.18	2489.47	1246.58	3.85	-0.30	0.044
140.00	-19.02	-1.28	0.00	-39.17	0.00	39.17	1784.41	892.20	2432.62	1218.12	3.98	-0.30	0.043
142.00	-18.70	-1.27	0.00	-36.62	0.00	36.62	1768.19	884.10	2376.04	1189.79	4.10	-0.31	0.041
143.00	-15.49	-1.26	0.00	-35.34	0.00	35.34	1759.99	879.99	2347.86	1175.68	4.17	-0.31	0.039
144.00	-15.35	-1.26	0.00	-34.08	0.00	34.08	1751.72	875.86	2319.75	1161.60	4.23	-0.31	0.038
146.00	-15.06	-1.26	0.00	-31.57	0.00	31.57	1734.98	867.49	2263.76	1133.56	4.37	-0.32	0.037
148.00	-14.78	-1.25	0.00	-29.05	0.00	29.05	1717.98	858.99	2208.08	1105.68	4.50	-0.33	0.035
150.00	-12.70	-1.21	0.00	-26.54	0.00	26.54	1700.72	850.36	2152.74	1077.97	4.64	-0.33	0.032
152.00	-12.42	-1.20	0.00	-24.13	0.00	24.13	1683.20	841.60	2097.74	1050.43	4.78	-0.34	0.030
153.00	-9.78	-1.11	0.00	-22.93	0.00	22.93	1674.33	837.17	2070.37	1036.72	4.85	-0.34	0.028
154.00	-9.66	-1.11	0.00	-21.82	0.00	21.82	1665.41	832.70	2043.10	1023.07	4.92	-0.34	0.027
156.00	-9.42	-1.10	0.00	-19.61	0.00	19.61	1647.36	823.68	1988.83	995.90	5.06	-0.34	0.025
158.00	-9.18	-1.09	0.00	-17.42	0.00	17.42	1629.04	814.52	1934.96	968.92	5.21	-0.35	0.024
160.00	-8.95	-1.08	0.00	-15.24	0.00	15.24	1610.47	805.23	1881.50	942.15	5.36	-0.35	0.022
162.00	-8.72	-1.06	0.00	-13.09	0.00	13.09	1591.63	795.82	1828.46	915.59	5.50	-0.36	0.020
163.00	-6.56	-0.90	0.00	-12.02	0.00	12.02	1582.11	791.06	1802.10	902.39	5.58	-0.36	0.017
164.00	-6.45	-0.90	0.00	-11.12	0.00	11.12	1572.53	786.27	1775.86	889.25	5.65	-0.36	0.017

Calculated Forces

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 70
	Struct Class: II	



166.00	-6.23	-0.88	0.00	-9.33	0.00	9.33	1553.17	776.58	1723.71	863.13	5.80	-0.36	0.015
168.00	-6.02	-0.86	0.00	-7.57	0.00	7.57	1533.54	766.77	1672.03	837.26	5.96	-0.36	0.013
170.00	-5.81	-0.84	0.00	-5.85	0.00	5.85	1513.65	756.83	1620.83	811.62	6.11	-0.37	0.011
172.00	-5.61	-0.82	0.00	-4.16	0.00	4.16	1493.50	746.75	1570.13	786.23	6.26	-0.37	0.009
173.00	-2.63	-0.45	0.00	-3.34	0.00	3.34	1483.33	741.66	1544.98	773.64	6.34	-0.37	0.006
174.00	-2.54	-0.44	0.00	-2.89	0.00	2.89	1473.09	736.54	1519.95	761.10	6.42	-0.37	0.006
176.00	-2.38	-0.41	0.00	-2.02	0.00	2.02	1452.41	726.20	1470.30	736.24	6.57	-0.37	0.004
178.00	-2.22	-0.39	0.00	-1.19	0.00	1.19	1427.85	713.93	1417.60	709.85	6.73	-0.37	0.003
180.00	-2.06	-0.36	0.00	-0.41	0.00	0.41	1400.09	700.05	1362.74	682.38	6.88	-0.37	0.002
180.00	-2.06	-0.36	0.00	-0.41	0.00	0.41	678.42	339.21	662.23	396.30	6.88	-0.37	0.004
181.00	-0.17	-0.03	0.00	-0.05	0.00	0.05	678.42	339.21	662.23	396.30	6.96	-0.37	0.000
182.00	-0.09	-0.02	0.00	-0.02	0.00	0.02	678.42	339.21	662.23	396.30	7.04	-0.37	0.000
183.00	0.00	-0.02	0.00	0.00	0.00	0.00	678.42	339.21	662.23	396.30	7.12	-0.37	0.000

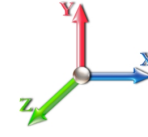
Seismic Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 71

Load Case: 0.9D + 1.0E					Iterations 26
Gust Response Factor	1.10	Sds	0.17	Ss	0.16
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.09
Wind Load Factor	0.00	Structure Frequency	0.29	SA	0.03
					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	
2.00		517.51	0.00	0.01	0.01	4.23	
4.00		513.69	0.00	0.02	0.01	7.17	
6.00		509.88	0.00	0.03	0.02	9.30	
8.00		506.07	0.00	0.04	0.02	10.88	
10.00		502.25	0.01	0.05	0.03	12.07	
12.00		498.44	0.01	0.05	0.03	12.96	
14.00		494.62	0.01	0.06	0.03	13.63	
16.00		490.81	0.01	0.06	0.04	14.13	
18.00		487.00	0.02	0.06	0.04	14.50	
20.00		483.18	0.02	0.07	0.04	14.76	
22.00		479.37	0.03	0.07	0.04	14.94	
24.00		475.56	0.03	0.07	0.04	15.07	
26.00		471.74	0.04	0.07	0.04	15.15	
28.00		467.93	0.04	0.07	0.04	15.19	
30.00		464.11	0.05	0.07	0.04	15.22	
32.00		460.30	0.06	0.07	0.04	15.23	
34.00		456.49	0.07	0.07	0.04	15.23	
36.00		452.67	0.07	0.07	0.04	15.22	
38.00		448.86	0.08	0.07	0.04	15.21	
40.00		445.05	0.09	0.07	0.04	15.20	
41.00	Bot - Section 2	221.09	0.09	0.07	0.04	7.58	
42.00		443.32	0.10	0.07	0.04	15.26	
44.00		880.91	0.11	0.07	0.04	30.57	
46.00		873.28	0.12	0.07	0.03	30.55	
48.00	Top - Section 1	865.66	0.13	0.07	0.03	30.51	
50.00		432.05	0.14	0.07	0.03	15.34	
51.00	Top - Section 2	214.60	0.15	0.07	0.03	7.64	
52.00		213.64	0.15	0.07	0.03	7.63	
54.00		424.43	0.16	0.07	0.03	15.24	
56.00		420.61	0.18	0.07	0.03	15.16	
58.00		416.80	0.19	0.06	0.02	15.05	
60.00		412.98	0.20	0.06	0.02	14.90	
62.00		409.17	0.22	0.06	0.02	14.71	
64.00		405.36	0.23	0.06	0.02	14.46	
66.00		401.54	0.25	0.06	0.02	14.15	
66.17	RB1	33.96	0.25	0.06	0.02	1.19	
68.00		363.77	0.26	0.05	0.02	12.58	
70.00		393.92	0.28	0.05	0.01	13.28	
71.00	Top - Section 3	195.53	0.28	0.05	0.01	6.49	
72.00		194.57	0.29	0.05	0.01	6.34	
74.00		386.28	0.31	0.04	0.01	12.04	
76.00		382.47	0.33	0.04	0.01	11.26	
78.00		378.66	0.34	0.03	0.01	10.36	
80.00		374.84	0.36	0.03	0.01	9.33	
81.00	Top - Section 4	185.99	0.37	0.03	0.01	4.37	

Seismic Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 72

82.00		154.41	0.38	0.02	0.01	3.40
84.00		306.44	0.40	0.02	0.01	5.76
85.00	Bot - Section 6	152.03	0.41	0.02	0.01	2.59
86.00		304.57	0.42	0.01	0.01	4.62
88.00		604.38	0.44	0.01	0.01	6.77
90.00		598.02	0.46	0.00	0.01	4.15
91.00	Top - Section 5	296.63	0.47	0.00	0.01	1.40
92.00		148.58	0.48	-0.01	0.01	0.36
93.83	RT1	269.84	0.50	-0.01	0.01	-0.49
94.00		24.93	0.50	-0.02	0.01	-0.05
96.00		291.59	0.52	-0.02	0.01	-2.01
98.00		288.41	0.54	-0.03	0.01	-3.33
100.00		285.23	0.56	-0.04	0.01	-4.57
102.00		282.06	0.59	-0.05	0.01	-5.72
104.00		278.88	0.61	-0.06	0.02	-6.74
106.00		483.88	0.63	-0.07	0.02	-13.40
108.00		478.16	0.66	-0.07	0.02	-14.70
110.00		472.44	0.68	-0.08	0.03	-15.74
111.17	RB2	273.72	0.70	-0.09	0.03	-9.47
112.00		192.99	0.71	-0.09	0.03	-6.83
114.00		461.00	0.73	-0.10	0.04	-17.01
115.00	Top - Section 6	130.30	0.75	-0.10	0.04	-4.88
116.00		103.77	0.76	-0.10	0.04	-3.93
118.00		205.64	0.79	-0.11	0.05	-7.89
120.00		203.10	0.81	-0.11	0.06	-7.78
122.00		200.55	0.84	-0.12	0.07	-7.56
123.83	RT2	181.28	0.87	-0.12	0.07	-6.65
124.00		16.73	0.87	-0.12	0.08	-0.61
126.00		195.47	0.90	-0.12	0.09	-6.83
128.00		192.93	0.92	-0.12	0.10	-6.34
130.00	Bot - Section 8	190.38	0.95	-0.12	0.11	-5.75
132.00		378.38	0.98	-0.11	0.12	-10.26
134.00		373.30	1.01	-0.11	0.14	-8.78
135.00	Top - Section 7	184.74	1.03	-0.10	0.15	-3.98
136.00		92.41	1.04	-0.10	0.15	-1.80
138.00		182.92	1.07	-0.08	0.17	-2.72
140.00		180.37	1.11	-0.07	0.19	-1.77
142.00		177.83	1.14	-0.05	0.21	-0.77
143.00	Appurtenance(s)	2624.8	1.15	-0.03	0.22	-3.60
144.00		87.33	1.17	-0.02	0.23	0.15
146.00		172.75	1.20	0.01	0.26	1.41
148.00		170.20	1.24	0.04	0.28	2.58
150.00	Appurtenance(s)	1667.6	1.27	0.08	0.31	37.70
152.00		165.12	1.30	0.13	0.34	5.04
153.00	Appurtenance(s)	2174.7	1.32	0.15	0.36	75.48
154.00		80.97	1.34	0.18	0.37	3.16
156.00		160.03	1.37	0.24	0.40	7.67
158.00		157.49	1.41	0.30	0.44	9.03
160.00		154.95	1.44	0.37	0.48	10.43
162.00		152.40	1.48	0.46	0.52	11.85
163.00	Appurtenance(s)	1787.0	1.50	0.50	0.54	148.58
164.00		74.61	1.52	0.55	0.56	6.62
166.00		147.32	1.56	0.65	0.61	14.75
168.00		144.78	1.59	0.76	0.66	16.23
170.00		142.23	1.63	0.88	0.71	17.73
172.00		139.69	1.67	1.01	0.77	19.23
173.00	Appurtenance(s)	2468.2	1.69	1.08	0.80	356.41

Seismic Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 73
	Struct Class: II	



174.00		68.26	1.71	1.16	0.83	10.32
176.00		134.61	1.75	1.31	0.89	22.26
178.00		132.06	1.79	1.49	0.96	23.77
180.00	Top - Section 8	129.52	1.83	1.67	1.03	25.28
181.00	Appurtenance(s)	1571.2	1.85	1.77	1.06	318.94
182.00		71.25	1.87	1.87	1.10	15.03
183.00		71.25	1.89	1.98	1.14	15.60
	Totals:	44,239.9				1,613.7
						Total Wind: 37,339.3

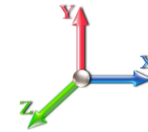
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.0E										Iterations 26
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 0.29				SA 0.03		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	-45.44	-1.80	0.00	-238.10	0.00	238.10	5190.16	2595.08	13702.9	6861.66	0.00	0.00	0.00	0.043
2.00	-44.89	-1.80	0.00	-234.50	0.00	234.50	5174.50	2587.25	13560.7	6790.43	0.00	0.00	0.00	0.043
4.00	-44.35	-1.80	0.00	-230.89	0.00	230.89	5158.51	2579.25	13418.2	6719.08	0.00	-0.01	0.00	0.043
6.00	-43.81	-1.79	0.00	-227.30	0.00	227.30	5142.18	2571.09	13275.4	6647.61	0.01	-0.01	0.00	0.043
8.00	-43.27	-1.78	0.00	-223.71	0.00	223.71	5125.52	2562.76	13132.5	6576.03	0.01	-0.01	0.00	0.042
10.00	-42.73	-1.77	0.00	-220.15	0.00	220.15	5108.53	2554.27	12989.4	6504.36	0.02	-0.02	0.00	0.042
12.00	-42.20	-1.76	0.00	-216.60	0.00	216.60	5091.21	2545.61	12846.0	6432.60	0.03	-0.02	0.00	0.042
14.00	-41.67	-1.75	0.00	-213.08	0.00	213.08	5073.56	2536.78	12702.6	6360.75	0.04	-0.02	0.00	0.042
16.00	-41.15	-1.74	0.00	-209.57	0.00	209.57	5055.57	2527.79	12559.0	6288.85	0.05	-0.03	0.00	0.041
18.00	-40.63	-1.73	0.00	-206.10	0.00	206.10	5037.25	2518.63	12415.3	6216.88	0.06	-0.03	0.00	0.041
20.00	-40.11	-1.71	0.00	-202.64	0.00	202.64	5018.60	2509.30	12271.4	6144.86	0.07	-0.03	0.00	0.041
22.00	-39.59	-1.70	0.00	-199.21	0.00	199.21	4999.62	2499.81	12127.5	6072.81	0.09	-0.04	0.00	0.041
24.00	-39.08	-1.69	0.00	-195.81	0.00	195.81	4980.31	2490.15	11983.6	6000.72	0.11	-0.04	0.00	0.040
26.00	-38.58	-1.68	0.00	-192.43	0.00	192.43	4960.66	2480.33	11839.6	5928.62	0.12	-0.05	0.00	0.040
28.00	-38.07	-1.66	0.00	-189.08	0.00	189.08	4940.68	2470.34	11695.6	5856.50	0.14	-0.05	0.00	0.040
30.00	-37.57	-1.65	0.00	-185.75	0.00	185.75	4920.37	2460.19	11551.6	5784.39	0.17	-0.05	0.00	0.040
32.00	-37.07	-1.64	0.00	-182.45	0.00	182.45	4899.73	2449.87	11407.6	5712.28	0.19	-0.06	0.00	0.040
34.00	-36.58	-1.62	0.00	-179.18	0.00	179.18	4878.76	2439.38	11263.6	5640.19	0.21	-0.06	0.00	0.039
36.00	-36.09	-1.61	0.00	-175.93	0.00	175.93	4857.45	2428.72	11119.7	5568.14	0.24	-0.06	0.00	0.039
38.00	-35.60	-1.60	0.00	-172.71	0.00	172.71	4835.81	2417.91	10975.9	5496.12	0.27	-0.07	0.00	0.039
40.00	-35.12	-1.58	0.00	-169.52	0.00	169.52	4813.84	2406.92	10832.2	5424.15	0.30	-0.07	0.00	0.039
41.00	-34.88	-1.58	0.00	-167.94	0.00	167.94	4802.73	2401.36	10760.3	5388.18	0.31	-0.07	0.00	0.038
42.00	-34.44	-1.56	0.00	-166.36	0.00	166.36	4791.54	2395.77	10688.5	5352.24	0.33	-0.08	0.00	0.038
44.00	-33.56	-1.53	0.00	-163.24	0.00	163.24	4768.90	2384.45	10545.1	5280.39	0.36	-0.08	0.00	0.038
46.00	-32.70	-1.50	0.00	-160.18	0.00	160.18	4745.94	2372.97	10401.7	5208.63	0.40	-0.08	0.00	0.038
48.00	-31.83	-1.47	0.00	-157.17	0.00	157.17	4759.60	2379.80	10486.7	5251.18	0.43	-0.09	0.00	0.037
50.00	-31.36	-1.46	0.00	-154.23	0.00	154.23	4736.50	2368.25	10343.5	5179.45	0.47	-0.09	0.00	0.036
51.00	-31.13	-1.45	0.00	-152.77	0.00	152.77	4724.82	2362.41	10271.9	5143.62	0.49	-0.09	0.00	0.036
51.00	-31.13	-1.45	0.00	-152.77	0.00	152.77	4064.30	2032.15	8835.99	4424.56	0.49	-0.09	0.00	0.042
52.00	-30.89	-1.45	0.00	-151.32	0.00	151.32	4053.20	2026.60	8772.35	4392.70	0.51	-0.10	0.00	0.042
54.00	-30.43	-1.43	0.00	-148.43	0.00	148.43	4030.83	2015.41	8645.34	4329.09	0.55	-0.10	0.00	0.042
56.00	-29.97	-1.42	0.00	-145.56	0.00	145.56	4008.20	2004.10	8518.66	4265.66	0.59	-0.10	0.00	0.042
58.00	-29.51	-1.40	0.00	-142.73	0.00	142.73	3985.33	1992.66	8392.33	4202.40	0.64	-0.11	0.00	0.041
60.00	-29.05	-1.39	0.00	-139.92	0.00	139.92	3962.20	1981.10	8266.38	4139.33	0.68	-0.11	0.00	0.041
62.00	-28.60	-1.38	0.00	-137.14	0.00	137.14	3938.82	1969.41	8140.81	4076.46	0.73	-0.12	0.00	0.041
64.00	-28.16	-1.36	0.00	-134.39	0.00	134.39	3915.19	1957.60	8015.64	4013.78	0.78	-0.12	0.00	0.041
66.00	-27.71	-1.35	0.00	-131.67	0.00	131.67	3891.31	1945.66	7890.88	3951.30	0.83	-0.12	0.00	0.040
66.17	-27.67	-1.35	0.00	-131.44	0.00	131.44	3889.27	1944.64	7880.29	3946.00	0.84	-0.12	0.00	0.030
68.00	-27.27	-1.34	0.00	-128.97	0.00	128.97	3867.19	1933.59	7766.55	3889.05	0.88	-0.13	0.00	0.030
70.00	-26.83	-1.32	0.00	-126.30	0.00	126.30	3842.81	1921.40	7642.66	3827.01	0.94	-0.13	0.00	0.029
71.00	-26.62	-1.32	0.00	-124.97	0.00	124.97	3830.52	1915.26	7580.89	3796.08	0.96	-0.13	0.00	0.029
71.00	-26.62	-1.32	0.00	-124.97	0.00	124.97	3467.89	1733.95	6863.13	3436.66	0.96	-0.13	0.00	0.032
72.00	-26.40	-1.31	0.00	-123.66	0.00	123.66	3456.29	1728.14	6806.46	3408.29	0.99	-0.13	0.00	0.032
74.00	-25.97	-1.30	0.00	-121.04	0.00	121.04	3432.92	1716.46	6693.50	3351.73	1.05	-0.14	0.00	0.032
76.00	-25.54	-1.29	0.00	-118.44	0.00	118.44	3409.33	1704.67	6581.05	3295.42	1.11	-0.14	0.00	0.032
78.00	-25.12	-1.28	0.00	-115.86	0.00	115.86	3385.54	1692.77	6469.11	3239.36	1.17	-0.14	0.00	0.031
80.00	-24.70	-1.27	0.00	-113.30	0.00	113.30	3361.54	1680.77	6357.71	3183.58	1.23	-0.15	0.00	0.031

Calculated Forces

Structure: CT01002-S-SBA **Code:** EIA/TIA-222-G 3/13/2018
Site Name: Waterford **Exposure:** B
Height: 183.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II **Page:** 75



81.00	-24.49	-1.26	0.00	-112.04	0.00	112.04	3349.46	1674.73	6302.21	3155.79	1.26	-0.15	0.031
81.00	-24.49	-1.26	0.00	-112.04	0.00	112.04	2964.88	1482.44	5593.85	2801.08	1.26	-0.15	0.029
82.00	-24.31	-1.26	0.00	-110.77	0.00	110.77	2956.03	1478.01	5548.33	2778.29	1.29	-0.15	0.033
84.00	-23.95	-1.26	0.00	-108.25	0.00	108.25	2938.12	1469.06	5457.44	2732.78	1.35	-0.15	0.032
85.00	-23.77	-1.25	0.00	-106.99	0.00	106.99	2929.07	1464.54	5412.08	2710.06	1.38	-0.15	0.032
86.00	-23.46	-1.25	0.00	-105.74	0.00	105.74	2919.96	1459.98	5366.77	2687.37	1.41	-0.16	0.032
88.00	-22.83	-1.24	0.00	-103.24	0.00	103.24	2901.53	1450.76	5276.32	2642.08	1.48	-0.16	0.031
90.00	-22.21	-1.24	0.00	-100.75	0.00	100.75	2882.84	1441.42	5186.12	2596.92	1.55	-0.16	0.031
91.00	-21.90	-1.24	0.00	-99.51	0.00	99.51	2898.35	1449.17	5260.87	2634.34	1.58	-0.16	0.031
92.00	-21.73	-1.24	0.00	-98.28	0.00	98.28	2889.01	1444.51	5215.76	2611.76	1.62	-0.17	0.030
93.83	-21.41	-1.24	0.00	-96.02	0.00	96.02	2871.76	1435.88	5133.38	2570.50	1.68	-0.17	0.030
93.83	-21.41	-1.24	0.00	-96.02	0.00	96.02	2871.76	1435.88	5133.38	2570.50	1.68	-0.17	0.030
94.00	-21.38	-1.24	0.00	-95.81	0.00	95.81	2870.15	1435.07	5125.73	2566.68	1.69	-0.17	0.045
96.00	-21.03	-1.24	0.00	-93.33	0.00	93.33	2851.02	1425.51	5035.98	2521.73	1.76	-0.17	0.044
98.00	-20.69	-1.24	0.00	-90.86	0.00	90.86	2831.62	1415.81	4946.52	2476.93	1.83	-0.18	0.044
100.00	-20.35	-1.24	0.00	-88.38	0.00	88.38	2811.97	1405.98	4857.35	2432.29	1.91	-0.19	0.044
102.00	-20.01	-1.24	0.00	-85.90	0.00	85.90	2792.05	1396.03	4768.51	2387.80	1.99	-0.19	0.043
104.00	-19.68	-1.24	0.00	-83.42	0.00	83.42	2771.87	1385.94	4680.00	2343.48	2.07	-0.20	0.043
106.00	-19.35	-1.24	0.00	-80.94	0.00	80.94	2751.43	1375.71	4591.84	2299.33	2.15	-0.20	0.042
108.00	-19.02	-1.24	0.00	-78.45	0.00	78.45	2730.72	1365.36	4504.04	2255.37	2.24	-0.21	0.042
110.00	-18.69	-1.24	0.00	-75.97	0.00	75.97	2709.75	1354.88	4416.62	2211.59	2.33	-0.21	0.041
111.17	-18.51	-1.24	0.00	-74.51	0.00	74.51	2697.36	1348.68	4365.66	2186.08	2.38	-0.22	0.033
112.00	-18.37	-1.24	0.00	-73.48	0.00	73.48	2688.52	1344.26	4329.60	2168.02	2.42	-0.22	0.033
114.00	-18.05	-1.24	0.00	-71.00	0.00	71.00	2667.03	1333.51	4242.98	2124.64	2.51	-0.22	0.032
115.00	-17.89	-1.24	0.00	-69.75	0.00	69.75	2656.18	1328.09	4199.83	2103.04	2.56	-0.22	0.031
115.00	-17.89	-1.24	0.00	-69.75	0.00	69.75	1951.15	975.57	3095.05	1549.82	2.56	-0.22	0.034
116.00	-17.76	-1.24	0.00	-68.51	0.00	68.51	1944.57	972.29	3065.67	1535.11	2.60	-0.23	0.040
118.00	-17.49	-1.24	0.00	-66.02	0.00	66.02	1931.24	965.62	3006.98	1505.73	2.70	-0.23	0.039
120.00	-17.23	-1.24	0.00	-63.53	0.00	63.53	1917.63	958.82	2948.42	1476.40	2.80	-0.24	0.038
122.00	-16.96	-1.25	0.00	-61.04	0.00	61.04	1903.77	951.88	2889.98	1447.14	2.90	-0.24	0.037
123.83	-16.72	-1.24	0.00	-58.76	0.00	58.76	1890.85	945.43	2836.64	1420.43	2.99	-0.25	0.037
123.83	-16.72	-1.24	0.00	-58.76	0.00	58.76	1890.85	945.43	2836.64	1420.43	2.99	-0.25	0.037
124.00	-16.70	-1.25	0.00	-58.55	0.00	58.55	1889.64	944.82	2831.69	1417.95	3.00	-0.25	0.050
126.00	-16.44	-1.25	0.00	-56.06	0.00	56.06	1875.25	937.63	2773.56	1388.84	3.10	-0.25	0.049
128.00	-16.19	-1.25	0.00	-53.57	0.00	53.57	1860.60	930.30	2715.62	1359.83	3.21	-0.26	0.048
130.00	-15.93	-1.25	0.00	-51.07	0.00	51.07	1845.69	922.84	2657.86	1330.91	3.32	-0.27	0.047
132.00	-15.51	-1.25	0.00	-48.58	0.00	48.58	1830.51	915.25	2600.31	1302.09	3.43	-0.27	0.046
134.00	-15.09	-1.25	0.00	-46.08	0.00	46.08	1815.07	907.53	2542.99	1273.39	3.55	-0.28	0.045
135.00	-14.88	-1.25	0.00	-44.83	0.00	44.83	1823.79	911.89	2575.21	1289.52	3.61	-0.28	0.043
136.00	-14.76	-1.25	0.00	-43.59	0.00	43.59	1816.04	908.02	2546.57	1275.18	3.67	-0.29	0.042
138.00	-14.51	-1.25	0.00	-41.09	0.00	41.09	1800.35	900.18	2489.47	1246.58	3.79	-0.29	0.041
140.00	-14.26	-1.25	0.00	-38.59	0.00	38.59	1784.41	892.20	2432.62	1218.12	3.91	-0.30	0.040
142.00	-14.02	-1.25	0.00	-36.10	0.00	36.10	1768.19	884.10	2376.04	1189.79	4.04	-0.30	0.038
143.00	-11.62	-1.24	0.00	-34.85	0.00	34.85	1759.99	879.99	2347.86	1175.68	4.10	-0.31	0.036
144.00	-11.51	-1.24	0.00	-33.61	0.00	33.61	1751.72	875.86	2319.75	1161.60	4.17	-0.31	0.036
146.00	-11.30	-1.23	0.00	-31.14	0.00	31.14	1734.98	867.49	2263.76	1133.56	4.30	-0.31	0.034
148.00	-11.08	-1.23	0.00	-28.67	0.00	28.67	1717.98	858.99	2208.08	1105.68	4.43	-0.32	0.032
150.00	-9.52	-1.19	0.00	-26.21	0.00	26.21	1700.72	850.36	2152.74	1077.97	4.56	-0.32	0.030
152.00	-9.32	-1.18	0.00	-23.83	0.00	23.83	1683.20	841.60	2097.74	1050.43	4.70	-0.33	0.028
153.00	-7.33	-1.09	0.00	-22.65	0.00	22.65	1674.33	837.17	2070.37	1036.72	4.77	-0.33	0.026
154.00	-7.24	-1.09	0.00	-21.56	0.00	21.56	1665.41	832.70	2043.10	1023.07	4.84	-0.33	0.025
156.00	-7.06	-1.08	0.00	-19.38	0.00	19.38	1647.36	823.68	1988.83	995.90	4.98	-0.34	0.024
158.00	-6.89	-1.07	0.00	-17.21	0.00	17.21	1629.04	814.52	1934.96	968.92	5.13	-0.34	0.022
160.00	-6.71	-1.06	0.00	-15.06	0.00	15.06	1610.47	805.23	1881.50	942.15	5.27	-0.35	0.020
162.00	-6.54	-1.05	0.00	-12.94	0.00	12.94	1591.63	795.82	1828.46	915.59	5.42	-0.35	0.018
163.00	-4.92	-0.89	0.00	-11.89	0.00	11.89	1582.11	791.06	1802.10	902.39	5.49	-0.35	0.016
164.00	-4.83	-0.88	0.00	-11.00	0.00	11.00	1572.53	786.27	1775.86	889.25	5.56	-0.35	0.015

Calculated Forces

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 76
	Struct Class: II	



166.00	-4.67	-0.87	0.00	-9.23	0.00	9.23	1553.17	776.58	1723.71	863.13	5.71	-0.36	0.014
168.00	-4.51	-0.85	0.00	-7.49	0.00	7.49	1533.54	766.77	1672.03	837.26	5.86	-0.36	0.012
170.00	-4.36	-0.83	0.00	-5.79	0.00	5.79	1513.65	756.83	1620.83	811.62	6.01	-0.36	0.010
172.00	-4.20	-0.81	0.00	-4.12	0.00	4.12	1493.50	746.75	1570.13	786.23	6.16	-0.36	0.008
173.00	-1.97	-0.44	0.00	-3.30	0.00	3.30	1483.33	741.66	1544.98	773.64	6.24	-0.36	0.006
174.00	-1.91	-0.43	0.00	-2.86	0.00	2.86	1473.09	736.54	1519.95	761.10	6.32	-0.36	0.005
176.00	-1.78	-0.41	0.00	-2.00	0.00	2.00	1452.41	726.20	1470.30	736.24	6.47	-0.36	0.004
178.00	-1.66	-0.39	0.00	-1.18	0.00	1.18	1427.85	713.93	1417.60	709.85	6.62	-0.36	0.003
180.00	-1.54	-0.36	0.00	-0.41	0.00	0.41	1400.09	700.05	1362.74	682.38	6.77	-0.36	0.002
180.00	-1.54	-0.36	0.00	-0.41	0.00	0.41	678.42	339.21	662.23	396.30	6.77	-0.36	0.003
181.00	-0.13	-0.03	0.00	-0.05	0.00	0.05	678.42	339.21	662.23	396.30	6.85	-0.36	0.000
182.00	-0.07	-0.02	0.00	-0.02	0.00	0.02	678.42	339.21	662.23	396.30	6.93	-0.36	0.000
183.00	0.00	-0.02	0.00	0.00	0.00	0.00	678.42	339.21	662.23	396.30	7.00	-0.36	0.000

Wind Loading - Shaft

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 77

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 28

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.129	6.74	273.99	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.70	6.129	6.74	271.99	0.650	0.000	2.00	10.876	7.07	47.7	0.0	517.5
4.00		1.00	0.70	6.129	6.74	269.99	0.650	0.000	2.00	10.796	7.02	47.3	0.0	513.7
6.00		1.00	0.70	6.129	6.74	267.99	0.650	0.000	2.00	10.717	6.97	47.0	0.0	509.9
8.00		1.00	0.70	6.129	6.74	265.99	0.650	0.000	2.00	10.637	6.91	46.6	0.0	506.1
10.00		1.00	0.70	6.129	6.74	263.99	0.650	0.000	2.00	10.557	6.86	46.3	0.0	502.3
12.00		1.00	0.70	6.129	6.74	261.99	0.650	0.000	2.00	10.478	6.81	45.9	0.0	498.4
14.00		1.00	0.70	6.129	6.74	259.99	0.650	0.000	2.00	10.398	6.76	45.6	0.0	494.6
16.00		1.00	0.70	6.129	6.74	257.99	0.650	0.000	2.00	10.318	6.71	45.2	0.0	490.8
18.00		1.00	0.70	6.129	6.74	255.99	0.650	0.000	2.00	10.239	6.66	44.9	0.0	487.0
20.00		1.00	0.70	6.129	6.74	253.99	0.650	0.000	2.00	10.159	6.60	44.5	0.0	483.2
22.00		1.00	0.70	6.129	6.74	251.99	0.650	0.000	2.00	10.079	6.55	44.2	0.0	479.4
24.00		1.00	0.70	6.129	6.74	249.99	0.650	0.000	2.00	9.999	6.50	43.8	0.0	475.6
26.00		1.00	0.70	6.129	6.74	247.98	0.650	0.000	2.00	9.920	6.45	43.5	0.0	471.7
28.00		1.00	0.70	6.129	6.74	245.98	0.650	0.000	2.00	9.840	6.40	43.1	0.0	467.9
30.00		1.00	0.70	6.134	6.75	244.09	0.650	0.000	2.00	9.760	6.34	42.8	0.0	464.1
32.00		1.00	0.71	6.248	6.87	244.33	0.650	0.000	2.00	9.681	6.29	43.2	0.0	460.3
34.00		1.00	0.73	6.357	6.99	244.42	0.650	0.000	2.00	9.601	6.24	43.6	0.0	456.5
36.00		1.00	0.74	6.462	7.11	244.37	0.650	0.000	2.00	9.521	6.19	44.0	0.0	452.7
38.00		1.00	0.75	6.562	7.22	244.19	0.650	0.000	2.00	9.442	6.14	44.3	0.0	448.9
40.00		1.00	0.76	6.659	7.33	243.90	0.650	0.000	2.00	9.362	6.09	44.6	0.0	445.0
41.00	Bot - Section 2	1.00	0.77	6.706	7.38	243.72	0.650	0.000	1.00	4.651	3.02	22.3	0.0	221.1
42.00		1.00	0.77	6.753	7.43	243.51	0.650	0.000	1.00	4.695	3.05	22.7	0.0	443.3
44.00		1.00	0.78	6.843	7.53	243.02	0.650	0.000	2.00	9.330	6.06	45.6	0.0	880.9
46.00		1.00	0.79	6.931	7.62	242.44	0.650	0.000	2.00	9.250	6.01	45.8	0.0	873.3
48.00	Top - Section 1	1.00	0.80	7.015	7.72	241.78	0.650	0.000	2.00	9.170	5.96	46.0	0.0	865.7
50.00		1.00	0.81	7.098	7.81	244.47	0.650	0.000	2.00	9.091	5.91	46.1	0.0	432.1
51.00	Top - Section 2	1.00	0.82	7.138	7.85	244.09	0.650	0.000	1.00	4.515	2.94	23.0	0.0	214.6
52.00		1.00	0.82	7.178	7.90	243.68	0.650	0.000	1.00	4.495	2.92	23.1	0.0	213.6
54.00		1.00	0.83	7.255	7.98	242.82	0.650	0.000	2.00	8.931	5.81	46.3	0.0	424.4
56.00		1.00	0.84	7.331	8.06	241.90	0.650	0.000	2.00	8.852	5.75	46.4	0.0	420.6
58.00		1.00	0.85	7.405	8.15	240.92	0.650	0.000	2.00	8.772	5.70	46.4	0.0	416.8
60.00		1.00	0.85	7.477	8.22	239.88	0.650	0.000	2.00	8.692	5.65	46.5	0.0	413.0
62.00		1.00	0.86	7.548	8.30	238.78	0.650	0.000	2.00	8.612	5.60	46.5	0.0	409.2
64.00		1.00	0.87	7.616	8.38	237.64	0.650	0.000	2.00	8.533	5.55	46.5	0.0	405.4
66.00		1.00	0.88	7.684	8.45	236.45	0.650	0.000	2.00	8.453	5.49	46.4	0.0	401.5
66.17	RB1	1.00	0.88	7.689	8.46	236.34	0.650	0.000	0.17	0.715	0.46	3.9	0.0	34.0
68.00		1.00	0.89	7.749	8.52	235.21	0.650	0.000	1.83	7.659	4.98	42.4	0.0	363.8
70.00		1.00	0.89	7.814	8.60	233.93	0.650	0.000	2.00	8.294	5.39	46.3	0.0	393.9
71.00	Top - Section 3	1.00	0.90	7.846	8.63	233.27	0.650	0.000	1.00	4.117	2.68	23.1	0.0	195.5
72.00		1.00	0.90	7.877	8.66	232.60	0.650	0.000	1.00	4.097	2.66	23.1	0.0	194.6
74.00		1.00	0.91	7.939	8.73	231.24	0.650	0.000	2.00	8.134	5.29	46.2	0.0	386.3
76.00		1.00	0.91	8.000	8.80	229.83	0.650	0.000	2.00	8.055	5.24	46.1	0.0	382.5
78.00		1.00	0.92	8.059	8.87	228.39	0.650	0.000	2.00	7.975	5.18	46.0	0.0	378.7
80.00		1.00	0.93	8.118	8.93	226.92	0.650	0.000	2.00	7.895	5.13	45.8	0.0	374.8
81.00	Top - Section 4	1.00	0.93	8.147	8.96	226.17	0.650	0.000	1.00	3.918	2.55	22.8	0.0	186.0
82.00		1.00	0.93	8.175	8.99	225.41	0.650	0.000	1.00	3.898	2.53	22.8	0.0	154.4

Wind Loading - Shaft

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 78

84.00	1.00	0.94	8.232	9.05	223.87	0.650	0.000	2.00	7.736	5.03	45.5	0.0	306.4
85.00 Bot - Section 6	1.00	0.94	8.260	9.09	223.09	0.650	0.000	1.00	3.838	2.49	22.7	0.0	152.0
86.00	1.00	0.95	8.287	9.12	222.30	0.650	0.000	1.00	3.871	2.52	22.9	0.0	304.6
88.00	1.00	0.95	8.342	9.18	220.70	0.650	0.000	2.00	7.682	4.99	45.8	0.0	604.4
90.00	1.00	0.96	8.396	9.24	219.07	0.650	0.000	2.00	7.603	4.94	45.6	0.0	598.0
91.00 Top - Section 5	1.00	0.96	8.422	9.26	218.24	0.650	0.000	1.00	3.771	2.45	22.7	0.0	296.6
92.00	1.00	0.96	8.448	9.29	220.53	0.650	0.000	1.00	3.752	2.44	22.7	0.0	148.6
93.83 RT1	1.00	0.97	8.496	9.35	219.00	0.650	0.000	1.83	6.814	4.43	41.4	0.0	269.8
94.00	1.00	0.97	8.501	9.35	218.85	0.650	0.000	0.17	0.630	0.41	3.8	0.0	24.9
96.00	1.00	0.98	8.552	9.41	217.15	0.650	0.000	2.00	7.364	4.79	45.0	0.0	291.6
98.00	1.00	0.98	8.602	9.46	215.42	0.650	0.000	2.00	7.284	4.73	44.8	0.0	288.4
100.00	1.00	0.99	8.652	9.52	213.67	0.650	0.000	2.00	7.204	4.68	44.6	0.0	285.2
102.00	1.00	0.99	8.701	9.57	211.89	0.650	0.000	2.00	7.125	4.63	44.3	0.0	282.1
104.00	1.00	1.00	8.750	9.62	210.09	0.650	0.000	2.00	7.045	4.58	44.1	0.0	278.9
106.00	1.00	1.00	8.797	9.68	208.26	0.650	0.000	2.00	6.967	4.53	43.8	0.0	275.7
108.00	1.00	1.01	8.845	9.73	206.42	0.650	0.000	2.00	6.887	4.48	43.5	0.0	272.5
110.00	1.00	1.02	8.891	9.78	204.55	0.650	0.000	2.00	6.807	4.43	43.2	0.0	269.3
111.17 RB2	1.00	1.02	8.918	9.81	203.45	0.650	0.000	1.17	3.711	2.41	23.7	0.0	156.1
112.00	1.00	1.02	8.937	9.83	202.66	0.650	0.000	0.83	2.616	1.70	16.7	0.0	110.1
114.00	1.00	1.03	8.982	9.88	200.75	0.650	0.000	2.00	6.248	4.06	40.1	0.0	263.0
115.00 Top - Section 6	1.00	1.03	9.005	9.91	199.79	0.650	0.000	1.00	3.293	2.14	21.2	0.0	130.3
116.00	1.00	1.03	9.027	9.93	198.82	0.650	0.000	1.00	3.273	2.13	21.1	0.0	103.8
118.00	1.00	1.04	9.071	9.98	196.88	0.650	0.000	2.00	6.487	4.22	42.1	0.0	205.6
120.00	1.00	1.04	9.115	10.03	194.91	0.650	0.000	2.00	6.407	4.16	41.8	0.0	203.1
122.00	1.00	1.05	9.158	10.07	192.93	0.650	0.000	2.00	6.328	4.11	41.4	0.0	200.6
123.83 RT2	1.00	1.05	9.197	10.12	191.10	0.650	0.000	1.83	5.720	3.72	37.6	0.0	181.3
124.00	1.00	1.05	9.201	10.12	190.92	0.650	0.000	0.17	0.528	0.34	3.5	0.0	16.7
126.00	1.00	1.06	9.243	10.17	188.91	0.650	0.000	2.00	6.168	4.01	40.8	0.0	195.5
128.00	1.00	1.06	9.284	10.21	186.87	0.650	0.000	2.00	6.089	3.96	40.4	0.0	192.9
130.00 Bot - Section 8	1.00	1.07	9.326	10.26	184.82	0.650	0.000	2.00	6.009	3.91	40.1	0.0	190.4
132.00	1.00	1.07	9.366	10.30	182.75	0.650	0.000	2.00	6.014	3.91	40.3	0.0	378.4
134.00	1.00	1.07	9.407	10.35	180.66	0.650	0.000	2.00	5.934	3.86	39.9	0.0	373.3
135.00 Top - Section 7	1.00	1.08	9.427	10.37	179.61	0.650	0.000	1.00	2.937	1.91	19.8	0.0	184.7
136.00	1.00	1.08	9.447	10.39	181.20	0.650	0.000	1.00	2.917	1.90	19.7	0.0	92.4
138.00	1.00	1.08	9.486	10.43	179.09	0.650	0.000	2.00	5.775	3.75	39.2	0.0	182.9
140.00	1.00	1.09	9.525	10.48	176.97	0.650	0.000	2.00	5.695	3.70	38.8	0.0	180.4
142.00	1.00	1.09	9.564	10.52	174.83	0.650	0.000	2.00	5.616	3.65	38.4	0.0	177.8
143.00 Appurtenance(s)	1.00	1.09	9.583	10.54	173.75	0.650	0.000	1.00	2.778	1.81	19.0	0.0	88.0
144.00	1.00	1.10	9.602	10.56	172.67	0.650	0.000	1.00	2.758	1.79	18.9	0.0	87.3
146.00	1.00	1.10	9.640	10.60	170.50	0.650	0.000	2.00	5.456	3.55	37.6	0.0	172.7
148.00	1.00	1.11	9.678	10.65	168.32	0.650	0.000	2.00	5.376	3.49	37.2	0.0	170.2
150.00 Appurtenance(s)	1.00	1.11	9.715	10.69	166.13	0.650	0.000	2.00	5.297	3.44	36.8	0.0	167.7
152.00	1.00	1.11	9.752	10.73	163.92	0.650	0.000	2.00	5.217	3.39	36.4	0.0	165.1
153.00 Appurtenance(s)	1.00	1.12	9.770	10.75	162.81	0.650	0.000	1.00	2.579	1.68	18.0	0.0	81.6
154.00	1.00	1.12	9.788	10.77	161.70	0.650	0.000	1.00	2.559	1.66	17.9	0.0	81.0
156.00	1.00	1.12	9.824	10.81	159.46	0.650	0.000	2.00	5.058	3.29	35.5	0.0	160.0
158.00	1.00	1.13	9.860	10.85	157.22	0.650	0.000	2.00	4.978	3.24	35.1	0.0	157.5
160.00	1.00	1.13	9.896	10.89	154.96	0.650	0.000	2.00	4.898	3.18	34.7	0.0	154.9
162.00	1.00	1.13	9.931	10.92	152.69	0.650	0.000	2.00	4.819	3.13	34.2	0.0	152.4
163.00 Appurtenance(s)	1.00	1.14	9.948	10.94	151.55	0.650	0.000	1.00	2.379	1.55	16.9	0.0	75.2
164.00	1.00	1.14	9.966	10.96	150.41	0.650	0.000	1.00	2.360	1.53	16.8	0.0	74.6
166.00	1.00	1.14	10.000	11.00	148.11	0.650	0.000	2.00	4.659	3.03	33.3	0.0	147.3
168.00	1.00	1.15	10.035	11.04	145.81	0.650	0.000	2.00	4.580	2.98	32.9	0.0	144.8
170.00	1.00	1.15	10.069	11.08	143.49	0.650	0.000	2.00	4.500	2.92	32.4	0.0	142.2
172.00	1.00	1.15	10.102	11.11	141.16	0.650	0.000	2.00	4.420	2.87	31.9	0.0	139.7
173.00 Appurtenance(s)	1.00	1.16	10.119	11.13	139.99	0.650	0.000	1.00	2.180	1.42	15.8	0.0	68.9
174.00	1.00	1.16	10.136	11.15	138.82	0.650	0.000	1.00	2.160	1.40	15.7	0.0	68.3

Wind Loading - Shaft

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 79
	Struct Class: II	



176.00	1.00	1.16	10.169	11.19	136.47	0.650	0.000	2.00	4.261	2.77	31.0	0.0	134.6
178.00	1.00	1.17	10.202	11.22	134.11	0.650	0.000	2.00	4.181	2.72	30.5	0.0	132.1
180.00 Top - Section 8	1.00	1.17	10.234	11.26	131.74	0.650	0.000	2.00	4.102	2.67	30.0	0.0	129.5
181.00 Appurtenance(s)	1.00	1.17	10.251	11.28	129.84	0.600	0.000	1.00	2.000	1.20	13.5	0.0	71.3
182.00	1.00	1.17	10.267	11.29	129.95	0.600	0.000	1.00	2.000	1.20	13.6	0.0	71.3
183.00	1.00	1.17	10.283	11.31	130.05	0.600	0.000	1.00	2.000	1.20	13.6	0.0	71.3
Totals:							183.00				3,820.9		31,483.2

Discrete Appurtenance Forces

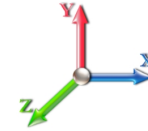
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 80

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 28

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	181.00	Low Profile	1	10.251	11.276	1.00	1.00	22.00	1500.00	0.000	0.000	248.06	0.00	0.00
2	173.00	LNx-6514DS-VTM	3	10.119	11.131	0.64	0.80	15.53	99.30	0.000	0.000	172.89	0.00	0.00
3	173.00	Low Profile	1	10.119	11.131	1.00	1.00	22.00	1500.00	0.000	0.000	244.88	0.00	0.00
4	173.00	LPA-80080-4CF-EDIN-0	4	10.119	11.131	0.80	0.80	8.35	48.00	0.000	0.000	92.97	0.00	0.00
5	173.00	HBXX-6517DS-VTM	6	10.119	11.131	0.62	0.80	31.60	244.20	0.000	0.000	351.75	0.00	0.00
6	173.00	APL866513-42T0	2	10.119	11.131	0.74	0.80	6.03	31.40	0.000	0.000	67.08	0.00	0.00
7	173.00	RRH2X60-AWS	3	10.119	11.131	0.61	0.80	6.38	180.00	0.000	0.000	71.06	0.00	0.00
8	173.00	RRH2x60-700U	3	10.119	11.131	0.74	0.80	5.54	150.00	0.000	0.000	61.61	0.00	0.00
9	173.00	RRH2x60-1900	3	10.119	11.131	0.72	0.80	3.26	58.50	0.000	0.000	36.30	0.00	0.00
10	173.00	DB-T1-6Z-8AB-OZ	2	10.119	11.131	0.80	0.80	7.68	88.00	0.000	0.000	85.49	0.00	0.00
11	163.00	DAP Head	3	9.948	10.943	0.80	0.80	4.51	126.00	0.000	0.000	49.38	0.00	0.00
12	163.00	Low Profile	1	9.948	10.943	1.00	1.00	22.00	1500.00	0.000	0.000	240.75	0.00	0.00
13	163.00	LLPX310R	3	9.948	10.943	0.55	0.80	7.12	85.80	0.000	0.000	77.92	0.00	0.00
14	153.00	S11B12	3	9.770	10.747	0.57	0.80	5.01	165.00	0.000	0.000	53.84	0.00	0.00
15	153.00	KRY 112 144/1	3	9.770	10.747	0.56	0.80	0.69	33.00	0.000	0.000	7.40	0.00	0.00
16	153.00	LNx-6515DS	3	9.770	10.747	0.64	0.80	22.02	149.40	0.000	0.000	236.67	0.00	0.00
17	153.00	AIR 21, 1.3M, B4A B2P	3	9.770	10.747	0.69	0.80	12.57	271.20	0.000	0.000	135.09	0.00	0.00
18	153.00	Low Profile Platform-flat	1	9.770	10.747	1.00	1.00	25.00	1200.00	0.000	0.000	268.67	0.00	0.00
19	153.00	AIR 21, 1.3M, B2A B4P	3	9.770	10.747	0.69	0.80	12.57	274.50	0.000	0.000	135.09	0.00	0.00
20	150.00	Low Profile	1	9.715	10.686	1.00	1.00	22.00	1500.00	0.000	0.000	235.10	0.00	0.00
21	143.00	DC6-48-60-18-8F	1	9.583	10.541	0.80	0.80	1.18	31.80	0.000	0.000	12.40	0.00	0.00
22	143.00	Powerwave 7770.00	3	9.583	10.541	0.58	0.80	9.64	105.00	0.000	0.000	101.58	0.00	0.00
23	143.00	Low Profile	1	9.583	10.541	1.00	1.00	22.00	1500.00	0.000	0.000	231.91	0.00	0.00
24	143.00	850-1900 Dual Band	3	9.583	10.541	0.53	0.80	0.82	16.50	0.000	0.000	8.68	0.00	0.00
25	143.00	RRUS 11	3	9.583	10.541	0.54	0.80	4.05	152.10	0.000	0.000	42.72	0.00	0.00
26	143.00	DBC-750	3	9.583	10.541	0.80	0.80	1.22	14.40	0.000	0.000	12.90	0.00	0.00
27	143.00	TPA-65R-LCUUUU-H8	2	9.583	10.541	0.66	0.80	17.66	150.00	0.000	0.000	186.19	0.00	0.00
28	143.00	QS46512-2	1	9.583	10.541	0.77	0.80	4.25	27.30	0.000	0.000	44.84	0.00	0.00
29	143.00	OPA-65R-LCUU-H4	1	9.583	10.541	0.63	0.80	3.75	57.00	0.000	0.000	39.57	0.00	0.00
30	143.00	OPA-65R-LCUU-H8	2	9.583	10.541	0.63	0.80	16.12	190.00	0.000	0.000	169.89	0.00	0.00
31	143.00	DTMABP7819VG12A	3	9.583	10.541	0.54	0.80	1.83	57.60	0.000	0.000	19.32	0.00	0.00
32	143.00	DBC0061F1V51-2	3	9.583	10.541	0.80	0.80	1.03	76.20	0.000	0.000	10.88	0.00	0.00
33	143.00	RRUS 32 B2	3	9.583	10.541	0.54	0.80	4.41	159.00	0.000	0.000	46.44	0.00	0.00
Totals:								11,741.20			3,799.32			

Total Applied Force Summary

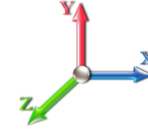
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 81

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 28

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
2.00		47.66	609.47	0.00	0.00
4.00		47.31	605.66	0.00	0.00
6.00		46.96	601.85	0.00	0.00
8.00		46.61	598.03	0.00	0.00
10.00		46.26	594.22	0.00	0.00
12.00		45.91	590.40	0.00	0.00
14.00		45.56	586.59	0.00	0.00
16.00		45.21	582.78	0.00	0.00
18.00		44.87	578.96	0.00	0.00
20.00		44.52	575.15	0.00	0.00
22.00		44.17	571.34	0.00	0.00
24.00		43.82	567.52	0.00	0.00
26.00		43.47	563.71	0.00	0.00
28.00		43.12	559.89	0.00	0.00
30.00		42.81	556.08	0.00	0.00
32.00		43.25	552.27	0.00	0.00
34.00		43.64	548.45	0.00	0.00
36.00		43.99	544.64	0.00	0.00
38.00		44.30	540.83	0.00	0.00
40.00		44.58	537.01	0.00	0.00
41.00		22.30	267.08	0.00	0.00
42.00		22.67	489.30	0.00	0.00
44.00		45.65	972.88	0.00	0.00
46.00		45.84	965.25	0.00	0.00
48.00		46.00	957.62	0.00	0.00
50.00		46.13	524.02	0.00	0.00
51.00		23.04	260.58	0.00	0.00
52.00		23.07	259.63	0.00	0.00
54.00		46.33	516.39	0.00	0.00
56.00		46.40	512.58	0.00	0.00
58.00		46.44	508.76	0.00	0.00
60.00		46.47	504.95	0.00	0.00
62.00		46.48	501.14	0.00	0.00
64.00		46.47	497.32	0.00	0.00
66.00		46.44	493.51	0.00	0.00
66.17		3.93	41.77	0.00	0.00
68.00		42.44	447.92	0.00	0.00
70.00		46.34	485.88	0.00	0.00
71.00		23.09	241.51	0.00	0.00
72.00		23.07	240.55	0.00	0.00
74.00		46.17	478.25	0.00	0.00
76.00		46.07	474.44	0.00	0.00
78.00		45.95	470.62	0.00	0.00
80.00		45.83	466.81	0.00	0.00
81.00		22.82	231.97	0.00	0.00
82.00		22.78	200.39	0.00	0.00

Total Applied Force Summary

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 82

84.00		45.53	398.40	0.00	0.00
85.00		22.67	198.01	0.00	0.00
86.00		22.94	350.56	0.00	0.00
88.00		45.82	696.35	0.00	0.00
90.00		45.64	689.99	0.00	0.00
91.00		22.71	342.61	0.00	0.00
92.00		22.66	194.56	0.00	0.00
93.83		41.39	353.98	0.00	0.00
94.00		3.83	32.75	0.00	0.00
96.00		45.03	383.56	0.00	0.00
98.00		44.80	380.38	0.00	0.00
100.00		44.57	377.20	0.00	0.00
102.00		44.33	374.02	0.00	0.00
104.00		44.07	370.84	0.00	0.00
106.00		41.31	367.66	0.00	0.00
108.00		41.02	364.49	0.00	0.00
110.00		40.73	361.31	0.00	0.00
111.17		23.66	209.89	0.00	0.00
112.00		16.72	148.24	0.00	0.00
114.00		40.13	354.95	0.00	0.00
115.00		21.20	176.28	0.00	0.00
116.00		21.13	149.76	0.00	0.00
118.00		42.07	297.60	0.00	0.00
120.00		41.76	295.06	0.00	0.00
122.00		41.43	292.52	0.00	0.00
123.83		37.61	265.43	0.00	0.00
124.00		3.47	24.55	0.00	0.00
126.00		40.76	287.43	0.00	0.00
128.00		40.42	284.89	0.00	0.00
130.00		40.07	282.35	0.00	0.00
132.00		40.28	470.35	0.00	0.00
134.00		39.91	465.26	0.00	0.00
135.00		19.80	230.73	0.00	0.00
136.00		19.70	138.39	0.00	0.00
138.00		39.17	274.88	0.00	0.00
140.00		38.79	272.34	0.00	0.00
142.00		38.40	269.80	0.00	0.00
143.00	(29) attachments	946.35	2670.84	0.00	0.00
144.00		18.94	119.95	0.00	0.00
146.00		37.61	237.99	0.00	0.00
148.00		37.20	235.45	0.00	0.00
150.00	(1) attachments	271.89	1732.91	0.00	0.00
152.00		36.38	230.36	0.00	0.00
153.00	(16) attachments	854.78	2207.33	0.00	0.00
154.00		17.91	100.01	0.00	0.00
156.00		35.53	198.12	0.00	0.00
158.00		35.10	195.58	0.00	0.00
160.00		34.66	193.03	0.00	0.00
162.00		34.22	190.49	0.00	0.00
163.00	(7) attachments	384.97	1806.09	0.00	0.00
164.00		16.81	90.61	0.00	0.00
166.00		33.32	179.31	0.00	0.00
168.00		32.86	176.76	0.00	0.00
170.00		32.40	174.22	0.00	0.00
172.00		31.93	171.68	0.00	0.00
173.00	(27) attachments	1199.80	2484.29	0.00	0.00
174.00		15.66	69.57	0.00	0.00

Total Applied Force Summary

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 83

176.00	30.98	137.23	0.00	0.00
178.00	30.50	134.69	0.00	0.00
180.00	30.01	132.15	0.00	0.00
181.00	(1) attachments	261.59	1572.56	0.00
182.00	13.55	72.56	0.00	0.00
183.00	13.57	72.56	0.00	0.00
Totals:	7,620.27	50,489.70	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

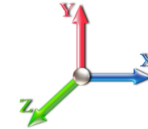
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 84

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 28

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
2.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
4.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
4.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
6.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
6.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
8.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
8.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
10.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
10.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
12.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
12.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
14.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
14.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
16.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
16.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
18.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
18.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
20.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
22.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
22.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
24.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
24.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
26.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
26.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
28.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.55
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	2.08
28.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	6.24
30.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	0.55
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	2.08
30.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	6.24
32.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.248	0.00	0.55
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.248	0.00	2.08

Linear Appurtenance Segment Forces (Factored)

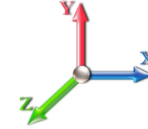
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 85

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 28

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
32.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.248	0.00	6.24
34.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.357	0.00	0.55
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.357	0.00	2.08
34.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.357	0.00	6.24
36.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.462	0.00	0.55
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.462	0.00	2.08
36.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.462	0.00	6.24
38.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.562	0.00	0.55
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.562	0.00	2.08
38.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.562	0.00	6.24
40.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	0.55
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	2.08
40.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	6.24
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.706	0.00	0.27
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.706	0.00	1.04
41.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.706	0.00	3.12
42.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.753	0.00	0.27
42.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.753	0.00	1.04
42.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.753	0.00	3.12
44.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.843	0.00	0.55
44.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.843	0.00	2.08
44.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.843	0.00	6.24
46.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.931	0.00	0.55
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.931	0.00	2.08
46.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.931	0.00	6.24
48.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.015	0.00	0.55
48.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.015	0.00	2.08
48.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.015	0.00	6.24
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	0.55
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	2.08
50.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	6.24
51.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	0.27
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	1.04
51.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	3.12
52.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.178	0.00	0.27
52.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.178	0.00	1.04
52.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.178	0.00	3.12
54.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.255	0.00	0.55
54.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.255	0.00	2.08
54.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.255	0.00	6.24
56.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.331	0.00	0.55
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.331	0.00	2.08
56.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.331	0.00	6.24
58.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.405	0.00	0.55
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.405	0.00	2.08
58.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.405	0.00	6.24
60.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	0.55

Linear Appurtenance Segment Forces (Factored)

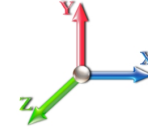
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 86

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 28

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	2.08
60.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	6.24
62.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.548	0.00	0.55
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.548	0.00	2.08
62.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.548	0.00	6.24
64.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.616	0.00	0.55
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.616	0.00	2.08
64.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.616	0.00	6.24
66.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.684	0.00	0.55
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.684	0.00	2.08
66.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.684	0.00	6.24
66.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.684	0.00	0.00
66.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	7.689	0.00	0.05
66.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	7.689	0.00	0.18
66.17	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	7.689	0.00	0.53
66.17	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	7.689	0.00	0.00
68.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	7.749	0.00	0.50
68.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	7.749	0.00	1.90
68.00	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	7.749	0.00	5.71
68.00	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	7.749	0.00	0.00
70.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	0.55
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	2.08
70.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	6.24
70.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	0.00
71.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.846	0.00	0.27
71.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.846	0.00	1.04
71.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.846	0.00	3.12
71.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.846	0.00	0.00
72.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.877	0.00	0.27
72.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.877	0.00	1.04
72.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.877	0.00	3.12
72.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.877	0.00	0.00
74.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.939	0.00	0.55
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.939	0.00	2.08
74.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.939	0.00	6.24
74.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.939	0.00	0.00
76.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.000	0.00	0.55
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.000	0.00	2.08
76.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.000	0.00	6.24
76.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.000	0.00	0.00
78.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.059	0.00	0.55
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.059	0.00	2.08
78.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.059	0.00	6.24
78.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.059	0.00	0.00
80.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	0.55
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	2.08
80.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	6.24

Linear Appurtenance Segment Forces (Factored)

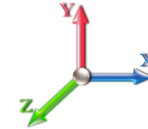
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 87

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 28

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
80.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	0.00
81.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.147	0.00	0.27
81.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.147	0.00	1.04
81.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.147	0.00	3.12
81.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.147	0.00	0.00
82.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.175	0.00	0.27
82.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.175	0.00	1.04
82.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.175	0.00	3.12
82.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.175	0.00	0.00
84.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	0.55
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	2.08
84.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	6.24
84.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	0.00
85.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	0.27
85.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	1.04
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	3.12
85.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	0.00
86.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.287	0.00	0.27
86.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.287	0.00	1.04
86.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.287	0.00	3.12
86.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.287	0.00	0.00
88.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.342	0.00	0.55
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.342	0.00	2.08
88.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.342	0.00	6.24
88.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.342	0.00	0.00
90.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	0.55
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	2.08
90.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	6.24
90.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	0.00
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.422	0.00	0.27
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.422	0.00	1.04
91.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.422	0.00	3.12
91.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.422	0.00	0.00
92.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.448	0.00	0.27
92.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.448	0.00	1.04
92.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.448	0.00	3.12
92.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.448	0.00	0.00
93.83	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	8.496	0.00	0.50
93.83	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	8.496	0.00	1.90
93.83	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	8.496	0.00	5.71
93.83	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	8.496	0.00	0.00
94.00	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	8.501	0.00	0.05
94.00	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	8.501	0.00	0.18
94.00	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	8.501	0.00	0.53
94.00	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	8.501	0.00	0.00
96.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.552	0.00	0.55
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.552	0.00	2.08

Linear Appurtenance Segment Forces (Factored)

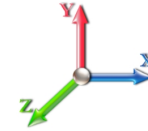
Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 88

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 28

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
96.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.552	0.00	6.24
96.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.552	0.00	0.00
98.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.602	0.00	0.55
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.602	0.00	2.08
98.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.602	0.00	6.24
100.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	0.55
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	2.08
100.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	6.24
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.701	0.00	0.55
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.701	0.00	2.08
102.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.701	0.00	6.24
104.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.750	0.00	0.55
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.750	0.00	2.08
104.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.750	0.00	6.24
106.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.797	0.00	0.55
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.797	0.00	2.08
106.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.797	0.00	6.24
108.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.845	0.00	0.55
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.845	0.00	2.08
108.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.845	0.00	6.24
110.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	0.55
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	2.08
110.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	6.24
111.17	Safety Cable	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	8.918	0.00	0.32
111.17	Step bolts (ladder)	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	8.918	0.00	1.22
111.17	1 5/8" Coax	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	8.918	0.00	3.65
111.17	C6X10.5 Reinforcing	Yes	1.17	0.000	0.00	0.00	0.00	0.000	0.000	8.918	0.00	0.00
112.00	Safety Cable	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	8.937	0.00	0.23
112.00	Step bolts (ladder)	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	8.937	0.00	0.86
112.00	1 5/8" Coax	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	8.937	0.00	2.59
112.00	C6X10.5 Reinforcing	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	8.937	0.00	0.00
114.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.982	0.00	0.55
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.982	0.00	2.08
114.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.982	0.00	6.24
114.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.982	0.00	0.00
115.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	0.27
115.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	1.04
115.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	3.12
115.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	0.00
116.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.027	0.00	0.27
116.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.027	0.00	1.04
116.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.027	0.00	3.12
116.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.027	0.00	0.00
118.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.071	0.00	0.55
118.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.071	0.00	2.08
118.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.071	0.00	6.24
118.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.071	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT01002-S-SBA

Code: EIA/TIA-222-G

3/13/2018

Site Name: Waterford

Exposure: B



Height: 183.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

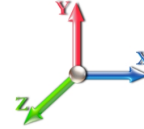
Page: 89

Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 28

Dead Load Factor 1.00

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
120.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	0.55
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	2.08
120.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	6.24
120.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	0.00
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.158	0.00	0.55
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.158	0.00	2.08
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.158	0.00	6.24
122.00	C6X10.5 Reinforcing	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.158	0.00	0.00
123.83	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	9.197	0.00	0.50
123.83	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	9.197	0.00	1.90
123.83	1 5/8" Coax	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	9.197	0.00	5.71
123.83	C6X10.5 Reinforcing	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	9.197	0.00	0.00
124.00	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	9.201	0.00	0.05
124.00	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	9.201	0.00	0.18
124.00	1 5/8" Coax	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	9.201	0.00	0.53
124.00	C6X10.5 Reinforcing	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	9.201	0.00	0.00
126.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.243	0.00	0.55
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.243	0.00	2.08
126.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.243	0.00	6.24
126.00	C6X10.5 Reinforcing	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.243	0.00	0.00
128.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.284	0.00	0.55
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.284	0.00	2.08
128.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.284	0.00	6.24
130.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.326	0.00	0.55
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.326	0.00	2.08
130.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.326	0.00	6.24
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	0.55
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	2.08
132.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	6.24
134.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.407	0.00	0.55
134.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.407	0.00	2.08
134.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.407	0.00	6.24
135.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.427	0.00	0.27
135.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.427	0.00	1.04
135.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.427	0.00	3.12
136.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.447	0.00	0.27
136.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.447	0.00	1.04
136.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.447	0.00	3.12
138.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.486	0.00	0.55
138.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.486	0.00	2.08
138.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.486	0.00	6.24
140.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.525	0.00	0.55
140.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.525	0.00	2.08
140.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.525	0.00	6.24
142.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.564	0.00	0.55
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.564	0.00	2.08
142.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.564	0.00	6.24

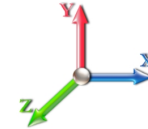
Linear Appurtenance Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 90
	Struct Class: II	



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 28

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
143.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.583	0.00	0.27
143.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.583	0.00	1.04
143.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.583	0.00	3.12
144.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.602	0.00	0.27
144.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.602	0.00	1.04
144.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.602	0.00	3.12
146.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.640	0.00	0.55
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.640	0.00	2.08
146.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.640	0.00	6.24
148.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.678	0.00	0.55
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.678	0.00	2.08
148.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.678	0.00	6.24
150.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.715	0.00	0.55
150.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.715	0.00	2.08
150.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.715	0.00	6.24
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.752	0.00	0.55
152.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.752	0.00	2.08
152.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.752	0.00	6.24
153.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	0.27
153.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	1.04
153.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	3.12
154.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.788	0.00	0.27
154.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.788	0.00	1.04
154.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.788	0.00	3.12
156.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.824	0.00	0.55
156.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.824	0.00	2.08
156.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.824	0.00	6.24
158.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.860	0.00	0.55
158.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.860	0.00	2.08
158.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.860	0.00	6.24
160.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.896	0.00	0.55
160.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.896	0.00	2.08
160.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.896	0.00	6.24
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.931	0.00	0.55
162.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.931	0.00	2.08
162.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.931	0.00	6.24
163.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.948	0.00	0.27
163.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.948	0.00	1.04
163.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.948	0.00	3.12
164.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.966	0.00	0.27
164.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.966	0.00	1.04
164.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.966	0.00	3.12
166.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.000	0.00	0.55
166.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.000	0.00	2.08
166.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.000	0.00	6.24
168.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.035	0.00	0.55
168.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.035	0.00	2.08

Linear Appurtenance Segment Forces (Factored)

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

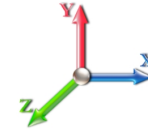


Page: 91

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 28

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
168.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.035	0.00	6.24
170.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.069	0.00	0.55
170.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.069	0.00	2.08
170.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.069	0.00	6.24
172.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.102	0.00	0.55
172.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.102	0.00	2.08
172.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.102	0.00	6.24
173.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.119	0.00	0.27
173.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.119	0.00	1.04
173.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.119	0.00	3.12
174.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.136	0.00	0.27
174.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.136	0.00	1.04
176.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.169	0.00	0.55
176.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.169	0.00	2.08
178.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.202	0.00	0.55
178.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.202	0.00	2.08
180.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.234	0.00	0.55
180.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.234	0.00	2.08
181.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.251	0.00	0.27
181.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.251	0.00	1.04
182.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.267	0.00	0.27
182.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.267	0.00	1.04
183.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.283	0.00	0.27
183.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.283	0.00	1.04
Totals:											0.0	780.0

Calculated Forces

Structure: CT01002-S-SBA
Site Name: Waterford
Height: 183.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

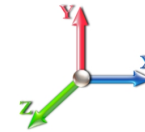
3/13/2018
 Page: 92



Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 28

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	-50.49	-7.62	0.00	-975.59	0.00	975.59	5190.16	2595.08	13702.9	6861.66	0.00	0.000	0.000	0.152
2.00	-49.88	-7.59	0.00	-960.34	0.00	960.34	5174.50	2587.25	13560.7	6790.43	0.00	-0.014	0.000	0.151
4.00	-49.27	-7.55	0.00	-945.17	0.00	945.17	5158.51	2579.25	13418.2	6719.08	0.01	-0.028	0.000	0.150
6.00	-48.67	-7.52	0.00	-930.06	0.00	930.06	5142.18	2571.09	13275.4	6647.61	0.03	-0.042	0.000	0.149
8.00	-48.07	-7.48	0.00	-915.02	0.00	915.02	5125.52	2562.76	13132.5	6576.03	0.05	-0.056	0.000	0.149
10.00	-47.47	-7.45	0.00	-900.06	0.00	900.06	5108.53	2554.27	12989.4	6504.36	0.07	-0.070	0.000	0.148
12.00	-46.88	-7.41	0.00	-885.16	0.00	885.16	5091.21	2545.61	12846.0	6432.60	0.11	-0.085	0.000	0.147
14.00	-46.29	-7.38	0.00	-870.33	0.00	870.33	5073.56	2536.78	12702.6	6360.75	0.15	-0.099	0.000	0.146
16.00	-45.71	-7.34	0.00	-855.58	0.00	855.58	5055.57	2527.79	12559.0	6288.85	0.19	-0.114	0.000	0.145
18.00	-45.12	-7.31	0.00	-840.89	0.00	840.89	5037.25	2518.63	12415.3	6216.88	0.24	-0.128	0.000	0.144
20.00	-44.55	-7.27	0.00	-826.27	0.00	826.27	5018.60	2509.30	12271.4	6144.86	0.30	-0.143	0.000	0.143
22.00	-43.97	-7.24	0.00	-811.72	0.00	811.72	4999.62	2499.81	12127.5	6072.81	0.36	-0.158	0.000	0.142
24.00	-43.41	-7.21	0.00	-797.24	0.00	797.24	4980.31	2490.15	11983.6	6000.72	0.43	-0.173	0.000	0.142
26.00	-42.84	-7.17	0.00	-782.83	0.00	782.83	4960.66	2480.33	11839.6	5928.62	0.51	-0.187	0.000	0.141
28.00	-42.28	-7.14	0.00	-768.49	0.00	768.49	4940.68	2470.34	11695.6	5856.50	0.59	-0.202	0.000	0.140
30.00	-41.72	-7.10	0.00	-754.21	0.00	754.21	4920.37	2460.19	11551.6	5784.39	0.68	-0.218	0.000	0.139
32.00	-41.17	-7.07	0.00	-740.00	0.00	740.00	4899.73	2449.87	11407.6	5712.28	0.77	-0.233	0.000	0.138
34.00	-40.62	-7.04	0.00	-725.86	0.00	725.86	4878.76	2439.38	11263.6	5640.19	0.87	-0.248	0.000	0.137
36.00	-40.07	-7.00	0.00	-711.79	0.00	711.79	4857.45	2428.72	11119.7	5568.14	0.98	-0.264	0.000	0.136
38.00	-39.53	-6.96	0.00	-697.79	0.00	697.79	4835.81	2417.91	10975.9	5496.12	1.09	-0.279	0.000	0.135
40.00	-38.99	-6.92	0.00	-683.87	0.00	683.87	4813.84	2406.92	10832.2	5424.15	1.21	-0.295	0.000	0.134
41.00	-38.72	-6.91	0.00	-676.94	0.00	676.94	4802.73	2401.36	10760.3	5388.18	1.28	-0.302	0.000	0.134
42.00	-38.23	-6.89	0.00	-670.04	0.00	670.04	4791.54	2395.77	10688.5	5352.24	1.34	-0.310	0.000	0.133
44.00	-37.26	-6.85	0.00	-656.26	0.00	656.26	4768.90	2384.45	10545.1	5280.39	1.47	-0.326	0.000	0.132
46.00	-36.29	-6.81	0.00	-642.57	0.00	642.57	4745.94	2372.97	10401.7	5208.63	1.61	-0.342	0.000	0.131
48.00	-35.33	-6.76	0.00	-628.96	0.00	628.96	4759.60	2379.80	10486.7	5251.18	1.76	-0.358	0.000	0.127
50.00	-34.81	-6.72	0.00	-615.43	0.00	615.43	4736.50	2368.25	10343.5	5179.45	1.91	-0.374	0.000	0.126
51.00	-34.54	-6.70	0.00	-608.71	0.00	608.71	4724.82	2362.41	10271.9	5143.62	1.99	-0.381	0.000	0.126
51.00	-34.54	-6.70	0.00	-608.71	0.00	608.71	4064.30	2032.15	8835.99	4424.56	1.99	-0.381	0.000	0.146
52.00	-34.28	-6.68	0.00	-602.01	0.00	602.01	4053.20	2026.60	8772.35	4392.70	2.07	-0.389	0.000	0.146
54.00	-33.77	-6.64	0.00	-588.64	0.00	588.64	4030.83	2015.41	8645.34	4329.09	2.24	-0.405	0.000	0.144
56.00	-33.25	-6.60	0.00	-575.36	0.00	575.36	4008.20	2004.10	8518.66	4265.66	2.41	-0.420	0.000	0.143
58.00	-32.74	-6.56	0.00	-562.15	0.00	562.15	3985.33	1992.66	8392.33	4202.40	2.59	-0.436	0.000	0.142
60.00	-32.23	-6.52	0.00	-549.03	0.00	549.03	3962.20	1981.10	8266.38	4139.33	2.78	-0.451	0.000	0.141
62.00	-31.73	-6.48	0.00	-535.99	0.00	535.99	3938.82	1969.41	8140.81	4076.46	2.97	-0.467	0.000	0.140
64.00	-31.23	-6.44	0.00	-523.04	0.00	523.04	3915.19	1957.60	8015.64	4013.78	3.17	-0.483	0.000	0.138
66.00	-30.74	-6.39	0.00	-510.17	0.00	510.17	3891.31	1945.66	7890.88	3951.30	3.38	-0.499	0.000	0.137
66.17	-30.70	-6.39	0.00	-509.08	0.00	509.08	3889.27	1944.64	7880.29	3946.00	3.39	-0.500	0.000	0.101
68.00	-30.25	-6.35	0.00	-497.39	0.00	497.39	3867.19	1933.59	7766.55	3889.05	3.59	-0.511	0.000	0.099
70.00	-29.76	-6.30	0.00	-484.70	0.00	484.70	3842.81	1921.40	7642.66	3827.01	3.80	-0.522	0.000	0.098
71.00	-29.52	-6.28	0.00	-478.40	0.00	478.40	3830.52	1915.26	7580.89	3796.08	3.91	-0.528	0.000	0.098
71.00	-29.52	-6.28	0.00	-478.40	0.00	478.40	3467.89	1733.95	6863.13	3436.66	3.91	-0.528	0.000	0.108
72.00	-29.28	-6.26	0.00	-472.12	0.00	472.12	3456.29	1728.14	6806.46	3408.29	4.03	-0.534	0.000	0.107
74.00	-28.80	-6.21	0.00	-459.60	0.00	459.60	3432.92	1716.46	6693.50	3351.73	4.25	-0.546	0.000	0.106
76.00	-28.32	-6.17	0.00	-447.18	0.00	447.18	3409.33	1704.67	6581.05	3295.42	4.48	-0.557	0.000	0.104
78.00	-27.85	-6.12	0.00	-434.84	0.00	434.84	3385.54	1692.77	6469.11	3239.36	4.72	-0.569	0.000	0.103
80.00	-27.39	-6.08	0.00	-422.59	0.00	422.59	3361.54	1680.77	6357.71	3183.58	4.96	-0.580	0.000	0.101
81.00	-27.15	-6.05	0.00	-416.52	0.00	416.52	3349.46	1674.73	6302.21	3155.79	5.08	-0.586	0.000	0.101

Calculated Forces

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 93

81.00	-27.15	-6.05	0.00	-416.52	0.00	416.52	2964.88	1482.44	5593.85	2801.08	5.08	-0.586	0.000	0.095
82.00	-26.95	-6.03	0.00	-410.46	0.00	410.46	2956.03	1478.01	5548.33	2778.29	5.21	-0.592	0.000	0.106
84.00	-26.55	-5.99	0.00	-398.39	0.00	398.39	2938.12	1469.06	5457.44	2732.78	5.46	-0.605	0.000	0.105
85.00	-26.35	-5.97	0.00	-392.40	0.00	392.40	2929.07	1464.54	5412.08	2710.06	5.58	-0.612	0.000	0.104
86.00	-26.00	-5.95	0.00	-386.44	0.00	386.44	2919.96	1459.98	5366.77	2687.37	5.71	-0.618	0.000	0.102
88.00	-25.31	-5.90	0.00	-374.54	0.00	374.54	2901.53	1450.76	5276.32	2642.08	5.97	-0.631	0.000	0.100
90.00	-24.62	-5.85	0.00	-362.75	0.00	362.75	2882.84	1441.42	5186.12	2596.92	6.24	-0.644	0.000	0.098
91.00	-24.27	-5.82	0.00	-356.90	0.00	356.90	2898.35	1449.17	5260.87	2634.34	6.38	-0.651	0.000	0.099
92.00	-24.08	-5.80	0.00	-351.08	0.00	351.08	2889.01	1444.51	5215.76	2611.76	6.51	-0.657	0.000	0.096
93.83	-23.72	-5.76	0.00	-340.46	0.00	340.46	2871.76	1435.88	5133.38	2570.50	6.77	-0.668	0.000	0.094
93.83	-23.72	-5.76	0.00	-340.46	0.00	340.46	2871.76	1435.88	5133.38	2570.50	6.77	-0.668	0.000	0.094
94.00	-23.69	-5.76	0.00	-339.48	0.00	339.48	2870.15	1435.07	5125.73	2566.68	6.79	-0.669	0.000	0.141
96.00	-23.31	-5.72	0.00	-327.96	0.00	327.96	2851.02	1425.51	5035.98	2521.73	7.08	-0.688	0.000	0.138
98.00	-22.92	-5.68	0.00	-316.52	0.00	316.52	2831.62	1415.81	4946.52	2476.93	7.37	-0.706	0.000	0.136
100.00	-22.54	-5.63	0.00	-305.17	0.00	305.17	2811.97	1405.98	4857.35	2432.29	7.67	-0.725	0.000	0.133
102.00	-22.17	-5.59	0.00	-293.90	0.00	293.90	2792.05	1396.03	4768.51	2387.80	7.98	-0.743	0.000	0.131
104.00	-21.80	-5.55	0.00	-282.72	0.00	282.72	2771.87	1385.94	4680.00	2343.48	8.29	-0.761	0.000	0.129
106.00	-21.43	-5.51	0.00	-271.62	0.00	271.62	2751.43	1375.71	4591.84	2299.33	8.61	-0.779	0.000	0.126
108.00	-21.06	-5.47	0.00	-260.59	0.00	260.59	2730.72	1365.36	4504.04	2255.37	8.95	-0.797	0.000	0.123
110.00	-20.70	-5.43	0.00	-249.65	0.00	249.65	2709.75	1354.88	4416.62	2211.59	9.28	-0.815	0.000	0.121
111.17	-20.49	-5.41	0.00	-243.30	0.00	243.30	2697.36	1348.68	4365.66	2186.08	9.48	-0.826	0.000	0.095
112.00	-20.34	-5.39	0.00	-238.81	0.00	238.81	2688.52	1344.26	4329.60	2168.02	9.63	-0.832	0.000	0.094
114.00	-19.99	-5.35	0.00	-228.03	0.00	228.03	2667.03	1333.51	4242.98	2124.64	9.98	-0.846	0.000	0.091
115.00	-19.81	-5.33	0.00	-222.68	0.00	222.68	2656.18	1328.09	4199.83	2103.04	10.16	-0.853	0.000	0.088
115.00	-19.81	-5.33	0.00	-222.68	0.00	222.68	1951.15	975.57	3095.05	1549.82	10.16	-0.853	0.000	0.096
116.00	-19.66	-5.31	0.00	-217.35	0.00	217.35	1944.57	972.29	3065.67	1535.11	10.34	-0.860	0.000	0.111
118.00	-19.36	-5.27	0.00	-206.73	0.00	206.73	1931.24	965.62	3006.98	1505.73	10.70	-0.875	0.000	0.108
120.00	-19.07	-5.23	0.00	-196.19	0.00	196.19	1917.63	958.82	2948.42	1476.40	11.07	-0.891	0.000	0.104
122.00	-18.77	-5.19	0.00	-185.74	0.00	185.74	1903.77	951.88	2889.98	1447.14	11.45	-0.906	0.000	0.100
123.83	-18.51	-5.15	0.00	-176.25	0.00	176.25	1890.85	945.43	2836.64	1420.43	11.80	-0.919	0.000	0.097
123.83	-18.51	-5.15	0.00	-176.25	0.00	176.25	1890.85	945.43	2836.64	1420.43	11.80	-0.919	0.000	0.097
124.00	-18.48	-5.15	0.00	-175.38	0.00	175.38	1889.64	944.82	2831.69	1417.95	11.83	-0.921	0.000	0.133
126.00	-18.19	-5.11	0.00	-165.09	0.00	165.09	1875.25	937.63	2773.56	1388.84	12.22	-0.940	0.000	0.129
128.00	-17.91	-5.07	0.00	-154.87	0.00	154.87	1860.60	930.30	2715.62	1359.83	12.62	-0.960	0.000	0.124
130.00	-17.62	-5.03	0.00	-144.74	0.00	144.74	1845.69	922.84	2657.86	1330.91	13.03	-0.979	0.000	0.118
132.00	-17.15	-4.99	0.00	-134.68	0.00	134.68	1830.51	915.25	2600.31	1302.09	13.44	-0.997	0.000	0.113
134.00	-16.69	-4.94	0.00	-124.71	0.00	124.71	1815.07	907.53	2542.99	1273.39	13.86	-1.015	0.000	0.107
135.00	-16.46	-4.92	0.00	-119.77	0.00	119.77	1823.79	911.89	2575.21	1289.52	14.07	-1.024	0.000	0.102
136.00	-16.32	-4.90	0.00	-114.85	0.00	114.85	1816.04	908.02	2546.57	1275.18	14.29	-1.033	0.000	0.099
138.00	-16.04	-4.86	0.00	-105.05	0.00	105.05	1800.35	900.18	2489.47	1246.58	14.73	-1.048	0.000	0.093
140.00	-15.77	-4.82	0.00	-95.33	0.00	95.33	1784.41	892.20	2432.62	1218.12	15.17	-1.063	0.000	0.087
142.00	-15.50	-4.78	0.00	-85.68	0.00	85.68	1768.19	884.10	2376.04	1189.79	15.62	-1.077	0.000	0.081
143.00	-12.85	-3.79	0.00	-80.90	0.00	80.90	1759.99	879.99	2347.86	1175.68	15.84	-1.084	0.000	0.076
144.00	-12.73	-3.77	0.00	-77.12	0.00	77.12	1751.72	875.86	2319.75	1161.60	16.07	-1.091	0.000	0.074
146.00	-12.49	-3.73	0.00	-69.58	0.00	69.58	1734.98	867.49	2263.76	1133.56	16.53	-1.103	0.000	0.069
148.00	-12.25	-3.69	0.00	-62.13	0.00	62.13	1717.98	858.99	2208.08	1105.68	17.00	-1.115	0.000	0.063
150.00	-10.52	-3.38	0.00	-54.75	0.00	54.75	1700.72	850.36	2152.74	1077.97	17.47	-1.126	0.000	0.057
152.00	-10.29	-3.34	0.00	-47.99	0.00	47.99	1683.20	841.60	2097.74	1050.43	17.94	-1.136	0.000	0.052
153.00	-8.10	-2.45	0.00	-44.64	0.00	44.64	1674.33	837.17	2070.37	1036.72	18.18	-1.140	0.000	0.048
154.00	-8.00	-2.43	0.00	-42.20	0.00	42.20	1665.41	832.70	2043.10	1023.07	18.42	-1.145	0.000	0.046
156.00	-7.81	-2.39	0.00	-37.34	0.00	37.34	1647.36	823.68	1988.83	995.90	18.90	-1.153	0.000	0.042
158.00	-7.61	-2.35	0.00	-32.56	0.00	32.56	1629.04	814.52	1934.96	968.92	19.38	-1.161	0.000	0.038
160.00	-7.42	-2.31	0.00	-27.86	0.00	27.86	1610.47	805.23	1881.50	942.15	19.87	-1.168	0.000	0.034
162.00	-7.23	-2.28	0.00	-23.23	0.00	23.23	1591.63	795.82	1828.46	915.59	20.36	-1.175	0.000	0.030
163.00	-5.43	-1.85	0.00	-20.95	0.00	20.95	1582.11	791.06	1802.10	902.39	20.61	-1.177	0.000	0.027
164.00	-5.34	-1.84	0.00	-19.10	0.00	19.10	1572.53	786.27	1775.86	889.25	20.86	-1.180	0.000	0.025
166.00	-5.16	-1.80	0.00	-15.43	0.00	15.43	1553.17	776.58	1723.71	863.13	21.35	-1.185	0.000	0.021

Calculated Forces

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 94
	Struct Class: II	



168.00	-4.99	-1.76	0.00	-11.83	0.00	11.83	1533.54	766.77	1672.03	837.26	21.85	-1.189	0.000	0.017
170.00	-4.81	-1.73	0.00	-8.30	0.00	8.30	1513.65	756.83	1620.83	811.62	22.35	-1.192	0.000	0.013
172.00	-4.64	-1.69	0.00	-4.85	0.00	4.85	1493.50	746.75	1570.13	786.23	22.85	-1.194	0.000	0.009
173.00	-2.18	-0.44	0.00	-3.15	0.00	3.15	1483.33	741.66	1544.98	773.64	23.10	-1.195	0.000	0.006
174.00	-2.11	-0.42	0.00	-2.71	0.00	2.71	1473.09	736.54	1519.95	761.10	23.35	-1.195	0.000	0.005
176.00	-1.98	-0.39	0.00	-1.86	0.00	1.86	1452.41	726.20	1470.30	736.24	23.85	-1.196	0.000	0.004
178.00	-1.84	-0.36	0.00	-1.08	0.00	1.08	1427.85	713.93	1417.60	709.85	24.35	-1.196	0.000	0.003
180.00	-1.71	-0.32	0.00	-0.37	0.00	0.37	1400.09	700.05	1362.74	682.38	24.85	-1.197	0.000	0.002
180.00	-1.71	-0.32	0.00	-0.37	0.00	0.37	678.42	339.21	662.23	396.30	24.85	-1.197	0.000	0.003
181.00	-0.14	-0.03	0.00	-0.05	0.00	0.05	678.42	339.21	662.23	396.30	25.10	-1.197	0.000	0.000
182.00	-0.07	-0.02	0.00	-0.02	0.00	0.02	678.42	339.21	662.23	396.30	25.35	-1.197	0.000	0.000
183.00	0.00	-0.01	0.00	0.00	0.00	0.00	678.42	339.21	662.23	396.30	25.60	-1.197	0.000	0.000

Final Analysis Summary

Structure: CT01002-S-SBA	Code: EIA/TIA-222-G	3/13/2018
Site Name: Waterford	Exposure: B	
Height: 183.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 95

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 105 mph Wind	37.4	0.00	60.56	0.00	0.00	4814.02
0.9D + 1.6W 105 mph Wind	37.4	0.00	45.42	0.00	0.00	4755.10
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.3	0.00	93.78	0.00	0.00	1200.58
1.2D + 1.0E	1.8	0.00	60.59	0.00	0.00	241.25
0.9D + 1.0E	1.8	0.00	45.44	0.00	0.00	238.10
1.0D + 1.0W 60 mph Wind	7.6	0.00	50.49	0.00	0.00	975.59

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 105 mph Wind	-60.56	-37.38	0.00	-4814.0	0.00	-4814.0	5190.16	2595.0	13702.9	6861.66	0.00	0.713
0.9D + 1.6W 105 mph Wind	-45.42	-37.37	0.00	-4755.1	0.00	-4755.1	5190.16	2595.0	13702.9	6861.66	0.00	0.702
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-93.78	-9.28	0.00	-1200.5	0.00	-1200.5	5190.16	2595.0	13702.9	6861.66	0.00	0.193
1.2D + 1.0E	-22.27	-1.27	0.00	-59.54	0.00	-59.54	1889.64	944.82	2831.69	1417.95	124.00	0.054
0.9D + 1.0E	-16.70	-1.25	0.00	-58.55	0.00	-58.55	1889.64	944.82	2831.69	1417.95	124.00	0.050
1.0D + 1.0W 60 mph Wind	-50.49	-7.62	0.00	-975.59	0.00	-975.59	5190.16	2595.0	13702.9	6861.66	0.00	0.152

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
			VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
66.2	93.8	(6) PLT-C6x10.5(1.5" Hole)	136.1	0.00	25.3	100.9	25.3	4	0	95.2	25.3	4	0	105.74	180.2	155.36	0.681
111.2	123.8	(3) PLT-C6x10.5(1.5" Hole)	234.5	0.00	25.3	94.9	25.3	4	0	96.4	25.3	4	0	108.92	180.2	155.36	0.701



Monopole Mat Foundation Design

Date
3/13/2018

Customer Name:	AT&T	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	183
Site Number:	CT01002-S-SBA	Engineer Name:	J. Tibbetts
Engr. Number:	48986	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Factored):

Axial Load (Kips):	60.6	Shear Force (Kips):	37.4
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4814.0

Allowable overstress %: 5.0%

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.):	32	Width of Pad (ft.):	32

Final Length of pad (ft)	32.0	Final width of pad (ft):	32.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	96	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):	43	Qty. of Rebar in Pad (W):	43
Rebar at the top of the concrete pad:			
Qty. of Rebar in Pad (L):	43	Qty. of Rebar in Pad (W):	43

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

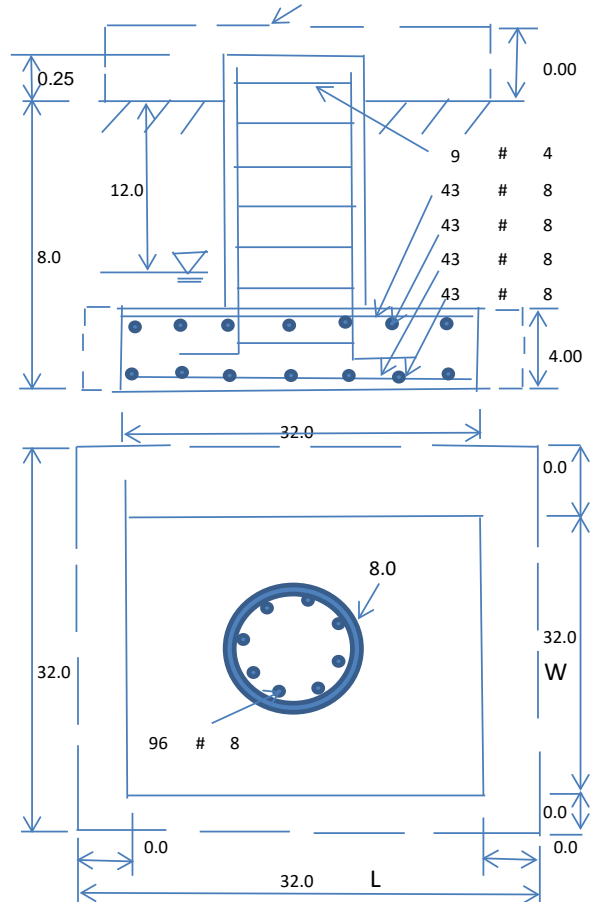
Soil Unit Weight (pcf):	100.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	12.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	10000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hori. force for O.T.M.:	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.):	3894.94	Total Dry Soil Weight (Kips):	389.49
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	389.49	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	4309.63	Total Dry Concrete Weight (Kips):	646.44
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	646.44	Total Vertical Load on Base (Kips):	1096.50

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	1947	<	Allowable Factored Soil Bearing (psf):	7500	0.26	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	15886.5	>	Design Factored Momont (kips-ft):	5123	0.32	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	3.10					OK!



Check the capacities of Reinforcing Concrete:

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

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	0.79	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	14849.0	> Design Factored Moment (Mu, Kips-Ft)	4973.0	0.33	OK!
Calculated Shear Capacity (Kips):	840.3	> Design Factored Shear (Kips):	37.4	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	4095.4	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	12663.1	> Design Factored Axial Load (Pu Kips):	60.6	0.00	OK!
Moment & Axial Strength Combination(Pu/Pn+Mu/Mn):	0.34	OK! Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.010	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1621.1	> One-Way Factored Shear (L-D. Kips):	323.8	0.20	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1621.1	> One-Way Factored Shear (W-D., Kips)	323.8	0.20	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1887.3	> One-Way Factored Shear (C-C, Kips):	510.8	0.27	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0020	OK! Lower Steel Pad Reinf. Ratio (W-Direct	0.0020		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	6683.2	> Moment at Bottom (L-Direct. K-Ft):	1342.5	0.20	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	6683.2	> Moment at Bottom (W-Direct. K-Ft):	1342.5	0.20	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	9415.2	> Moment at Bottom (C-C Dir. K-Ft):	1898.6	0.20	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0020	OK! Upper Steel Reinf. Ratio (W-Direct.):	0.0020		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	6683.2	> Moment at the top (L-Dir Kips-Ft):	598.0	0.09	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	6683.2	> Moment at the top (W-Dir Kips-Ft):	598.0	0.09	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	9415.2	> Moment at the top (C-C Direc. K-Ft):	694.7	0.07	OK!



Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT2079

FA#: 10035398

Waterford Fargo
45 Fargo Road
Waterford, CT 06385

March 23, 2018

Centerline Communications Project Number: 950012-074

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	6.69 %



March 23, 2018

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

Emissions Analysis for Site: **CT2079 – Waterford Fargo**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **45 Fargo Road, Waterford, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

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



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

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **45 Fargo Road, Waterford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE	700 MHz	2	40
LTE	1900 MHz (PCS)	4	40
LTE	700 MHz (Band 14)	4	40
UMTS	850 MHz	2	30
UMTS	850 MHz	2	30

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Quintel QS46512-2	143
A	2	CCI HPA-65R-BUU-H4	143
A	3	Powerwave 7770	143
B	1	CCI TPA-65R-LCUUUU-H8	143
B	2	CCI OPA-65R-LCUU-H8	143
B	3	Powerwave 7770	143
C	1	CCI TPA-65R-LCUUUU-H8	143
C	2	CCI OPA-65R-LCUU-H8	143
C	3	Powerwave 7770	143

Table 2: Antenna Data

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

RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC’s allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Quintel QS46512-2	700 MHz / 1900 MHz (PCS)	10.55 / 13.15	6	240	4,212.62	1.01
Antenna A2	CCI HPA-65R-BUU-H4	700 MHz	10.85	4	160	1,945.90	0.80
Antenna A3	Powerwave 7770	850 MHz / 1900 MHz (PCS)	11.4 / 13.4	4	120	2,140.89	0.53
Sector A Composite MPE%							2.33
Antenna B1	CCI TPA-65R-LCUUUU-H8	700 MHz / 1900 MHz (PCS)	12.95 / 13.75	6	240	5,372.14	1.37
Antenna B2	CCI OPA-65R-LCUU-H8	700 MHz	12.55	4	160	2,878.19	1.18
Antenna B3	Powerwave 7770	850 MHz / 1900 MHz (PCS)	11.4 / 13.4	4	120	2,140.89	0.53
Sector B Composite MPE%							3.09
Antenna C1	CCI TPA-65R-LCUUUU-H8	700 MHz / 1900 MHz (PCS)	12.95 / 13.75	6	240	5,372.14	1.37
Antenna C2	CCI OPA-65R-LCUU-H8	700 MHz	12.55	4	160	2,878.19	1.18
Antenna C3	Powerwave 7770	850 MHz / 1900 MHz (PCS)	11.4 / 13.4	4	120	2,140.89	0.53
Sector C Composite MPE%							3.09

Table 3: AT&T Emissions Levels



The Following table (table 4) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, the sectors with the largest calculated MPE% are Sectors B & C. Table 5 below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
AT&T – Max Sector Value	3.09 %
T-Mobile	1.72 %
Clearwire	0.08 %
Verizon Wireless	1.80 %
Site Total MPE %:	6.69 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	2.33 %
AT&T Sector B Total:	3.09 %
AT&T Sector C Total:	3.09 %
Site Total:	6.69 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, the sectors with the largest calculated MPE% are Sectors B & C.

AT&T _ Frequency Band / Technology Max Power Values (Sectors B & C)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 700 MHz LTE (Antenna 1)	2	788.97	143	3.02	700 MHz	467	0.65%
AT&T 1900 MHz (PCS) LTE (Antenna 1)	4	948.55	143	7.27	1900 MHz (PCS)	1000	0.73%
AT&T 700 MHz LTE (Antenna 2)	4	719.55	143	5.51	700 MHz	467	1.18%
AT&T 850 MHz UMTS (Antenna 3)	2	414.12	143	1.59	850 MHz	567	0.28%
AT&T 1900 MHz (PCS) UMTS (Antenna 3)	2	656.33	143	2.51	1900 MHz (PCS)	1000	0.25%
						Total:	3.09%

Table 6: AT&T Maximum Sector MPE Power Values



Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	2.33 %
Sector B:	3.09 %
Sector C:	3.09 %
AT&T Maximum Total (per sector):	3.09 %
Site Total:	6.69 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **6.69 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

A handwritten signature in black ink, appearing to read 'Scott Heffernan', is positioned above the printed name.

Scott Heffernan

RF Engineering Director

Centerline Communications, LLC

95 Ryan Drive, Suite 1

Raynham, MA 02767

PROJECT INFORMATION

SCOPE OF WORK: ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:
*****BIRDSITE*****
 • NEW AT&T ANTENNAS (QS46512-2, OPA65R-BU4B, ALPHA SECTOR TPA-65R-LCUUUU-H8, OPA65R-BU8B BETA AND GAMMA SECTORS) MOUNTED ON EXISTING PIPE MAST.
 • NEW AT&T RRUS: (1) RRUS-32 B2 (1900) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
ITEMS TO BE MOUNTED INSIDE EXISTING SHELTER:
 • NEW AT&T RRUS: (1) 4478 RADIO MOUNTED ON NEW RACK. (TOTAL OF 2).
 • COAX JUMPERS (TYP. OF 2 PER SECTOR TOTAL OF 6) FROM THE RRU.
 • FIBER JUMPERS (TYP. OF 1 PER SECTOR TOTAL OF 3) TO RRU. SINGLE PAIR POWER CABLE #12 SIZE FROM SQUID TO EACH RRU.
 • (1) FIF RACK.
 • (8) SURGE ARRESTORS (APTDC-BDFM-DB) MOUNTED IN NEW RACK
 • NEW 48V CONVERTER SHELF WITH (4) CONVERTER MODS
 • NEW (1) 5216, (1) XMU AND (1) DC12 TO REPLACE EXISTING BBU.
 • NEW (1) CONVERTER MOD ADDED TO EXISTING 48V CONVERTER SHELF
ITEMS TO REMAIN:
 • (3) LTE ANTENNAS, (3) TMAS, (3) RRU'S, (12) COAX CABLES, (2) DC POWER CABLES, (1) FIBER CABLE & (1) SURGE ARRESTOR.

SITE ADDRESS: 45 FARGO ROAD
 WATERFORD, CT 06385

LATITUDE: 41.389325° N 41° 23' 21.57" N
 LONGITUDE: 72.171416° W 72° 10' 17.10" W

TYPE OF SITE: MONOPOLE, INDOOR EQUIPMENT
 TOWER HEIGHT: 183'± A.G.L
 RAD CENTER: 141'± A.G.L
 CURRENT USE: TELECOMMUNICATIONS FACILITY
 PROPOSED USE: TELECOMMUNICATIONS FACILITY



SITE NUMBER: CT2079

SITE NAME: WATERFORD FARGO

PROJECT: LTE 2C 3C 2018 UPGRADE

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	B
GN-1	GENERAL NOTES	B
A-1	COMPOUND & EQUIPMENT PLANS	B
A-2	ANTENNA PLANS & ELEVATION	B
A-3	DETAILS	B
RF-1	RF PLUMBING DIAGRAM	B
G-1	GROUNDING DETAILS	B

VICINITY MAP

DIRECTIONS TO SITE:
 TAKE THE RAMP TO I-90 E/MASSPIKE W/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK AND MERGE ONTO I-90W/MASS PIKE. TAKE EXIT 10 TOWARD MA-12 N/AUBURN/WORCESTER. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-395 S/US-20 E/NORWICH CT. CONTINUE ONTO I-395 S. TAKE EXIT 2 FOR CT-85 TOWARD WATERFORD/CHESTERFIELD. TURN LEFT ONTO CT-85 S. TURN RIGHT ONTO FARGO RD. TURN LEFT TO STAY ON FARGO RD. TURN RIGHT TO STAY ON FARGO RD. TURN LEFT TO STAY ON FARGO RD.



GENERAL NOTES

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

72 HOURS

CALL BEFORE YOU DIG
 CALL TOLL FREE 1-800-922-4455
 OR CALL 811

UNDERGROUND SERVICE ALERT



Hudson Design Group LLC
 1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090
 N. ANDOVER, MA 01845
 TEL: (978) 557-5553
 FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
 95 RYAN DRIVE
 RAYNHAM, MA 02767

SITE NUMBER: CT2079
SITE NAME: WATERFORD FARGO
 45 FARGO ROAD
 WATERFORD, CT 06385
 NEW LONDON COUNTY

at&t
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	03/16/18	ISSUED FOR PERMITTING	MR	SG	DJM
A	08/31/17	ISSUED FOR REVIEW	DJM	SG	DJC

SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: DJM

AT&T
 TITLE SHEET
 (LTE 2C/3C)
 SITE NUMBER: 2079.01 DRAWING NUMBER: T-1 REV: B

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – CENTERLINE
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
 BUILDING CODE: IBC 2012 WITH 2016 CT BUILDING CODE AMENDMENTS
 ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
 LIGHTNING CODE: REFER TO ELECTRICAL DRAWINGS

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

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

 AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
 MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

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

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

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

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		



1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090
 N. ANDOVER, MA 01845
 TEL: (978) 557-5553
 FAX: (978) 336-5586



95 RYAN DRIVE
 RAYNHAM, MA 02767

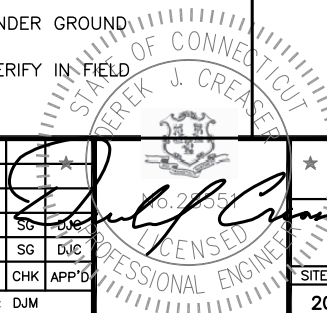
SITE NUMBER: CT2079
SITE NAME: WATERFORD FARGO

45 FARGO ROAD
 WATERFORD, CT 06385
 NEW LONDON COUNTY



550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

B	03/16/18	ISSUED FOR PERMITTING	MR	SG	DJE
A	08/31/17	ISSUED FOR REVIEW	DJM	SG	DJC
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: DJM		

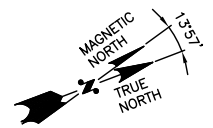
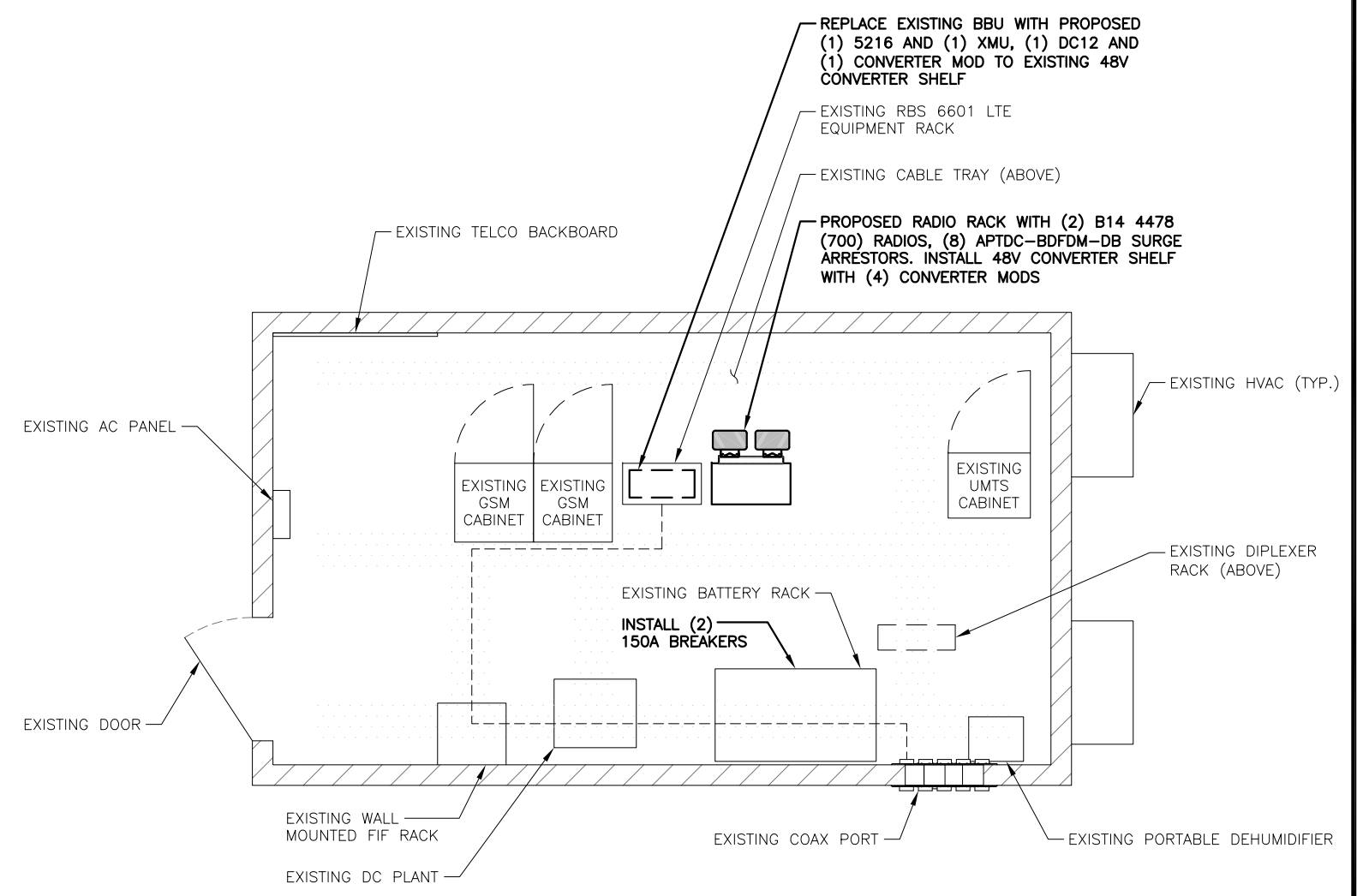
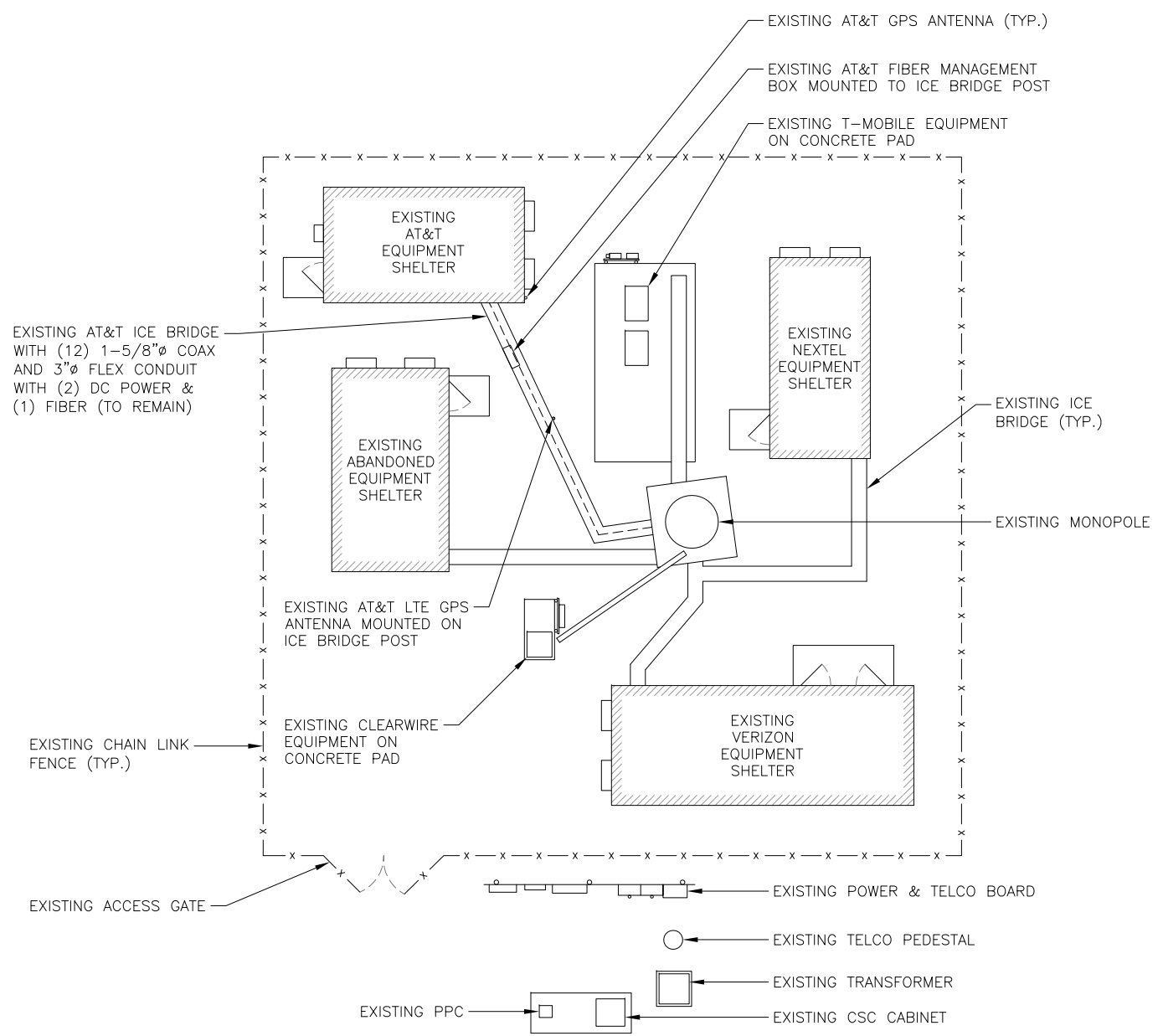


AT&T		
GENERAL NOTES (LTE 2C/3C)		
SITE NUMBER	DRAWING NUMBER	REV
2079.01	GN-1	B

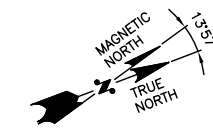
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING MOUNT TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

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

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



COMPOUND PLAN
 22x34 SCALE: 1/8"=1'-0"
 11x17 SCALE: 1/16"=1'-0"
 1 A-1



EQUIPMENT PLAN
 22x34 SCALE: 1/2"=1'-0"
 11x17 SCALE: 1/4"=1'-0"
 2 A-1

POWER PANEL NOTE:
 1. ADD (5) 30A SP DC BREAKER FOR NEW RRU ADDS, IF NEEDED
 2. ADD (1) 25A SP FOR 5216

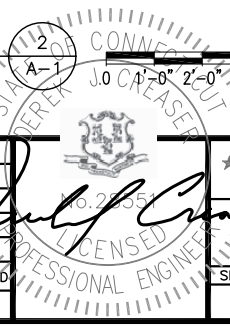
Hudson Design Group LLC
 1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090
 N. ANDOVER, MA 01845
 TEL: (978) 557-5553
 FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
 95 RYAN DRIVE
 RAYNHAM, MA 02767

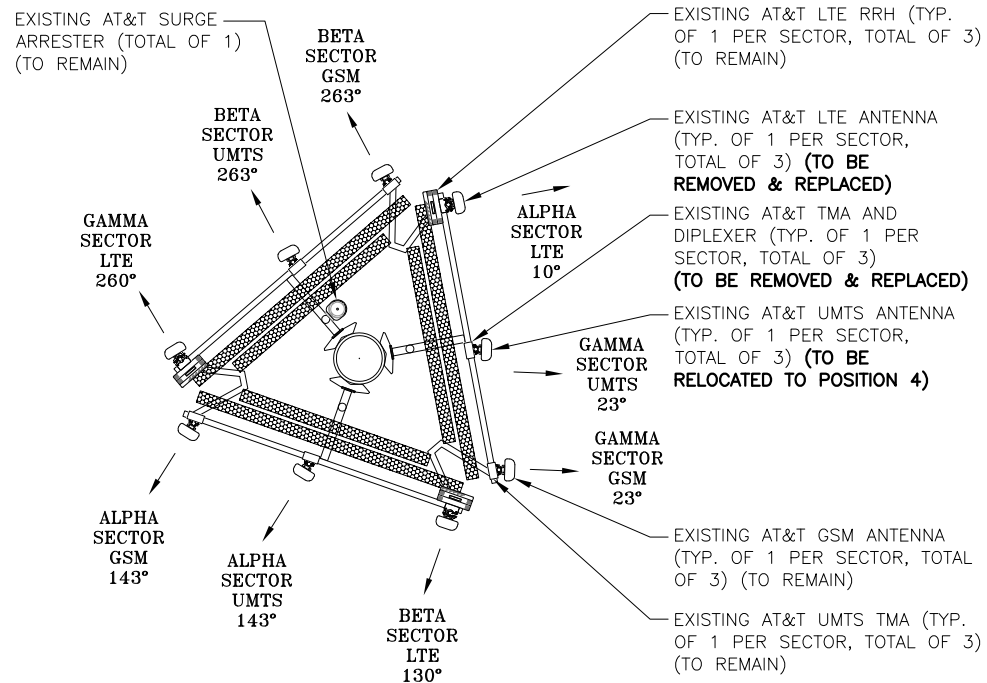
SITE NUMBER: CT2079
SITE NAME: WATERFORD FARGO
 45 FARGO ROAD
 WATERFORD, CT 06385
 NEW LONDON COUNTY

at&t
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	03/16/18	ISSUED FOR PERMITTING	MR	SG	DJM
A	08/31/17	ISSUED FOR REVIEW	DJM	SG	DJM
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: DJM		

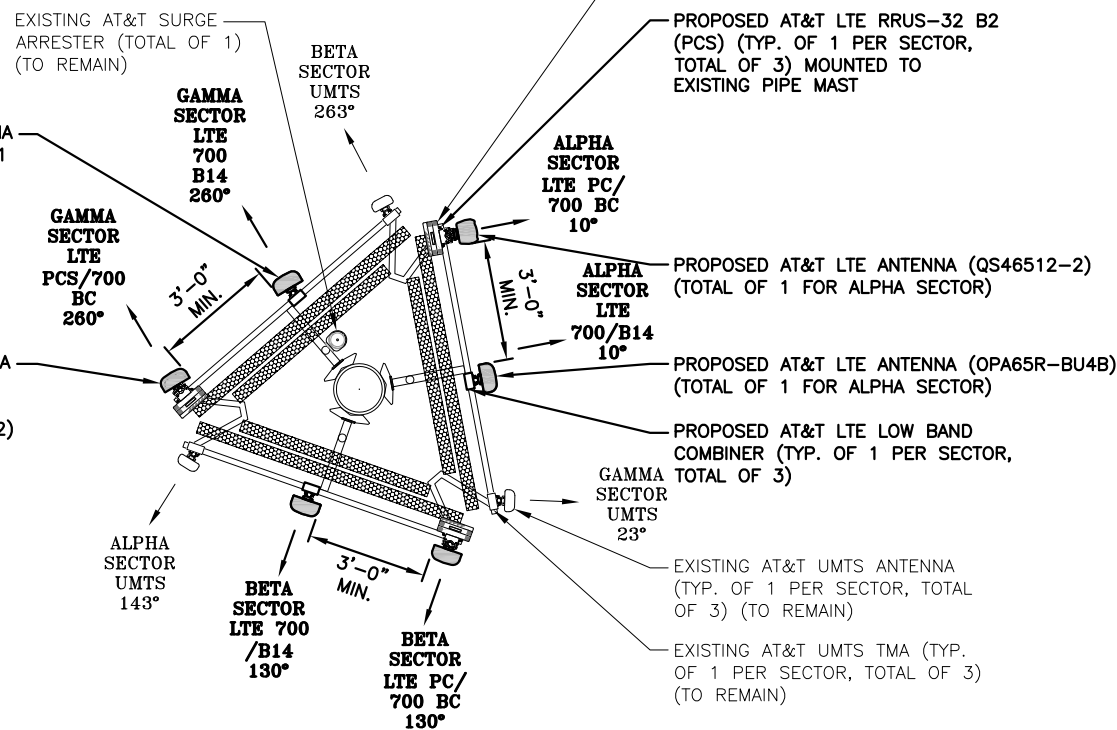


AT&T
COMPOUND & EQUIPMENT PLANS
(LTE 2C/3C)
 SITE NUMBER: 2079.01
 DRAWING NUMBER: A-1
 REV: B



EXISTING ANTENNA PLAN
SCALE: N.T.S

1
A-2



PROPOSED ANTENNA PLAN
SCALE: N.T.S

2
A-2

TOP OF EXISTING MONOPOLE
ELEV. 183'-0"± (AGL)

EXISTING ANTENNA BY OTHERS (TYP.)
EXISTING AT&T SURGE ARRESTER (TOTAL OF 1) (TO REMAIN)
EXISTING AT&T UMTS ANTENNA IN POSITION 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO REMAIN)

CENTER OF PROPOSED AT&T LTE ANTENNAS
ELEV. 141'-0"± (AGL)

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

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

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

EXISTING AT&T LTE RRH (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO REMAIN) (BEHIND ANTENNA)
PROPOSED AT&T LTE RRUS-32 B2 (LTE) (TYP. OF 1 PER SECTOR, TOTAL OF 3) MOUNTED TO EXISTING PIPE MAST (BEHIND ANTENNA)
PROPOSED AT&T LTE ANTENNA
ALPHA SECTOR: QA46512-2
BETA SECTOR: TPA-65R-LCUUUU-H8
GAMMA SECTOR: TPA-65R-LCUUUU-H8 (TYP. OF 1 PER SECTOR, TOTAL OF 3)
PROPOSED AT&T LTE ANTENNA
ALPHA SECTOR: OPA65R-BU4B (TOTAL OF 1)
BETA AND GAMMA SECTORS: OPA65R-BU8B (TOTAL OF 2)
PROPOSED AT&T LTE LOW BAND COMBINER (TYP. OF 1 PER SECTOR, TOTAL OF 3)

EXISTING AT&T ICE BRIDGE WITH (12) 1-5/8"Ø COAX AND 3"Ø FLEX CONDUIT FOR DC POWER & FIBER (TO REMAIN)

EXISTING AT&T GPS ANTENNA (TOTAL OF 2)

EXISTING AT&T EQUIPMENT SHELTER

EXISTING ABANDONED EQUIPMENT SHELTER

EXISTING CHAIN LINK FENCE (TYP.)

GROUND LEVEL
ELEV. 0'-0"± (AGL)

WEST ELEVATION

22x34 SCALE: 3/32"=1'-0"
11x17 SCALE: 3/64"=1'-0"

3
A-2

0 5'-4" 10'-8" 21'-4" 32'-0"

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	03/16/18	ISSUED FOR PERMITTING	MR	SG	DJM
A	08/31/17	ISSUED FOR REVIEW	DJM	SG	DJM
SCALE: AS SHOWN					
DESIGNED BY: AT		DRAWN BY: DJM			

AT&T		
ANTENNA PLANS & ELEVATION (LTE 2C/3C)		
SITE NUMBER	DRAWING NUMBER	REV
2079.01	A-2	B

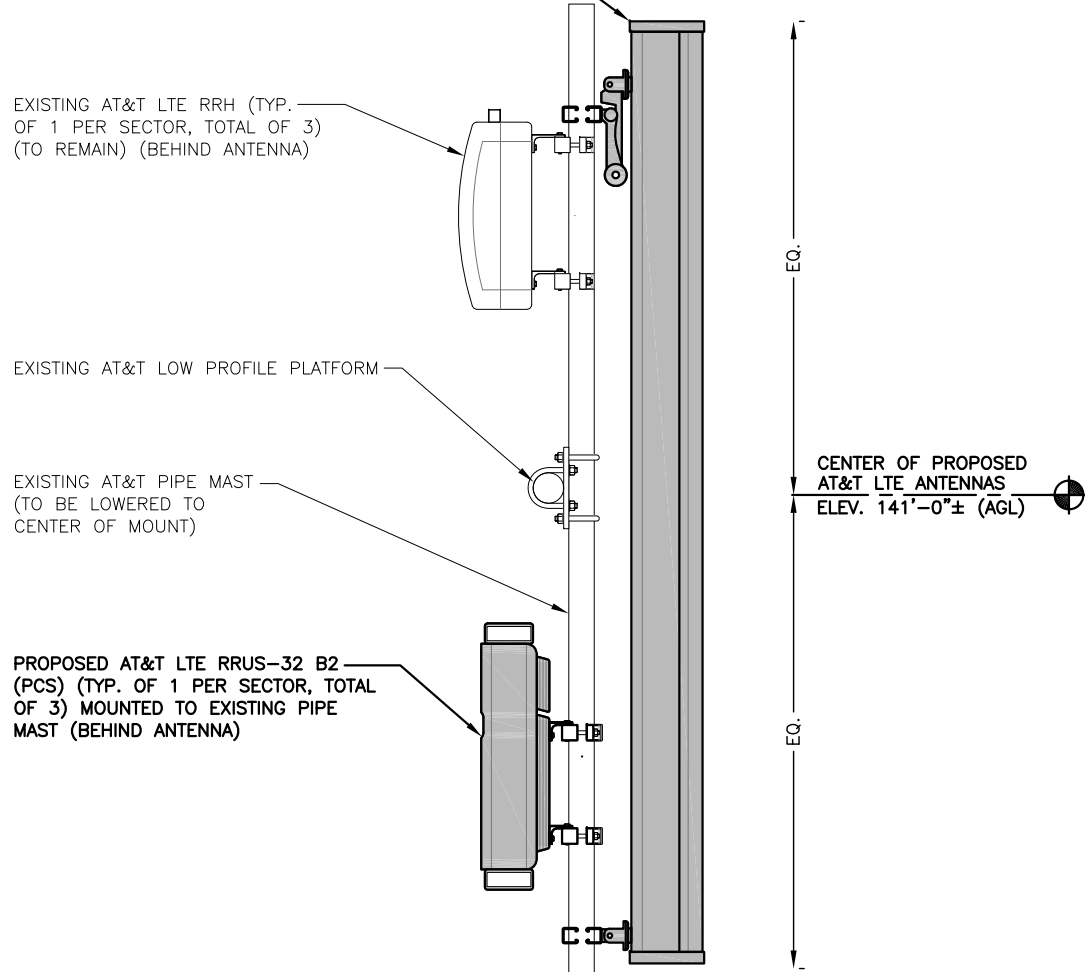
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

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

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

FINAL ANTENNA CONFIGURATION									
SECTOR	BAND	ANTENNA	ANTENNA CENTERLINE HEIGHT	AZIMUTH	TMA	COMBINERS	RRUS	COAX JUMPERS	FIBER JUMPERS
ALPHA	700 MHZ/1900 MHZ 700 MHZ 850 MHZ/1900 MHZ	(P) (1) QS46512-2 (P) (1) OPA65R-BU4B (E) (1) 7770	141'±	10° 10° 143°	- - (E) (1) DTMABP7819VG12A	(P) (1) DBC0061F151-2 (P) (1) DBC0061F151-2 (GROUND)	(E) (1) RRUS-11 (LTE) (P) (1) RRUS-32B2 (LTE) (P) (1) B14 4478 (LTE) (GROUND)	- 2*	- 1**
BETA	700 MHZ/1900 MHZ 700 MHZ 850 MHZ/1900 MHZ	(P) (1) TPA-65R-LCUUUU-H8 (P) (1) OPA65R-BU8B (E) (1) 7770	141'±	130° 130° 263°	- - (E) (1) DTMABP7819VG12A	(P) (1) DBC0061F151-2 (P) (1) DBC0061F151-2 (GROUND)	(E) (1) RRUS-11 (LTE) (P) (1) RRUS-32B2 (LTE) (P) (1) B14 4478 (LTE) (GROUND)	- 2*	- 1**
GAMMA	700 MHZ/1900 MHZ 700 MHZ 850 MHZ/1900 MHZ	(P) (1) TPA-65R-LCUUUU-H8 (P) (1) OPA65R-BU8B (E) (1) 7770	141'±	260° 260° 23°	- - (E) (1) DTMABP7819VG12A	(P) (1) DBC0061F151-2 (P) (1) DBC0061F151-2 (GROUND)	(E) (1) RRUS-11 (LTE) (P) (1) RRUS-32B2 (LTE)	- 2*	- 1**

PROPOSED AT&T LTE ANTENNA
ALPHA SECTOR: QS46512-2
BETA SECTOR: TPA-65R-LCUUUU-H8
GAMMA SECTOR: TPA-65R-LCUUUU-H8
 (TYP. OF 1 PER SECTOR, TOTAL OF 3)

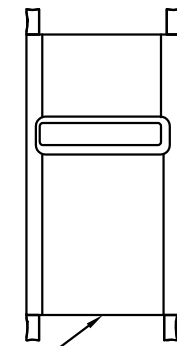


PROPOSED RRUS MOUNTING DETAIL 1
 SCALE: N.T.S. A-3

FINAL ANTENNA CONFIGURATION TABLE 2
 A-3

RRU CHART				
QUANTITY	MODEL	L	W	D
3 (E)	RRUS-11	19.7"	17.0"	7.2"
3 (P)	RRUS-32	27.2"	12.1"	7.0"
2 (P)	RRUSB14 4478	15.0"	13.2"	7.4"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS



NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRU DETAIL 3
 SCALE: N.T.S. A-3

***COAX JUMPER NOTE:**
COAX JUMPERS (2) PER SECTOR, FROM EACH RRU (TOTAL OF 6).

****FIBER JUMPER NOTE:**
FIBER JUMPERS (1) PER SECTOR, FROM THE SQUID TO EACH RRU (TOTAL OF 3).

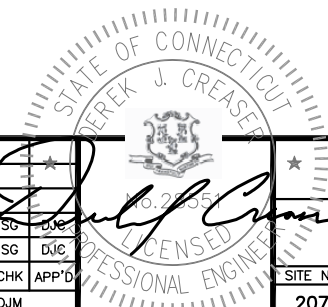
Hudson Design Group LLC
 1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090
 N. ANDOVER, MA 01845
 TEL: (978) 557-5553
 FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
 95 RYAN DRIVE
 RAYNHAM, MA 02767

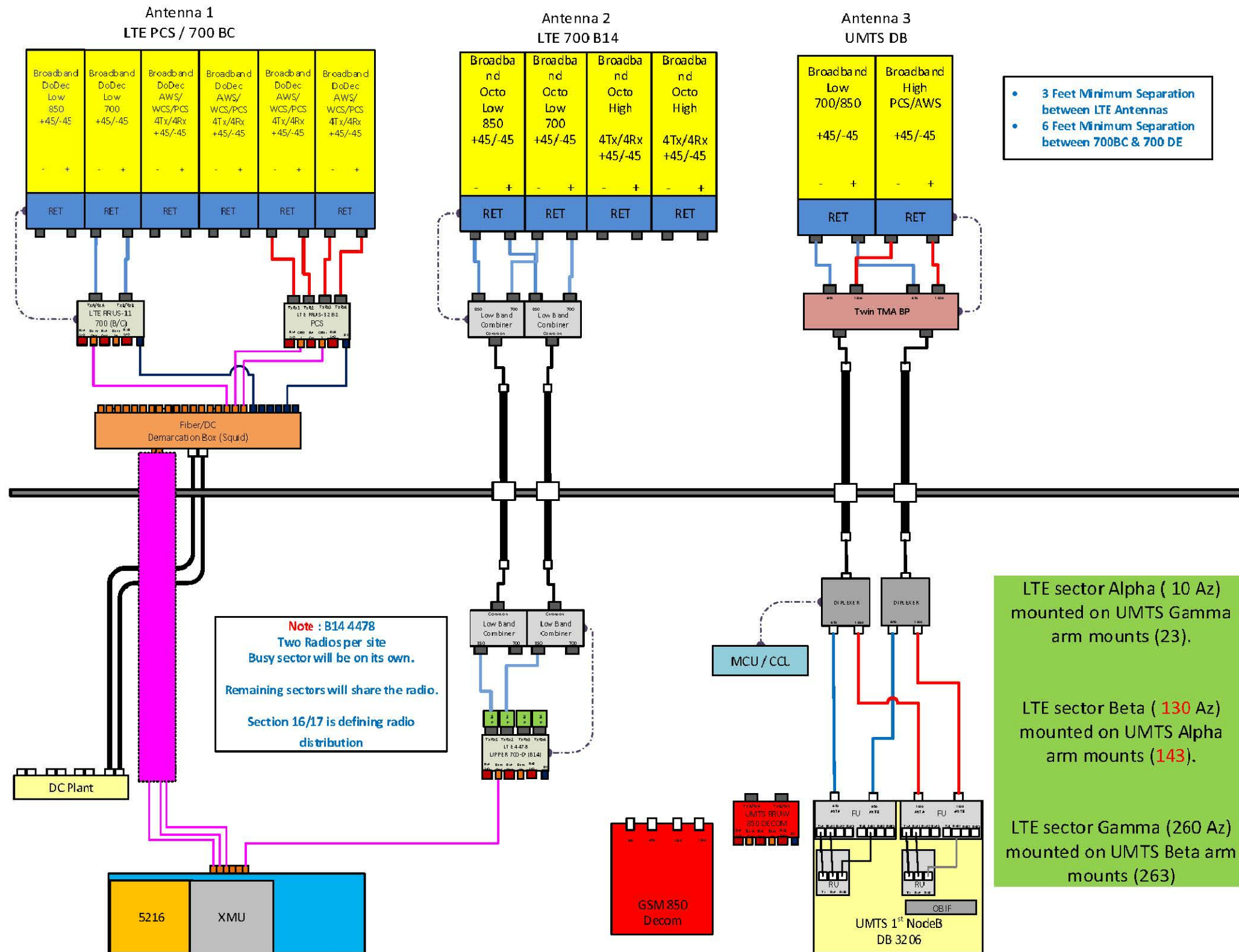
SITE NUMBER: CT2079
SITE NAME: WATERFORD FARGO
 45 FARGO ROAD
 WATERFORD, CT 06385
 NEW LONDON COUNTY

at&t
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

B	03/16/18	ISSUED FOR PERMITTING	MR	SG	DJC
A	08/31/17	ISSUED FOR REVIEW	DJM	SG	DJC
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: DJM		



AT&T
 DETAILS
 (LTE 2C/3C)
 SITE NUMBER: 2079.01
 DRAWING NUMBER: A-3
 REV: B



- 3 Feet Minimum Separation between LTE Antennas
- 6 Feet Minimum Separation between 700BC & 700 DE

Note : B14 4478
 Two Radios per site
 Busy sector will be on its own.
 Remaining sectors will share the radio.
 Section 16/17 is defining radio
 distribution

LTE sector Alpha (10 Az)
 mounted on UMTS Gamma
 arm mounts (23).

LTE sector Beta (130 Az)
 mounted on UMTS Alpha
 arm mounts (143).

LTE sector Gamma (260 Az)
 mounted on UMTS Beta arm
 mounts (263)

NOTE:
 1. CONTRACTOR TO CONFIRM ALL PARTS.
 2. INSTALL ALL EQUIPMENT TO
 MANUFACTURER'S RECOMMENDATIONS

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

RF PLUMBING DIAGRAM 1
 SCALE: N.T.S

Hudson Design Group LLC
 1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090
 N. ANDOVER, MA 01845
 TEL: (978) 557-5553
 FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
 95 RYAN DRIVE
 RAYNHAM, MA 02767

SITE NUMBER: CT2079
SITE NAME: WATERFORD FARGO
 45 FARGO ROAD
 WATERFORD, CT 06385
 NEW LONDON COUNTY

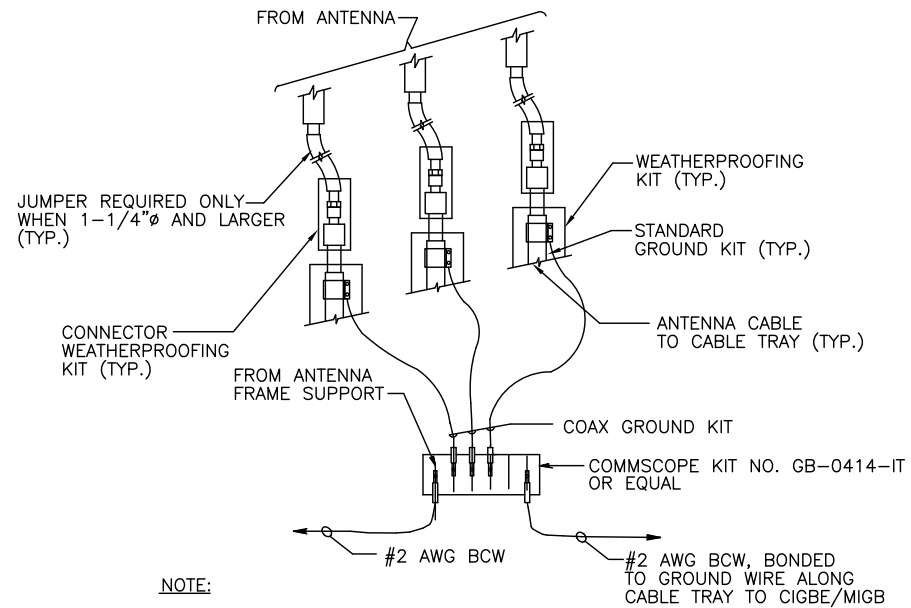
at&t
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	03/16/18	ISSUED FOR PERMITTING	MR	SG	DJM
A	08/31/17	ISSUED FOR REVIEW	DJM	SG	DJC
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: DJM		



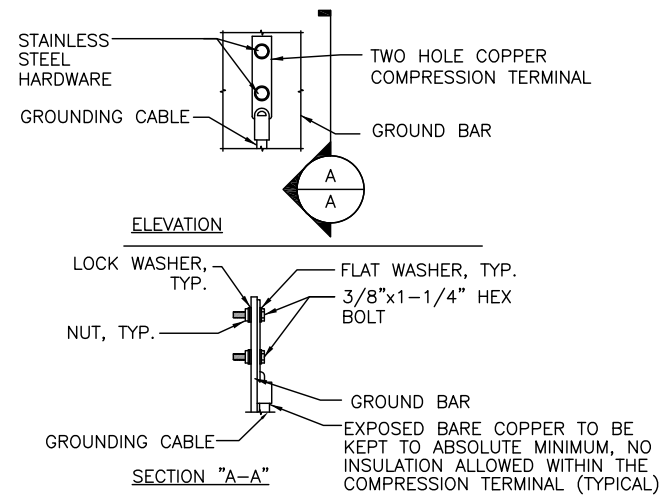
AT&T
 RF PLUMBING DIAGRAM
 (LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
2079.01	RF-1	B



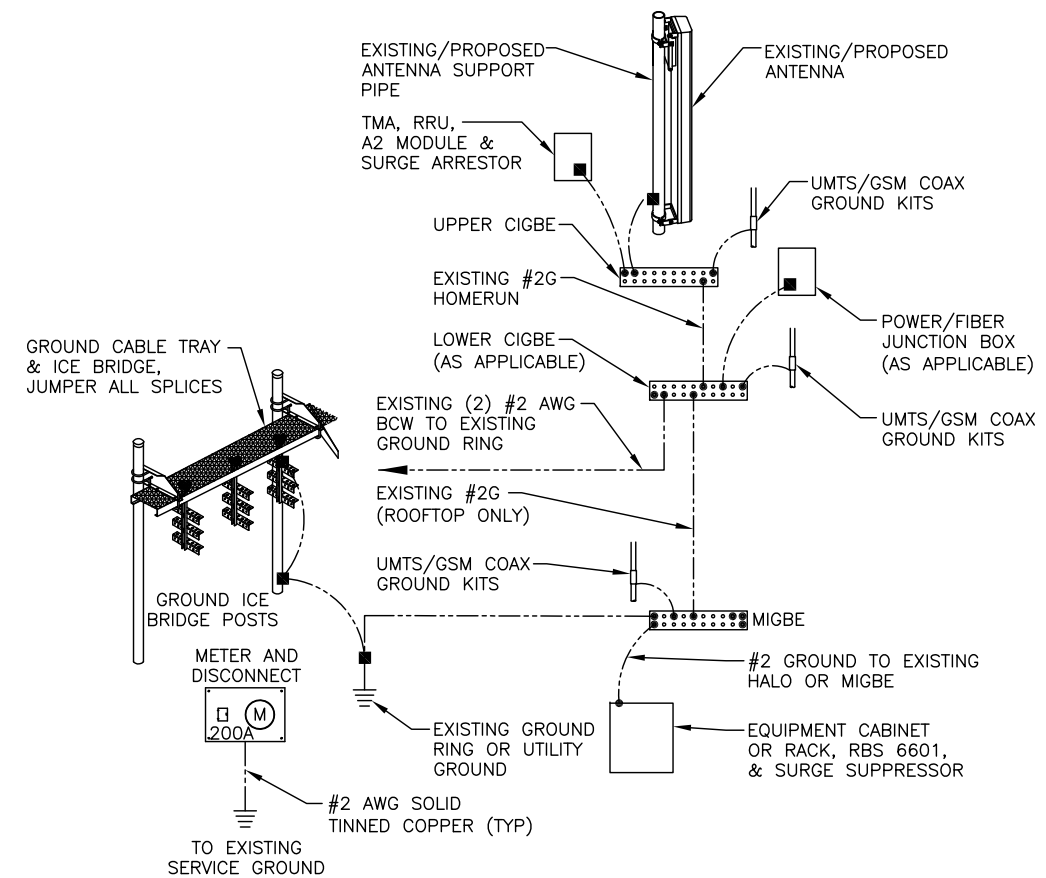
NOTE:
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL 1
 SCALE: N.T.S. G-1



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

TYPICAL GROUND BAR CONNECTION DETAIL 3
 SCALE: N.T.S. G-1



GROUNDING RISER DIAGRAM 2
 SCALE: N.T.S. G-1

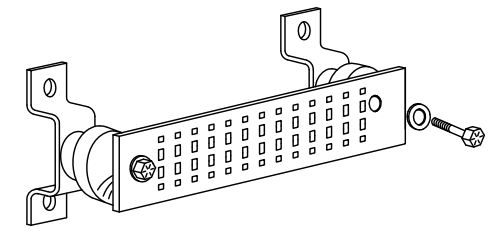
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

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

SECTION "A" - SURGE ABSORBERS

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



GROUND BAR - DETAIL 4
 SCALE: N.T.S. G-1

Hudson Design Group LLC
 1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090
 N. ANDOVER, MA 01845
 TEL: (978) 557-5553
 FAX: (978) 336-5586

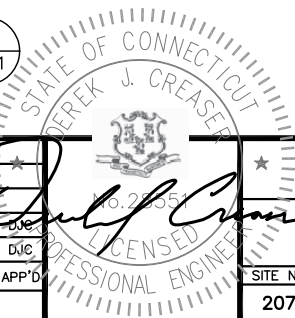
CENTERLINE COMMUNICATIONS
 95 RYAN DRIVE
 RAYNHAM, MA 02767

SITE NUMBER: CT2079
SITE NAME: WATERFORD FARGO
 45 FARGO ROAD
 WATERFORD, CT 06385
 NEW LONDON COUNTY

at&t
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	03/16/18	ISSUED FOR PERMITTING	MR	SG	DJM
A	08/31/17	ISSUED FOR REVIEW	DJM	SG	DJM

SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: DJM



AT&T	
GROUNDING DETAILS (LTE 2C/3C)	
SITE NUMBER	DRAWING NUMBER
2079.01	G-1
REV	B